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How do SMEs in the ICT sector in Ireland Internationalise

- A multi case analysis

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Abstract

This dissertation aims to contribute to the understanding of how Irish SMEs internationalise in the ICT (information communication and technology) sector. Currently there is no single defined model which companies can adopt to successfully internationalise within the ICT sector. The author will use the model developed by Nessel (2013) to analyse and to explain a path to internationalisation for a SME in the ICT sector in Ireland. Accordingly, the author has done qualitative research on three Irish SME companies in the ICT sector. The research, as per the original Nessel (2013) model, seeks to match the characteristics of the three companies with the two main theories of internationalisation process: the Born Global and Stages models. There will also be a focus on what are the key drives for an SME to internationalise.

The author found there are many parts and combinations needed for an SME to internationalise. The entrepreneur/founding team need to have the right characteristics: he/it need to be innovative, a risk taker, and have a constant focus on growth of the company. In order to enable the company to internationalise quickly, the entrepreneur/founding team also need market knowledge, international experience, and international networks built up from their previous international experience. These characteristics, coupled with products or services that are innovative and unique using a strategy of differentiation that makes the product or service attractive to companies in foreign markets. In this study the author found that most importantly SMEs require strong objective characteristics to internationalise. Once they have or acquired these objective characteristics the SMEs could entry foreign markets by means of their private and professional networks in so enable the company to internationalise.

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Chapter 1. Introduction

In this chapter the author will explain why he has chosen this topic for his dissertation and the importance and relevance of the internationalisation process to the SME ICT sector in Ireland. The author will provide background on the research proposed, the most important current theories on the SME internationalisation process, and an outline of the dissertation.

1.1 Background

Firms have undertaken cross border and international trade for centuries; however an accelerating need for globalisation has created a new and fierce business environment driving internationalisation of not only large organisations, but also and to an even larger extent, small companies, too (Gjellerup, 2000). Axinn and Matthyssens (2002) state that an almost unlimited global economy has developed due to a reduction in trade barriers, the opening up of formerly closed markets, and the growth of low cost technology. This has made the world a smaller place in which to do business, thus allowing small and medium size enterprises (SME) to become more frequent participants in the global market (Sandberg, 2012).

The importance of SMEs to the Irish economy can be demonstrated by the fact that SMEs accounted for over 99% of companies in Ireland and 70% of people employed in the private sector (Department of Finance, 2012). SMEs are important drivers of national and global economies not only in Ireland, but also in Europe and the United States (Acs et al., 1997; Wolff & Pett, 2000). Despite the importance of SMEs, there are, according to Meyer and Skak (2002), still only a limited number of SMEs that actually internationalise.

The next sections of the introduction will examine theories of internationalisation and why the ICT sector in Ireland is important.

1.1.1 Internationalisation of SMEs

Most of the literature on international business (IB) up until the last 20 years concentrated on Multinational Enterprises (MNE). In the last 20 years, however, there has been a growing body of work on how SMEs internationalise. The reason for this change is that scholars realised that small companies are not smaller versions of big companies (Schuman and Seeger, 1986). As Coviello and McAuley note,

> "Small businesses deal with unique size related issues as well, and behave differently in the analysis of, and interactions with the environment" (Coviello & McAuley, 1999, p.288)

The International Business literature tells us that there are four ways a company can internationalise: Economic; Behavioural (stages); Network theory; and International Entrepreneur: Born global (IE). The economic theories are mostly predicated on MNE and Foreign Direct Investment (FDI) where entering a foreign market is down to cost of entering the market. The aim of most IB studies in economic theory is to explain the process of internationalisation of MNEs through cost (Dunning, 1980; Dunning, 1993). These models are seen as very static and as such do not apply to SMEs in the internationalisation process as cost is not a major driver for internationalisation of SMEs (Sandberg, 2012). For this dissertation, we will therefore concentrate on Behavioural, Network and IE theories.

In a behavioural model of the internationalisation process, internationalisation takes place in incremental steps or stages. There are two schools of thought in this model: the so-called U-Model and I-Models of internationalisation. The first school, U-Model, thinks that the company goes from one stage to another through interplay between learning and commitment. That is, the more knowledge a SME gains about domestic and/or foreign markets, the more commitment the SME will put into those markets. The most widely quoted of these models is the Uppsala model (Johanson & Vahlne, 1977) developed in the late 70's. This model was based on studies of Swedish SMEs. The Uppsala is the most widely quoted model of the stages models. The second school of thought is the Innovation model (I-Model). This emerged in North America around the same time as the U-Model. The I-Model posits that companies go through incremental stages; the precise number of stages differing from model to model. The move from one stage to the next occurs because of innovative adaptive cycles (Bilkey & Tesar, 1977; Cavusgil, 1980; Czinkota, 1982; Johanson & Wiedersheim-Paul, 1975) .

The second theory we will look at is Network theory. Network theory was developed in the 1980's and highlighted the importance of network relationships. According to this theory,

> "Internationalisation depends on an organisations set of network relationships rather than firm-specific advantage" (Coviello & McAuley, 1999, p.227)

Two or more connected business relationships are seen as a network (Emerson, 1981). Network theory posits that these networks allow a firm to internationalise into different foreign markets through contact with suppliers, manufacturers, and other agents.

The third model we will employ to enable us to understand how firms internationalise is International Entrepreneurial: Born Global (IE). IE models differ from the previous stages models in that it criticises the stages models as being too deterministic (Bell, 1995). According to IE, the stages model incorrectly concentrates on stages and not on the individual decision/strategic choices of the entrepreneur on the internalisation of the company (Andersson, 2011).

In this model, Born Global firms see the world as their oyster. They leapfrog traditional stages and internationalise early. These firms have high activity in global markets from inception or close to inception. They have limited financial and tangible resources. To get around this, they have innovative ways of using people, networks, and technology. Their Entrepreneurs/founding teams have a strong international outlook and are very entrepreneurial, fostering innovation and taking of risks (Liesch et al., 2007). Oviatt and McDougall (1994) demonstrate that the SMEs that do internationalise do so into niche markets in other countries. This finding has been backed up by (Bell et al., 2004 ; Bell, 1995; Katsikeas et al., 1998; McAuley, 2010; Oviatt & McDougall, 2005).

In Chapter 2, Literature Review, the author will give a full overview of the literature on the models and theories this dissertation will use.

1.1.2 ICT Sector

The information, communication and technology (ICT) sector which includes software and Hardware manufacturing is the world's fastest growing industry, with global sales revenues in excess of $3 trillion (World Economic Forum, 2010). In Ireland the ICT sector is worth over €50 billion in revenue, and the Irish indigenous sector represents 5% of the revenue and accounts for more than half of the people employed (Enterprise Ireland, 2008).

In 2004, the Irish government of the time published Ahead of the Curve: Irelands Place in the Global Economy. This report was a blueprint to move Ireland up the value chain in the global economy, by turning Ireland into a knowledge-based economy. It recognised that Ireland needed a diversified economy: as well as strong Foreign Direct Investment Ireland needed a strong performing SME sector for sustainable growth and creation of jobs. The report puts in place recommendations and a strategy to enable indigenous Irish companies to grow and export globally (Enterprise Strategy Group, 2004, p.xxi).

The report recognised that in 2004 the performance of Irish Small to Medium size Enterprises (SMEs) was critical to the growth of the Irish economy and job creation. In 2004, SMEs in Ireland accounted for 99% of the business in the private sector and employing almost 70% of people in the private sector (National Competitiveness Council, 2004). The report also recognised that there were low levels of exports from indigenous SMEs and Ireland was relying heavily on Multinational Enterprises (MNEs), mostly foreign owned. MNEs accounted for 80% of exports from Ireland at the time with Irish indigenous Enterprises accounting for the other 20% of exports out of Ireland at the time (National Competitiveness Council, 2004).

It has now been 10 years since the publication of the Enterprise Strategy Group (ESG) report and the situation is the same, Ireland needs a strong performing SME sector for sustainable growth and job creation. In November 2012 SMEs accounted for over 99% of companies in Ireland and 70% of people employed in the private sector. Again as in 2004 MNEs accounted for in 2012 80% of exports while Irish indigenous Enterprises accounted for the other 20% (Department of Finance, 2012, p.68). In 2004 the department of enterprise, trade and employment recognised that most of the SMEs in Ireland do not export and this has caused the indigenous exports to stagnate from 1994 – 2004 (Enterprise Strategy Group, 2004). This stagnation continued over the next 10 years. This situation is not just in Ireland but Europe wide. Over the period from 2003 to 2010 the number of SMEs in Europe grew by nearly 11% and the number of people employed by SME by 7.5 million. Over the period 2003- 2010, there has been a remarkably consistent size distribution in Ireland and Europe, in spite of the increase in the number of SMEs, however their share of the overall market in the economy has stayed static (The Centre for Strategy & Evaluation Services, 2012).

If you remove large Irish enterprises from the exports and leave just SMEs, the figures grow even more worrying; SMEs make up 99.7% of all enterprise in the private sector but account for just 7% of exports (Lawless et al., 2012). Of the 7% of overall exports from Irish SMEs the SME in the ICT sector account for 7% of this figure. This sector is vital for Ireland and needs to grow to become a bigger overall percentage of exports, in so doing it will lessen the dependence on large multinational companies. So understanding how SME internationalise is an important part of this.

1.1.3 Research Problem

The literature on the process of internationalization for small to medium size enterprises (SME) has been reviewed at different angles by a variety of authors (Bell et al., 2004) (Coviello & McAuley, 1999) (Knight & Cavusgil, 1996) (Flectcher, 2001) (Fillis, 2001) (Katsikeas et al., 1998) (Madsen & Servais, 1997) (McAuley, 2010) (Nessel, 2013) amongst others. Within these reviews there have been various theoretical and conceptual models presented including contingency, network, stages, establishment chain and a resource based view. With the rise of born global or international new ventures (Knight & Cavusgil, 1996; Kudina et al., 2008; Oviatt & McDougall, 1996) phenomena, crossed with International Entrepreneurship has created another stream of research.

In the literature there is a continuum, at one end, highly structured and sequential approach, at the other end there is a haphazard, opportunistic entrepreneurial led decision making (McAuley, 2010; Nessel, 2013). With no one theory that fits the bill; the literature states that a holistic view is required with a combination of several theories. Bell et al (2004) as well as many other authors have recommended a combination of Network theory, Stages and International Entrepreneurship: Born Global as the best theories to use (Bell, 1995; Flectcher, 2001; Nessel, 2013; Rialp et al., 2005). Nessel (2013), Bell (1994) argue that

Stages models and Born global models are not competing models but complementary to each other.

There has been criticism of the literature, McAuley (2010) points out that over the ten years since Fillis (2001) did his review of the internationalisation process; literature in this field has not changed significantly. There is no holistic model of internationalisation process. Case studies as a means of documenting real life situations has been underrepresented, while a longitudinal approach has not been done, an over reliance on North American studies, quantitative methods show new theory generation and contextual issues effect what should be studied. Industry specific factors, entry mode and barriers, impact of technology (McAuley, 2010).

1.1.4 Main Research Question

In this paper the author will try to answer some of these criticisms stated above. To do this the author will use the holistic model below in Figure 1 and a common framework Table 1 (Nessel, 2013) to answer help answer the main question in this paper:

"How do SMEs in the ICT sector in Ireland internationalise"

The model is in figure 1 below, it was developed using two previous models. The first model used was the integrated model proposed by Fletcher(2001) who divided international actives into inward, outward and linked them two each other as below in figure 1This combined with the firm specific external and internal factors can determine the direction and speed of internationalisation (Nessel, 2013).

The second part of the model antecedents is based on work done by Rialp et al. (2005). The antecedents take into account the factors effecting the firm, founder's characteristics, organisation, capabilities and strategic focus. The fourth subcategory, external environment comes from work done by Madsen and Servais (1997) (Nessel, 2013). The four main subcategories of the factors determining the speed the firm will internationalise (Nessel, 2013). With the attention of using Table 1 below to summarise which end of the scale a firm sites, gradually internationalise or Born Global. In table 1 below the four categories and the attributes are presented along with market entry.

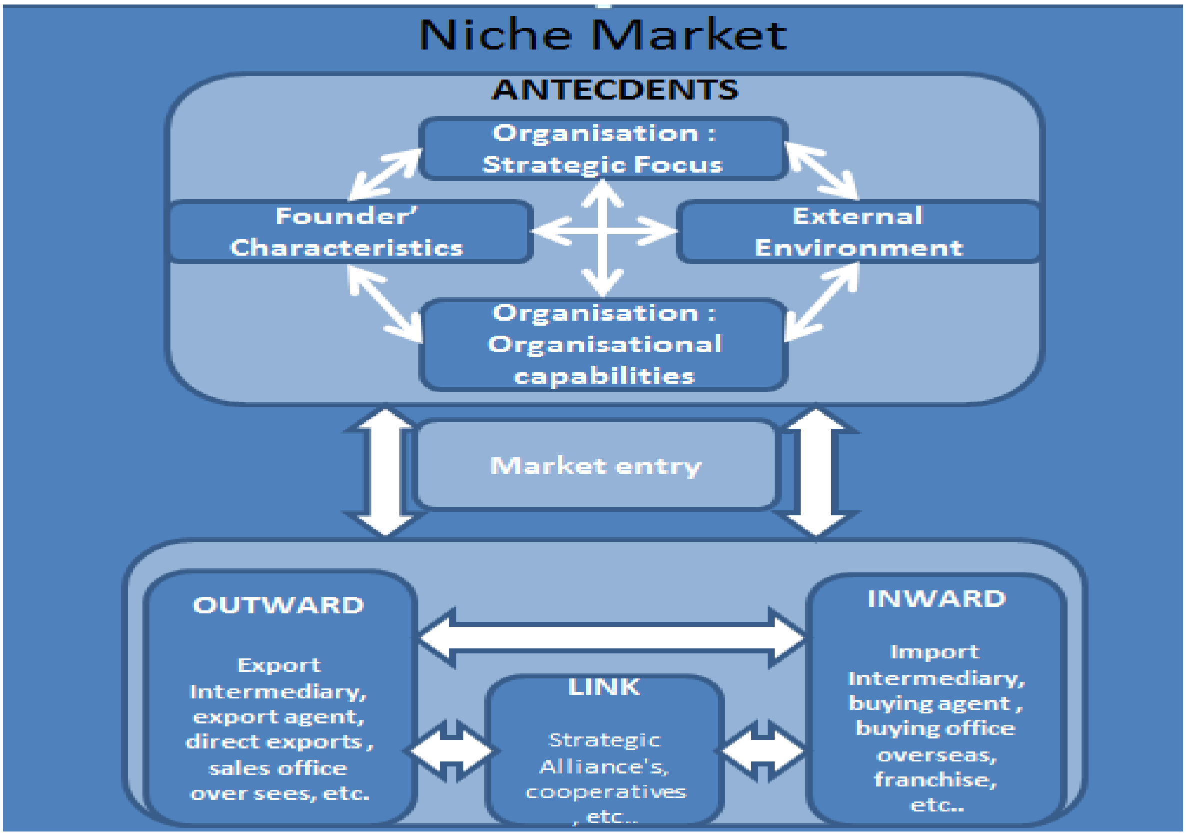


Figure 1. **(Nessel, 2013)**

In order to test the model and to answer our main research question, the author will also need to answer 3 sub questions

1. Do the case companies match born global or stages model of internationalisation as set of in the common framework suggested in table 1?
2. Do the characteristics of the International Entrepreneur / founding Team drive internationalisation?
3. What were the key drivers for foreign market entry?

Table 1 shows an overview of the attributes associated with either Born Global or Stages Models **(Nessel, 2013)**.

Attributes	Born Global	Stages Models
Founder / Founding Team Characteristics		
Managerial Vision	Global from inception	International market to be used gradually after a significant development of domestic market
Prior International experience	High degree for previous international experience	Irrelevant or low degree of previous experience in international issues
Managerial Commitment	High and dedicated commitment with early internationalisation efforts and challenges	General commitment with objectives and task but not directly related to internationalisation
Networking	Stronger use of both personal and business networks at the local and international level. Crucial to firm early, rapid and successful global market reach.	Loose network of personal and business partners (only those fitting a path of gradual internationalisation)
Organisational Capabilities		
Market knowledge and commitment	High from the very beginning due to superior internationalisation knowledge at inception	Slowly growing with previously accumulated domestic and foreign market knowledge
Intangible assets based on knowledge management	Unique intangible assets (based usually on knowledge management process) are critical for the early internationalisation purpose	Availability and role of intangible assets is less important to successful gradual internationalisation

Value creation sources	High value creation through product differentiation, leading-edge technology products, technological innovativeness and quality leadership.	Less innovative and leading edge nature of its products resulting in a more limited value creation capability
	Strategic Focus	
Extend and scope of international strategy	A niche focused, highly productive international strategy developed in geographically spread lead markets around the world from inception	More reactive and less niche focused international strategy. International markets will at best be developed serially and in order of psychic distance.
Selection orientation and relationships with customers and suppliers	Narrowly Defined customer/supplier groups with strong customer orientation	In the hand of intermediaries in the early stages of internationalisation
Strategic flexibility	Extreme flexibility to adapt to rapidly changing external conditions and circumstances	Limited flexibility to adapt to rapidly changing external conditions and circumstances
	External Commitment	
Perceived external Barriers	Low perceived external barriers to internationalisation	High perceived external barriers to internationalisation. Decrease gradually with cross border successes or with a positive evolution of the external environment

Perceived external incentives	Important perceived market, industry and government based incentives	Weak perceived market, industry and government based incentives decrease gradually with cross border success or with a positive evolution of the external environment

1.2 Outline of the Dissertation

This dissertation contains seven chapters including a reference list. In the next section the author gives a short overview of each chapter

In chapter 1, Introduction, the background information is given on why the ICT SME sector in Ireland is important and understanding how ICT SME have internationalised. This is given to the reader to better understand how and why we have developed our main research question.

In Chapter 2, Literature Review, an overview of the literature and theories we have used in order to give the reader a perspective on how we see the problem. The author starts by giving an overview of traditional theories of the process of international and International Entrepreneurial: Born Global theory.

In chapter 3, Research Methodology, the approach taken as to how the author collected primary and secondary data will be described. There is also an overview of the case companies, key informant and the type of interview.

In chapter 4, Findings, the author will describe the three case studies and overview of the finding of the interviews. The authors will analysis the interviews and hold them against the relevant theory.

In chapter 5, Discussion, the author will present his final findings that the author has made with regard to the main research question.

In chapter 6, Conclusion, the author will conclude with weather he has answered the question the limitation of the research and implications and further research questions.

Chapter 2 Literature review

2.1 Introduction

Chapter 2 of this paper introduces the literature review for this research. The review of the literature covers academic publications, books and peer reviewed journals that cover SME, the traditional process of internationalisation and International entrepreneur: Born Global. The review looks at the builds a picture of the two competing ends of the conundrum Stages models and born global process of internationalisation and the importance of market entry for SME internationalising. This is to build a picture of the ways an SME can internationalise.

2.2 SME

In the literature on internationalisation process there is no universal definition of what an SME is. It is different from country to country. In the US a SME is regarded as a company with less than 500 people (United States International Trade Commission, 2010). In China SME can measure anything from less than 100 people in retail to less than 2300 in transport, it is industry dependent (Liu, 2008).

One of the key distinguishers that separate SMEs from larger organisations, is they have a lower capital cost to labour ratio (Rogers, 1999). Fletcher (2006) described SMEs as being inherently entrepreneurial as they exploit business in uncharted markets. A large number of studies that have been carried out in various countries, these conclude that SMEs play a significant role in job creation within an economy (Smallbone & Wyer, 1995). There are still questions about whether this comes from start-ups or high growing SMEs but the literature agrees that SMEs are important for employment creation (Curran, 2000; Gibb, 2000; Hamilton & Dana, 2003).

The general accepted definition and the one used in this study is the EU's (Europen Commission, 2006). European Commission's new definition is designed to contribute to an improved business environment for SMEs. The types of SME are:

Table 2: The European Commission's definition states:

Company Category	Employees	Turnover	Balance
Medium-sized	49 to 249	Less than or equal €50 M	Less than or equal €43 M
Small	11 to 49	Less than or equal €10 M	Less than or equal €10 M
Micro	Less than 10	Less than or equal €2 M	Less than or equal €2 M

Age and size characteristics of an SME and the effect they have on the growth of an SME have been the subject of a lot of literature. There is evidence that the characteristic of size impacts on the behaviour and structure of a SME. As SMEs become larger, this leads to structural changes, improved organisational learning and more bureaucracy. The factor of success also changes with the growth in size of an SME and becomes much more sophisticated and different to those of smaller SMEs (Rutherford et al., 2001).

The age characteristic of an SME also has an effect on the growth of an SME. In the literature, younger SMEs grow quicker as they accumulate sufficient resources in order to be able to withstand unforeseen external shocks (Heinonen et al., 2004; Smallbone & North, 1995). The literature states, young SMEs have been shown to grow rapidly (Kangasharju, 2000), but it is not just young firms that have a high rate of growth. There are a number of examples of SMEs of different size and age characteristics having high levels of growth (Rutherford et al., 2001). SME possess unique characteristic, there characteristic do not always help them in the domestic markets (Hill, 2001). For some SME they need to go international. The characteristics of these SME will be looked at later is section 2.3.3.2.

2.3 Theory of Internationalisation

To be international a company needs to either be present in a market outside their home market or be described as having an attitude towards a foreign market. There is no one clear definition of "theory of internationalisation" The term has been used to describe how different groupings of companies have internationalised. This can be through Economic, Behavioural, Networks or International Entrepreneurial being the most common forms of how different companies have internationalised. Cavusgil and Knight (2009 p38) argue that the concept behind the process of internationalisation is the systemic increase in business activities internationally. The internationalisation can be done in many different ways these will be explained further in the Uppsala Model in section 2.4.1 and International Entrepreneur 2.4. As these are the relevant theories for either end of the point at issue.

2.3.1 Stages Model Internationalisation

Research on stages models of internationalisation process for SME began around the mid 1970's. The first stage model was produced by Johanson and Wiedersheim (1975). The model proposed argued that Companies internationalise like "rings of water" with regard to entry mode, geographical markets and products (Madsen & Servais, 1997). The SME first operates in their domestic market and then over time through either innovation or learning (knowledge of the foreign market) only later do they gradually internationalise into foreign markets. As the company enters the foreign market it commits a greater amount of resources in to that foreign market. Companies in this model target foreign markets with a small degree of psychically and psychic distance between them and their domestic market. As SME knowledge and engagement in foreign market grows, the company gets more experience and will perceive less risk in international markets. The degree of psychically distance will increase and the degree of Psychic distance will lessen, it's a reinforcing phenomenon (Bilkey & Tesar, 1977; Cavusgil, 1980; Johanson & Vahlne, 1977)

Since then there has been numerous different stages models (Bilkey & Tesar, 1977; Cavusgil, 1980; Czinkota, 1982; Johanson & Vahlne, 1977; Johanson & Wiedersheim-Paul, 1975) to name a few. There have been two schools of thought in the literature. The first school is the innovation based models. These came out from North America in the late 1970's and early 1980's. These models as shown in figure 2. below argue that companies move through each stage due to innovation-adaptive cycles, learning curves, management capabilities and or ambitions of the founding member/management team or unsolicited enquires from abroad called "attending evoking" stimuli (Bell, 1995).

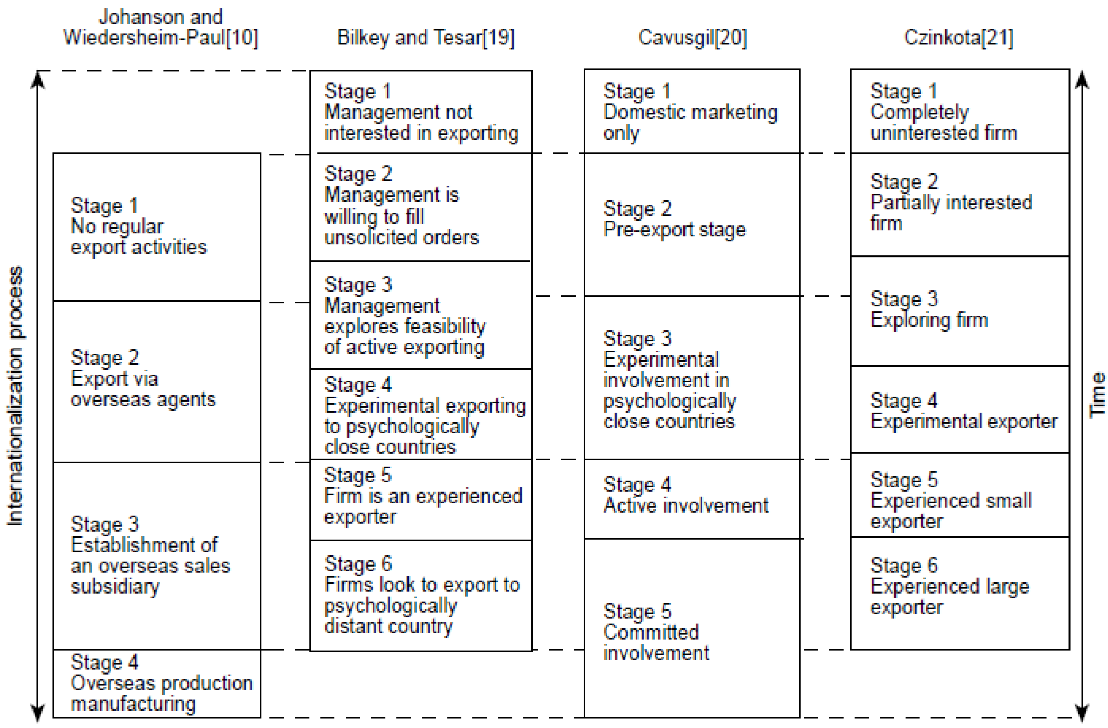


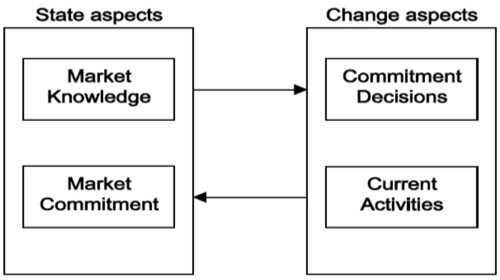
Figure 2 **(Bell, 1995)**

These models are all incremental stage models; the only real difference between them is the precise number of stages in each model. Anderson observes (1993);

> "Except for the initiating mechanism, the difference between the(es) models reflects semantic difference rather than real differences concerning the nature of the international process." (Bell, 1995).

The second school and the most referred to model (McAuley, 2010) is the Uppsala model (Johanson & Vahlne, 1977) which is based on an establishment chain model, was first developed in 1977 the model was based on the studies of Swedish SME and how they internationalised.

Johanson and Vahlne (1977) present that in the start-up phase of the company there in no international activity and the company only operate in its own domestic market. The next stage is opportunistic exporting or unsolicited exports appear. This opportunity allows the company to gain market experience, contacts, market knowledge and encourages the company that there is a market for their good in another country. This in turn encourages export to a near foreign country. The exports start usually through an agent or intermediaries. Once the company gains more knowledge and the risk of failure lessons the company will itself start selling in the country, in so committing more resources to that market. Companies tend to start to export to countries which are close psychically to them with similar domestic markets (Irish companies first exporting to UK) in terms of psychic distance.



The Uppsala model of internationalization (Johanson and Vahlne, 1977).

Figure 3. **(Johanson & Vahlne, 1977)**

The state aspects of the model show how internationalised companies are. Once they have the market knowledge of the new foreign market it moves over to the change aspect. The change aspects of the model show changes in the company's international process and how the company will internationalise.

When Companies start exporting, they export to foreign markets similar to their own domestic market due to "Psychic distance" (Johanson & Vahlne, 1977). Psychic distance can be explained as the difference between the domestic market of the company and the market in which they want to export to. But can also encompass culture, religious, political and business practices of a specific country. The more learning a company does about a foreign market the more knowledge and experience of that foreign market the more the psychic distance decreases, the more commitment the company will make on resources to that foreign market.

In the literature the stages models have gained a lot of empirical support for gradual incremental international process (Ellis & Pecotich, 1998; Leonidou & Katsikeas, 1996). There have also been a lot of criticisms of this model as being too deterministic (Andersen, 1993; Bell, 1995; Fillis, 2001; McAuley, 2010) to name but a few. Anderson (1993) in this critical analysis on the firm criticised the model as having weak theoretical underpinnings, lack of congruence between theory and practice and the inability to explain how one company moves from one stage to another (Bell et al., 2004). The models also can't explain the new phenomenon of Born Global who appears to leapfrog stages (Bell, 1995; Cavusgil & Knight, 2009; Madsen & Servais, 1997; Oviatt & McDougall, 2005).

Madsen and Servais (1997) argue there are still links between Born Global and Uppsala model. The dynamic processes (state and change aspects) are similar to the process of internationalisation process of born global. The difference is that founder or founding members of the Born Global already has international experience and market experience and the markets in which Born Global operate are also different. This is the reason why the process of internationalisation for born global must be deviating from the traditional stages process of internationalisation (Madsen & Servais, 1997). Stages and Born global are at opposite ends of the internationalisation process.

Johanson & Vahlne (2009) have revisited the Uppsala model in 2009. They contend that the basic foundation of the model as still relevant. Explaining born global leapfrog stages due to the fact that the founder or founding team have access or prior experience of relationships and knowledge in international markets. For this reason they have included entrepreneurial capabilities in there new model (Andersson, 2011).

2.3.2 Network Approach to internationalisation

In the literature networks are very important to Born Global as their networks are indispensible for SMEs to grow internationally (Coviello & Munro, 1997). Because of the size and limited resources of an SME a business networks supplies important resources to be able to respond to opportunities in the market as well as to facilitate the international process of an SME (Cavusgil & Knight, 2009; Kontinen & Ojala, 2011). Bell et al (2003) present the internationalisation process through networks as an entrepreneurial process. It helps to get access to human, tangible and financial resources through the support of institutional and social webs. A business network is two or more connected business relationships are seen as a network (Emerson, 1981). Networks are developed through out an entire company they can be social relationships, formal or informal business relationships that have a foundations in either social, institutional or geographical locations.

Bell (1995) explains the network approach to internationalisation as.

> "Interconnected exchange relationship between actors in different firms that evolves in a dynamic, less structured manner the increases mutual knowledge and trust that leads to greater commitment between international market actors" (Bell, 1995)

Cavusgil & Knight (2009) argue for a firm in foreign market network is not about entering the foreign market it's about building positions in that foreign market. This means within a network country borders are non-existent. Networks allow the firm to establish maintain and further develop their relationships with companies or individuals in foreign markets. This will in turn help the company in there international process and allow them to get access to channels and resources to allow them to enter the market.

Loane and Bell (2006) Explain networks are made up of strong network ties and loose network ties. A loose network tie is a tie that is connected to a strong network tie in your network. Loose network ties are of higher value to the company as they usually consist of the network of a current customer so allowing you access to more customers in that foreign market. The company would use their strong network tie which can be an agent or partner or distributor to connect you to the loose network tie so helping you enter the market of the foreign country (Loane & Bell, 2006).

A network is always growing / learning and this knowledge is shared among active participants in the network allowing for members to expand their international activities. The entry strategy of a firm can affect and can be affected by their network, helping the network to expand by the shared knowledge and experience of the company international activities.

2.3.3 International Entrepreneur: Born Global

In the last 30 years with the rapid pace of globalisation of international markets, it's now very common to see SMEs operating on a global basis. This has been enabled by the development of innovation in the technology and communication allowing even SMEs to service their clients around the world. Globalisation has also enabled the development of people to gain international experience and knowledge of markets around the world. The main reason for this is the increasing number of niche market, SMEs usually deliver specialised products or service to meet the customer's needs and stay competitive against MNEs (Cavusgil & Knight, 2009).

International Entrepreneurship is the intersection of two research paths international business and Entrepreneurship (McDougall & Oviatt, 2000). The research path came out of SME that did not follow the traditional path "stages" of internationalisation process. These SMEs where known by a couple of names Born Global (Knight & Cavusgil, 1996), international new ventures (Oviatt & McDougal, 1994) and Global start-ups (Oviatt & McDougall, 1996). These firms internationalise either at inception or very soon after the inception of the firm. Internationalisation process of an SME is an entrepreneurial activity (Knight, 2000; Lu & Beamish, 2001).

There have been a number of evolutions of the definitions for IE over the years. The first recognised definition was from Oviatt & McDougal (1994) this definition was updated by Shane and Venkataraman (2000). This was criticised as depicting the opportunity as objective phenomena in the environment (Oviatt & McDougall, 2005). The current accepted definition in the literature of IE is

> "The discovery, enactment, evaluation and exploitation of opportunities – across national borders – to create future goods and services" (Oviatt & McDougall, 2005, p.504).

Born Global SMEs have been subject of a lot of research on how they can compete against bigger companies. There companies see the world as one big market. They are very entrepreneurial companies, highly fixable to adapt to changes in market conditions leading to innovation of their products and or services, resource usage and there not afraid of taking risks (Cavusgil et al., 2012; Cavusgil & Knight, 2009; Fillis, 2001; Knight & Cavusgil, 1996; Zucchella et al., 2007). As shown above there are many names for these companies so there is also a few definitions. For this paper the author will use the definition provided Oviatt and McDougall (2005) and Knight and Cavusgil (2005)

> "Competitive advantage from the use of resources and the sale of output in multiple countries" (Oviatt & McDougall, 2005)

With two other conditions, companies having internationalised either at inception or very soon after the inception (within 3 years) of the firm and secondly the company also has at least 25% of their revenues from overseas markets.

Being or becoming a Born Global (BG) company is not easy; Kudina et al (2008) identified a number of factors that have allowed SMEs to internationalise. There is a need in a foreign market for the company's product or service, founder having a network in the foreign market or following a customer into the foreign market make it easy to internationalise. The second set of factor where also identified, ICT is making it easier to internationalise and to service client in foreign markets. Technology has allowed for fixed cost to be lowered as there is not a need for sales offices. Learning and knowledge derived for networks in foreign markets has allowed for development of new features, services or product, thus enabling innovation.

The literature starts that the entrepreneur/founder/founding team is the key to internationalisation and value recreation in the company (Andersen, 1993; Andersson, 2011; Bell, 1995; Bell et al., 2004; Cavusgil, 1980; Cavusgil & Knight, 2009; Chetty & Campbell-Hunt, 2003; Cavusgil & Knight, 2009; Smallbone et al., 1995; Fletcher, 2001). Andersson et al (2004) there in no one of born global entrepreneur, but many types of entrepreneur that start born global companies (Andersson, 2011).Thus the main characteristic of the entrepreneur are important for the successful internationalisation process.

2.3.3.1 Characteristics of an entrepreneur

In all of the literature on SMEs, the distinguishing characteristics of an SME are the relationship between the SME and the entrepreneur. Typically the entrepreneur fulfils a management role and keeps a high degree of control (Dobbs & Hamilton, 2007). The influence of the entrepreneur has a major impact on the growth and performance of the SME (Kangasharju, 2000; Montserrat, 2002). The relationship between the SME and the characteristics of the entrepreneur are important for two reasons (Barringer & Jones, 2004).

Firstly the entrepreneur places a lasting "stamp" on and SME that influences the behaviours and culture of the SME. Secondly starting a business is a challenging process. It is claimed in the literature that as such the entrepreneur would need industry insight and a high level of education is considered critical to a firm in terms of growth.

There are many characteristics of an entrepreneur that have been shown to contribute to an SME's growth but none, in isolation, appear to make a dominant contribution. Loenidou et al (1998) presented a review of the literature on the characteristics of the entrepreneur/founding them and how they have impacted SME internationalisation frond two sets of factors. The first set being objectives characteristics and subjective characteristics (Hutchinson & Quinn, 2006).

Objective characteristics are network, knowledge and experience. Having international experience has a strong effect on SME, both in the initial and continued decision to internationalise (Reuber & Fischer, 1997; Wiedersheim-Paul et al., 1978). The Network of the entrepreneur / founding team play a vital role in not only the decision to go international but can be a source of competitive advantage and knowledge (Madsen & Servais, 1997; Westhead et al., 2001). Having the knowledge to know there in a market for a product or service in international market is also vital.

Subjective characteristics are personality perceptions and attitudes. These characteristics are innovator, a risk taker, need for achievement and a positive attitude (Cunningham & Lischeron, 1991; Chetty & Campbell-Hunt, 2003). Entrepreneur / founding team perception and beliefs regarding the company's product and or services competitive advantage and barriers to internationalisation have strong effect on the SMEs internationalisation and moulds attitude of the company (Calof & Beamish, 1995; Hutchinson & Quinn, 2006; Leonidou et al., 1998). Other characteristics are motivation; education and the size of the founding team have an effect of the internationalisation of the company (Dobbs & Hamilton, 2007).

2.3.3.2 Characteristics of the Born Global (BG) SME

Global Born SMEs that internationalising at inception or very close after inception within a three year period and derive at least 25% of their profits from foreign markets have distinctive characteristics (Knight & Cavusgil, 1996; Oviatt & McDougal, 1994). Below is a list of the distinctive characteristic which the literature state born global poses all or high number of them.

The first distinctive characteristic is that they are highly activate in international markets (Knight & Cavusgil, 1996). Studies have found that this can be for a number of reasons; the vision of the founder to go global form inception (Gabrielsson & Pelkonen, 2008), the firms has progress through stages of internationalisation where it was not one of the original objectives of the firm but happens naturally through partners and or DFI (Rasmussan et al., 2001). The internationalisation process can happen because of the market sector, nature of the business and or technology being used (Coviello et al., 2011).

The second distinctive characteristic is that because they are SMEs, like all SMEs they have limited access to financial, tangible and human resources due to the size of the company. This means born global companies have to be move innovate in there uses of the resources they do have (Tanev, 2012).

The third distinctive characteristic is that entrepreneur / founding team of the company have an international entrepreneurial orientation and or have a strong international outlook. Entrepreneur / founding team look for opportunities in international markets and to do this will limit resources and need to innovate and take risks to solve problems. Loane et al (2007) argue, in studies in many countries it has been found that entrepreneur / founding team with entrepreneurial mind-sets of resourcefulness, creativity and knowledge of both internationalisation and or the sector are more dynamic where internationalisation is concerned, especially in the ICT sector (Tanev, 2012).

The fourth distinctive characteristic is that born global SMEs are found across all industries both high and low tech.

The fifth distinctive characteristic is the emphasis on a differentiation strategy. Global Born SMEs do this by developing products and or services that are designed for niche markets. Global Born SME have a large focus on building customer loyalty by meeting a client’s and or markets unique need

> “People and firms increasingly demand specialised and customised products and niche markets have an important source of opportunities for small firms” (Cavusgil & Knight, 2009)

The sixth distinctive characteristic is a high emphasis on product quality. As these companies are often the leader or first to market and there product needs to be better designed and better quality than there bigger competitor.

The seventh characteristic is that they leverage advance ICT. This allows them to effectively communicate and interact with their customers across the globe servicing their needs (Cavusgil & Knight, 2009) .

The eighth and last distinctive characteristic is the high use of external partner or distributor in international markets so allowing them not to over commit their limited resources into every market. This allows the SME to have innovative and flexible international operations, allowing them to enter many markets simultaneously or close together (Cavusgil & Knight, 2009).

Tanev (2012) also argues along with the general characteristics of an SME, that there are a number of specific characteristics for technology firms, which we will test out in the model. These characteristics are listed below.

- Home market is too small to support the company and most clients are based outside the company’s home market
- The company market segment is in technology and or knowledge intensive
- Being leading edge is key to competitive advantage
- The offering whether it be product of service has few market or trade barriers
- Customers’ needs and tastes are standard across countries
- Company’s service or product is high value compared to logistical costs
- The products are leading edge, in so being have first mover advantage or network effects
- The competition will or are already internationalised

- The founder / Founding team or key managers have international business experience

2.4 Market Entry

The question for entrepreneur/founding team is what is the best way for the company to enter a foreign market? Entrepreneurs according to Hill (1997) need to choose between six entry modes to enter a foreign market: exporting, licensing, joint ventures, turnkey projects, franchising or opening a subsidiary in the target market (Sandberg, 2012). Before a company enters a market there are a number of factors it needs to consider: country polices, language, allocation of company resources amongst other things there are described as physic distance (Bilkey & Tesar, 1977; Johanson & Vahlne, 1977). As explained above with globalisation and the improvement of communication and technology have allowed market to be entered much faster and more easily than before. Jansson (2007) argues that market entry is

“How relationships are established and maintained with actors of importance to the firm”

Therefore, to enter a foreign market one or more relationships need to be established in a foreign market of the choice of the firm (Sandberg, 2012).

Born global company’s face challenges when entering new markets they need to use their current networks as well as other market entry modes when entering a foreign market (Solberg, 2012). Therefore, a company entering a foreign market how they choose to their entry mode is very important. Solberg (2012) states that market entry mode will determine how financial resources and management resources will be used as well as how financial risks will be determined. “Entry mode is an organisational structure of how a firm establishes itself in a foreign market” (Sandberg, 2012, p.33). Such structure can be subsidiaries, joint venture or business alliances. For born global companies who do not have the resources (people or financial) Solberg (2012) has identified entry modes with require less commitment of these resources: licensing, franchising to distributors or sales agents in foreign market. Born global companies choose their entry mode into foreign markets using existing market knowledge and knowledge from their own network (Sharma & Blomstermo, 2003). In order to gain market knowledge or expand their current market knowledge network relationships due to entry mode are highly important to a born global company.

Selecting which market to enter first is very important for any company. With traditional models they select foreign markets which are within a close proximity or have market conditions to their domestic markets. This is to lessen the physical and psychic distance between the domestic market of the company and the market in which they want to export to (Johanson & Vahlne, 1977; Johanson & Wiedersheim-Paul, 1975). They overcome these distances by gaining knowledge and experience of the foreign market. Born global companies enter foreign markets firstly where there entrepreneur and or founding team have knowledge and experience of the market (Knight & Cavusgil, 1996; Oviatt & McDougall, 1996).

2.5 Conclusion

In the literature we have discussed deffination of SME, the traditional process of internationalisation and Born globals. These different process of internationalisation will be cross matiched against the 3 companies in the study to see if the 4 attribitues in the frame work to discover how SME in the ICT sector internationalise. The next sections sets out which methodology will be used to answer the research question.

3. Research Methodology

In this chapter of the paper the author will explain the research methodology and the research method. Research methodology is the theory to be followed when doing research (Saunders et al., 2009). Saunders et al (2009) describe methods as the actual means by which the research is conducted. The research questions and objectives will be discussed during this chapter.

3.1 Research Strategy

Walsh and Wigens (2003) argue, that once you have come up with a research topic and the corresponding research question the researcher will need to plan how to proceed and the structure (Sandberg, 2012). Saunders et al (2009) recommend following a defined set of steps, each step completed will help lead to the next:

1. Formulating your research topic, defining area and goals
2. Literature Review, review literature on the process of internationalisation of an SME
3. Research design, construct survey and conduct interviews that capture all information required to formulate succinct conclusions and findings
4. Data collection, conduct survey and interview with entrepreneur / founding team member or chief sales officer
5. Data analysis, analysis data collected from surveys, form interviews conducted and other sources
6. Compilation of findings, develop and writing of this paper and conclusions

The core aspects of the research strategy is understand the pattern of the process of internationalisation for ICT Company's in Ireland fits with the attributes associated with both Born Global theories and Stages theories. To this end the author has undertaken a qualitative research firstly in the form of a short survey and secondly in the form of case studies across three different firms in the ICT industry.

3.1.1 Research Problem and Objectives

The problem the author is going to research should be based on a problem which can be explored to provide further understanding. The main question of the paper should be based on theory (Saunders et al., 2009). This can be described as relationships between two or more variables that may or may not be verified (Gill & Johnson, 2002). Sutton & Staw (1995) state that theory is the connection between phenomena.

3.1.2 Research Question

Ghauri and Gronhaug (2005) argued that research is not just beliefs but needs to be based on logical relationships. The research question should not be two big or two small according to Clough and Nutbrown (2002). Too small a question that would have no significant research value or too big as a question that would require significant amounts of funding (Clough & Nutbrown, 2002).

3.2 Possible Research Methods

When deciding to write this dissertation there where a number of decisions to be made. What is the most appropriated method to answer the research question proposed in this dissertation? When answering the question firstly the author needs to identify theory in the area, theory not only must identify the relationships between data collected but why the relationships exist (Saunders et al., 2009). The author analysed how researcher in this area up to this point has collected there data and compare it to the papers main question. In the theory and studies of how SME internationalised there are two methods used. These two types of methods are Quantitative and Qualitative. These will be explained in more depth in the next section.

3.2.1 Quantitative research Methods

In quantitative research, researchers often try answer through testing theories which provide answers to questions (Creswell, 2003). Quantitative research usually uses large sample sizes and results are based on these samples to get meanings based and derived from numerical and standardised data. Quantitative research tends to use statistics and diagrams to conduct analysis. Quantitative researcher will then use the same and generalise to a population (Babbie, 1990). Quantitative research can be more accurate due to the nature of the approach in the use of numbers.

3.2.2 Qualitative research Methods

Qualitative research holistically examines where element as treated as wholes and not reduced to variables (Taylor & Bogdan, 1984). Qualitative research, according to Merriam (2009), is the ideal method to extract information based on knowledge and experience. Qualitative research derives meaning expressed through words, collected non-standardised data requiring classification and conducts analysis through conceptualisation (Saunders et al., 2009).

3.3 Research Method

A qualitative research method was chosen to answer the criticism of McAuley (2010) who pointed out that over the ten years since Fillis (2001) did his review of the internationalisation process. There is no holistic model of internationalisation process. More case studies as a means of documenting real life situations. Qualitative is the best research method when the author needs to know "how" something happen, "when" it happed and "what" where the driver and motivations behind internationalisation process (Yin, 2012). It has been argued that qualitative method is the most difficult part of the research process (Merriam, 2009). Quantitative research methods cannot address the sub questions around behaviours or attributes associated with either Born Global or Stages Models these can in fact be addressed through qualitative research (Roshan & Deeptee, 2009; Yin, 2012). Qualitative research allows for the study of actors in their natural environment which can provide a holistic understanding into the nuances and complexities in which event occurred (Patton, 1990)

3.3.1 Case Study

The case study was selected due to the exploratory nature of the information required; case studies allow in-depth investigation of the activity, process, event or individual bounded by time and activity (Creswell, 2003). According to a number of qualitative methodologists (Eisenhardt, 1989; Glaser & Strauss, 1967; Yin, 2012) multiple case studies serve best when testing previous theories. In additions it can be used to compare and contrast using pattern matching analytical procedure (Rialp et al., 2005). In this paper the author will be using multi case studies to compare and contrast the different way in which each company has internationalised. Case studies allow for a rich understanding especially when the research question of “how” and “why” (Merriam, 1998; Yin, 2012). Yin (20012) state the type of case undertaken is based on a set of questions these include:

1. The type of research question.
2. Degree of focus on past versus present events
3. The extent of control the researcher has over behavioural events.

Case studies can include several data collections types as in this case study where the author uses a short survey and interviews. Case studies can provide a lot of data and *“an appropriate way to answer broad questions”* (Swanborn, 2010).

In the case study the author has taken three Irish companies in the ICT industry to get a deeper understanding of how the company’s studied internationalised from an Irish point of view, the drivers they had and how the entrepreneur and or founding team affected this process. The author researched the literature on international process to get a rich understanding of the topic. The author selected the case study approach on two accounts, firstly being the criticism of Fillis (2001) and McAuley (2010) that more case studies needed to be undertaken as a means of documenting real life situations. This would enable the author to provide a paper that was original and relevant. The second following on from several other studies (Andersson et al., 2004; Chetty & Campbell-Hunt, 2003; Oviatt & McDougal, 1994; Rasmussan et al., 2001; Rialp et al., 2005; Sharma & Blomstermo, 2003) that compared gradual or stages models of internationalisation against Born Global who have also chosen multiple case studies and have adopted the company as the main unit of analysis.

3.2.2 Description of Case Companies

The selection criteria for this paper were based firstly on the theories of this paper companies that have gone through the internationalisation process and on the below definisition (Madsen, 2013):

- The EU definition of the SME in table 2 in this paper
    - Companies that have between 11 and 250 employees.

  - With a turnover of less than 50 million.
- Have internationalised either at inception or very soon (with 3 years) after the inception of the company.
- Have at least 25% of their revenues from overseas markets.

We contacted companies that fit and selected 3 companies to do carry out case studies on.

<u>Case Company A</u>

Born in Dublin Ireland where the development offices are located and with its HQ in Washington D.C and employees also based in Seoul and Beijing, case company A platform is the next generation learning platform; which uses content recommendation and personalization engines to help teachers teach and students learn. Case company A's combine adaptive learning with powerful analytics, content recommendation and personalization engines to create the ultimate in digital instruction. Delivering a solution to empower teachers, and engage students and parents; with the single aim - to drive better learning outcomes. The product is easy to use in the classroom or virtually, easy to integrate and is leading the industry in user-interface design.

<u>Case company B</u>

Case company B was founded in 2007; case company B is the provider of offshore development, test and consulting services to larger users of global IT applications that scale at an enterprise level. With its HQ in Dublin and its development, test and professional services centre in Beijing. It has setup to provide low cost IT services to software and technology companies internationally. It has 15 clients using case company B provides dedicated teams to develop test and manage the delivery of software for key projects worldwide.

<u>Case company C</u>

Case company C was founded in 1997, case company C, is a provider of advanced asset management, custody, and wealth management solutions to the financial services sector. Case company C use there in-depth knowledge and experience of the financial industry and enterprise technical knowledge to deliver complex products for use of processing and settling corporate actions in multi-regional and multi-entity (banks) from one platform. Case company C employees over 200 staff worldwide in their offices, in Dublin (HQ), New Delhi, London, Singapore, Kuala Lumpur and New York. Case company C currently service the needs of 22 banks worldwide with the platform being used in over 100 countries around the world. Currently all case company C clients are based outside it domestic market.

3.2.3 Interview

Key informant approached was taken in this study which involved interviews as the key focus of this study. Both participants are actively involved in the interview, meaning information is not solely gleaned through asking questions (Holstein & Gubrium, 1997).

3.2.4. Semi –Structured Interview

A semi structured interview has a list of themes and questions in which the interviewer aims to complete (Saunders et al., 2009). With the use of themes and not constructed questions it allows the semi structured interview to lead to more open dialogue and discussions. It allows the interview to go in a direction the interviewee wishes to go but it is the interviewer job to keep the interview focused on the topic area. King (2004) describes these interviews as qualitative interviews. Semi structured interview allows the researcher to get a deeper and richer understanding of the subject being researched (Patton, 1990). The interviews were carried out with key company informants that had knowledge of how the companies internationalised. The key informants in the interviews where the entrepreneur, part of the founding team or head of sales. They were involved in the process of internationalisation or knowledge of the process.

3.2.5 Interview Pilot test

The interview pilot test was carried out with the interviewees before the semi structured interview. The interview pilot test was carried out by phone with the key informants to enable the author to ascertain the ground rule on what question could and could not be asked. All key informants where happy to give full and frank interview of how there SME internationalised and no subject or question was out of bounds.

3.2.6 Company Informants

The interview as mentioned above is the main method of collection of data to answer the main question and sub questions in this paper is **How do SMEs in the ICT sector in Ireland internationalise** and sub question is characteristics of the international entrepreneur / founding team. It was vital that the person interviewed has part or had knowledge of the process of internationalisation with in the company. It was not always possible to talk to the entrepreneur of the identified companies never the less we interview leading figures in the process.

Informant A, CTO & Co-founder case company A

Informant A is former Chief Technology Officer (Senior Vice President, Technology) for HMH / Riverdeep, the largest Education Publishing Company in the US. He was responsible for the Product, Technology strategy and IT operations, leading a globally distributed team of 700-plus technology professionals. Informant A previously held technology and software leadership roles, both in Ireland and Europe with Vodafone, O2, Three (Hutchison Wampoa) and Microsoft. Informant A has an honours degree in Applied Physics from Dublin City University.

Informant B CTO on founding Team, case company B.

Informant B has worked in the Software Development industry for over 15 years, beginning working for Orbism and Iona Technologies as a java programmer in the mid ‘90s, through to his current role as Chief Technology Officer and Head of Software Engineering at case company B, via some of the most dynamic and leading edge software companies including Norkom, Cognotec, Baltimore, Cape Clear, PutPlace, Newbay and Synchronoss. During these formative years informant B has developed best practices for software development with particular emphasis on Test Driven Development. Informant B has worked extensively in the financial sector writing all tiers of large multi-tier applications, from sql at the database layer, to java at the business layer, and javascript, css and html at the front-end.

Informant C, CTO, CMO case company C.

Informant C has been in the software technology industry for over 30 years mostly in the financial software market, supplying and support leading bank globally. For the last 16 years Informant C has worked at senior management level and executive level across a number of international Irish companies. Informant C has worked in both the operational and sales parts of these organisations. Informant C has worked in case company C for the last

11 years in a number of senior positions from Chief Technology Officer to his current position as Chief Marketing Officer responsible for sales and marketing.

3.4 Data Collection

Data can be collected by primary or secondary research methods or using both (Yin, 2012). In this paper we used both primary and secondary methods to gain a full understanding of the concept of the process of internationalisation. This helped us to analyse the information gathered to enable the author to answer the research questions asked.

3.4.1 Primary Data

The goal in primary research is to gather original information; in the case of this paper there was a short survey and an interview of the entrepreneur or member of the founding team, to understand how the internationalisation process was undertaken within that SME. It is a necessary approach to get original and relevant data to answer the research questions (Merriam, 2009). By interviewing the most relevant persons we gain an insight and understanding of how the company internationalised and what where the drivers behind doing this. We conducted a survey across all three companies to compare and contrast what the companies did that was similar and what was different.

3.4.2 Description of the interview process

The interviews where help in person with the interviewee. The interviews lasted 1.5 hours each. All interviews where recorded to make sure the author could listen to them again as well as validate the answers to the questions. A short survey was conducted to pattern match across the three companies to see from a scale of 1 to 5. 1 being most like born global company attributes and 5 being most like the attributes of Stages model or gradual internationalisation. Then the main body of the interview was conducted. The main themes being characteristic of the entrepreneur, what where the drivers for internationalisation and how the company internationalised.

3.4.1 Secondary Data

Additional research was undertaken, gathering previously garnished information and further examining it. There can be inherent issues with secondary data due to the why it was gathered or who was gathering it (Jacob, 1994). Before undertaking the primary research the author read and analysed other researchers who had written scientific journals, articles, books on the topics of born global, internationalisation process, Entrepreneur, international entrepreneur, networks and SMEs. Therefore, get a better understanding of the topic of the paper. Prior knowledge generates an ability to recognise the value in new information (Cohen & Levinthal, 1990), thus having prior knowledge is necessary to understand the information you are collecting.

3.5 Research quality

With qualitative research the results need to be interpreted, caution needs to be followed. An objective approach needs to be taken when the researcher is analysing and interpreting the data gathered. The researchers need to ensure that one's bias or views do not influence the results (Blumer, 1986). Qualitative research data analysis is an iterative and cyclical process. The researcher constantly has to review and define his results and findings to ensure accurate information is gleamed from the data (Yin, 2012).

3.5.1 Ethical issues

There were no ethical issues or areas of concern were identified during this research. Some of the key informants did not want their names or the name of their company made publically available this was due to confidentially and corporate strategy. The author has agreed to destroy all transcript of the interview once the dissertation has been marked.

3.5.2 Limitations of the research

All interviews where 1.5 hours long and followed in line with the common frame work in table 1. It can be argues that because of the familiarity of the researcher with the interviewee during data collection could affect the responses of the interviewee. But because of the nature of the research being done of how ICT companies internationalised the method was warranted.

4. Findings

In this chapter the author will present the results of our case-based analysis. Firstly the author will present a short case study describing each company briefly. In the case study will look at the case companies across themes of business there in, entrepreneur/founding team and how they companies internationalised. The authors will then cross-compare each company using pattern matching and match which of the two theories set out in the common framework the case companies match.

4.1 Case company A

Case company A was started from an idea which informant A had. He could see that there was a gap in the market for online content to help teachers teach and student learn. He could see

> "That kids where living in colour at home using hand held devices and PlayStation 4 but learning in black and white in school"

The company was founded in 2012, currently employees 30 people around the world. On the day of foundation the company received their first cheque from their first client a Chinese educational publisher, making them international from inception. They business model is based around 4 key models.

1. Selling directly - To publishers and directly to educational departments or school district. Also selling with publishers to educational departments or school districts.
2. Integrating with other learning management systems to provide online content, providing join selling again to educational departments and school districts.
3. Customer subscribe to the platform for a monthly fee.
4. Integration with device makes

Case company A currently has 116,000 customers worldwide for a combination of models one two and three. They have contracts in China the first market they entered through partnership with publishing house through their own network. The next target market was US and Korean market which both co-founders already had previous experience in. They ran a serious of focus groups to make sure their product was fit for purpose, deleveraging the risk in entering the new market. Once the focus group confirmed that there was a market for the product the company entered the market. They did so through a combination in both countries of their own personal and professional networks. Case company A hired key sales agents who they had worked with in the past, who had networks in the market in which they wanted to enter. The next market the company entered was Zimbabwe, again through contacts in their own networks. 99% of the sales are from foreign markets.

Case company A are the first to market with online learning and content management platform. The co-founders put in sizable amounts of their own money to get the company off the ground. They believed in the idea and that the company would be global company for the start. They did not see a market big enough in Ireland to sustain the company. "There are 60,000 students through the Irish education system in a year. In Dayton school district in Florida there are 350,000 students through a year and this is the market we wanted". As well as being first to market the company is technology agnostic with the ability to intergrade different school districts and educational departments learning content in a 4 week period by using the company innovative software architecture, technical abilities and agility of staff so giving case company A a competitive advantage not just on the first to market in learning platform but also on content.

They were also contact by other learning platforms such as Canva and Blackboard to intergrade with their offering. This enabled the company to leverage the sales arms of these larger companies to open up new markets. The only barriers that Informant A sees to expansion are the correct market intelligence, this can be overcome with focus groups and making connections through trade shows and enterprise Ireland. Other barriers such as culture difference, language Informant A does not see as a problem to the company. Informant A does see issues with someone stealing of the idea and getting payments on time.

4.2 Case company B

Case company B was founded in 2007. Case company B currently employees 40 people between Ireland, China, Spain, South Africa and Nigeria. The vision of the founding team was to supply low cost software development, test and consulting resources to international companies around the world. The founding team had a lot of international experience in outsourcing, from the point of view of hiring outsource companies but they had never worked as outsourcing partner. There was learning as you go philosophy within case company B. They funded the company out of their own pockets for the first year after leaving well-paid jobs. There were three core business models:

1. Full development and delivery of applications for customers.
2. Dedicated team model working on Time and materials.
3. Build Operate and Transfer – this was build a team for a client, train them and get them up to speed and then transfer the people into the clients company.

Case company B model was to get one new customer every six months which they did very successfully currently having 15 customers in 6 countries around the world. Case company B signed their first contract on day one of the company to supply a dedicated team for a 2 year period. Case company B internationalised through the executive and management level teams networks. They went through the professional and private networks contacting people who they knew required outsourcing. The then leveraged customer's networks to get there next customer. "The company is internationally focused but opportunity lead"

Informant B does not see any barriers entering markets it is all about there the next opportunity is. The barriers he does see are internal getting people hire and trained up to resource the dedicated teams. The other barrier he sees to grown is the exchange rate between China and Ireland. It has come 20% more expensive in cost over last year, affecting profitability of projects.

The first market the company entered was the Irish market, then quickly into the UK and then into the US. They currently have contracts in Ireland, UK, USA and Switzerland, Hong Kong and Singapore.

4.3 Case company C

Case company C was founded in 1997; case company C currently employees over 200 employees globally across Ireland, India, Singapore, UK and New York. The vision was always international from the start as there was no market in Ireland of the product. This was a key driver to internationalisation. Case company C was founded to deliver a project for the first internet bank EMBA. The project was to deliver a platform that was multi-regional and multi-entity. The project was a success the platform was created but EMEA went bust. Case company C where left with a product which they tied to sell using their networks and tradeshows, the founding member using his own money to fund the first 2 years. The founding entrepreneur had no experience in banking and neither did the exec team. They found it difficult to sell the platform and had to fund the company themselves. As the platform was first to market and banks had never seen something like this before Case Company had lots of interest but no buyers.

Through a trade show in 2000 they were approached by a large Swedish investment fund to buy into the company. The investment fund could see the future of banking back office was going automated and could see a real future in the platform. Along with funding the investment fund would supply the knowledge and network required for the company to sell the platform. Case company C accepted the offer and in 2000 signed their first client through the network supplied by Swedish investment fund in the US, in same year the signed there second client in the UK. Case company C was Global with the first three years.

The business model for the company has always been direct selling to large banks; there is no selling through agents.

"We hire in sales people with experience in the financial market to open doors with their networks but it's the management and executives the close the deal"

Case company C bought in sales teams with experience in the market including informant C to help the company expand. Leveraging informant C and the new team's network the company have grown the company to currently the company has 22 clients worldwide with no clients in its home market. The company has six of the top 10 banks in the world using there platform in over 100 countries. Informant C states "there is no focus on which market to go into next is was about having an international focus but being opportunity lead"

Case company C have no Irish customers are the banks in Ireland are not big enough. They are neither multi-entity nor multi-regional. Even at over 200 employees the company is still very agile to cope with changes in market, which gives the company a competitive advantage over other companies in the same market. Informant C sees no barriers in the market to grow internationally as the company currently has a global presents. Internally the barriers are resource constraints of vying projects.

4.4 Pattern matching the 2 main theories of Internationalisation

In the research the goal is to find out how companies internationalise in the ICT industry. The goal of the pattern matching is to compare and contrast using the framework laid out in table 1 to find what similarities and differences of how the three companies in the study internationalised. Table 3 present the three case companies Internationalisation antecedents and evaluates them on a scale of 1 to 5 one being most like a born global and 5 being most like stages model or gradually internationalisation.

Attributes	Case company A	Case company B	Case company C
Founder / Founding Team Characteristics			
Managerial Vision	**1** From inception case company A was seen as a global company with target markets.	**1** From inception seen as a global company but opportunity lead not targeted markets	**1** From inception seen as a global company but opportunity lead not targeted markets
Prior International experience	**1** Co-founding team have over 40 years of international experience between them working in different technology backgrounds and over 20 years of that in the educational software sector	**2** Founding team have many years of international experience in different companies with outsourcing but first time as outsourcing partner	**4** No real management experience of relevance to financial markets. Had to buy in the experience
Managerial Commitment	**1** Management totally committed to internationalisation. Has open up sales office and a HQ in the US	**2** International commitment first client in domestic market and has 4 of 11 clients in domestic market. No defined international strategy opportunity lead	**1** International strategy focused on opportunities in international markets
Networking	**1** Extensive use of personal and professional networks to help setup, sell and hire people. It's one of the key factor for the success so far of the company	**1** Networks are used by the company to hire, sell and engage clients. It is key to growing the company	**1** Buying and building networks is key to case company C success as a company and getting new clients

Organisational Capabilities			
Market knowledge and commitment	**1** Founders have extensive knowledge of the educational software market and were able to put their product to market first	**2** Had no experience of being an out source partner. But where fully committed to the market	**2** No experience of market but expectance brought in by Investment fund. Fully committed to the market.
Intangible assets based on knowledge management	**1** First to market in their niche market. Leader in this bracket	**3** Have experience and a repetition for quality and the market leader into the niche segment of supplying resources to financial market. Still, can be undercut by another company as it a low cost market	**1** Where first to market in the niche. Currently market leader
Value creation sources	**1** Innovative software design and company capabilities to on-board new customers in short time frame with limited resources	**4** Not very innovative its resource supply	**1** Innovative product and company ability to react to market and customers changes in a timely fashion. More resource power to be able to do this

Strategic Focus			
Extend and scope of international strategy	**1** Defined strategy to go after markets they know in China, US and Korea, used partnerships with larger companies to leverage their sales teams to get into the markets required.	**2** International vision but opportunity lead strategy not niche focused.	**2** International strategy focused on opportunities in international markets. Global presents are a must to sell the product.

Selection orientation and relationships with customers and suppliers	**2**	**2**	**1**
	The model they have is based on selling by partners and agents into foreign markets. As well as direct selling and subscriptions	Direct selling to clients but client based in different niche markets	Direct selling and supporting the client. Clients all in the one niche market
Strategic flexibility	**1**	**1**	**1**
	Completive advantage based on boarding of clients and the ability to change with the markets and client demands	Completive advantage based on agility of dedicated team to be able to be flexible to meet changing client demands	Completive advantage based on on-boarding of clients and the ability to change with the markets and client demands
External Commitment			
Perceived external Barriers	**2**	**2**	**2**
	Language, culture, but would all be lessened with correct network or hiring in the correct network	as the differentiation between companies in this sector is cost the barriers, language, time zone (china is 16 hours behind the US losing one day a week)	Been seen as 20 paddies in a shed. Large Banks like to buy off global names for critical systems for the security that the systems will have correct level support and company is secure. Cultural, language barriers.

Perceived external incentives	**2**	**4**	**2**
	Enterprise Ireland where excellent helping with grants, networking events, trade shows in targeted markets. Helping with R & D to further the product	Applied for no grants and used their own network to advance the business.	Enterprise Ireland where excellent helping with grants, networking events, trade shows in targeted markets. Helping with R & D to further the product

Table 3.

In the next section we will look at the key finding by comparing and contrasting the finding from the interviews with the key informants and also the pattern matching. The finding will be made across the three sub questions and the main question of this paper.

4.5 Findings

4.5.1Characteristics of SME

Case company A has most of the characteristics of a born global company. From inception they were international moving into three foreign markets in the first six months and four foreign markets within the first year. The company operates in 4 foreign markets and its own domestic market with 116,000 customers globally. Case company A has limited financial, tangible and intangible resources. It uses innovative ways of getting around these disadvantages. Informant A had a global vision for the company and platform from the beginning as he did not see the Irish market as big enough to sustain the company. Case company A had a differentiation strategy where there platform was first to market enabled by advance technology not just in the design and implantation but also in the servicing of customers around the world. As new competitor come to the market the informant A sees the quality of the product as a major competitive advantage. Case Company A have leveraged there private and professional networks to use partnerships with publishers, distributors and contracted key sales people to enable them to enter foreign markets without committing large amounts of resources both financial and physical.

Case company B, has a lot of the characteristics of a born global company. From inception they were international, with three clients in the first year. The company currently has 12 clients globally and 3 client in its domestic market. The company has limited financial, tangible and intangible resources. Informant B and the founding team have had an international vision for the company form inception and see the worlds as just one market. The service quality that they deliver is the key competitive advantage as there is no differentiation between case company B and other outsources service providers. They leverage ICT with all there infrastructure hosted in the cloud allowing them to service clients and for employees to work from anywhere in the world.

Case company C where highly active in international markets after three years. Case company C had two international clients after three years and currently has 22 clients globally it has no clients in its domestic market. Case company C has limited financial and intangible resources; it is a larger SME with over 200 employees with allows it to have more tangible resource. Informant C and the team have a global vision for the company. There is no domestic market for the product. Informant C sees quality and product features as the differentiation between the company and the competition. Case company C there first to market but there are now four players including case company C in this market. Case company C leverage advanced ICT not to just build a leading edge product but also to service clients in over a hundred countries around the global from two service centres in Dublin and India.

To sum up, the author has identified that all three companies show characteristics of born global firms and can be classed as born global firms.

4.5.2 Characteristics of International Entrepreneur

Informant A shows all the signs of an international entrepreneur. Informant A and his co-founder have put their stamp on the company with a culture of fun and innovation. Informant A has been educated to a degree level is a high achiever reaching board level in and international company be for he was thirty. He is a risk taker leaving a senior job to setup his own company and put his own money to fund the company for the first year. Informant A is innovate the platform was his idea and he build the prototype. Before the company's inception informant A had knowledge of the international market the company would be targeting and operating in. He had a network in these foreign markets and had previous international experience in these and other foreign markets from his previous jobs working in Ireland and internationally. Informant A has a positive attitude and a focus on the continual growth of the company targeting 2 million users by year 4. Currently he is on target.

Informant B is a founding member of the company and runs the operational side of the company and is also heavily involved with sales. He is educated to post graduate level and teaches post graduates part time. Informant A in very process ordinated, he is always looking for innovative ways to deliver services to his clients. Informant B is a risk taker leaving a senior position to setup an out-sourcing company without any prior experience of working as an out-source partner. He had however worked as someone who hired out-sourcing firms. With this knowledge and his experience working in international companies informant A was able to through his network to have customers from the inception of the company. Informant A has a very positive attitude always looking for the next customer and a continual focus on the growth of the company.

Informant C has put his stamp on the company working in both operational side and sales side of the company. He is educated to a post graduate level and believes in lifelong learning strongly something he has pushed within the case company C. Informant C was brought into the company for his knowledge of the market, international experience and network that has allows IM to grow from two clients after three years to twenty two clients today. In his time within the company he has overseen an innovate transformation of the operational teams and then sales teams. He is a risk taker hiring a young inexperience team to grow and manage the company. Informant A has a positive attitude always pushing for the best out of the teams that work for him.

To sum up, the author has identified the following points are actions from the characteristics that influence the process of internationalisation:

- International Entrepreneurship: Innovative behaviours and constant focus continues growth of the company have enabled the companies to be successful.
- Informant's international experience, knowledge of the market and use of his network has opened up foreign markets to the companies before and after the inception of the company.

4.5.3 Key Drivers to internationalisation

There were a few key reasons case company A went international so quickly. The first was the limit size of the domestic market, with only 60,000 students graduating a year in Ireland the domestic market was too small to sustain the company. The second key driver was informant A; he had a vision of international form inception and has never considered or concentrated on the domestic market. He has focused the company strategic direction to foreign markets. He has no fear of entering new foreign markets and looks forward to the challenge. His market knowledge and networks which are used to sell the product would be are in foreign markets and not in the domestic. The last key driver was the product. The product which has a strategy of differentiations, the idea is unique and leading edge which made it attractive to companies and governments in foreign markets.

Case company B went international at inception the key drives where. Firstly the size of the domestic market was not big enough to sustain the business. The second key driver was Informant B, he had and international orientation from the inception of the company. The strategic outlook of the company has always been global. He used his own knowledge of foreign markets built up through his international experience to sell case company B services through his networks and the networks of his clients using word of mouth. There is no fear of entering new foreign markets as world is seen as one market.

Case Company C has a number of key drivers to internationalisation. The first being the domestic market, there is no market for the product case company C is selling. The second key driver is the product, its leading edge and unique so customers in foreign markets want the product. With more players in the market it used a differentiation strategy of quality and leading edge. The third is the niche market characteristics of the market the product is sold into. These are Global banks that have multi regional offices with different laws and regulations in each region. These banks want to buy of global software distributors that can work in all the regions the banks operates in. Case company C has to have a global presents to be able to sell to these banks. From inception the company had a strategic international focus. The fourth driver is the informant; he has a global outlook seeing the world as on big market and has no fear of new markets. Through his years of international experience in other companies he had brought market knowledge and his network to case company C. This has pushed the company into different markets around the global giving case company a large geographical finger print.

To sum it up, the author has identified key drivers the influence the internationalisation for born global companies:

- The limited size of the domestic market forces the company to expand internationally.
- The company have a strategic international outlook from inception.

- The products are innovate and unique using a strategy of differentiation that make them attractive to companies in foreign markets
- The company and informants network are not in the domestic market in so allowing ease of access to foreign markets.

4.5.4 Market Entry

Case company A had chosen the markets to target from before inception of the company. Because of informant A vision of a global company, key drives of the company and his previous international experience he used its personal and professional networks to enter target markets form inception of the company. The company already had a deal lined up with a publisher in China on the day of inception. This allowed the company not to commit a large amount of either its tangible or financial resources. Case company leveraged the networks on the publishers and agents. This allowed case company A to enter China first and soon after enter both Korea and USA. This also allowed the company not to commit a large amount of either its tangible or financial resources. By being global recognised company opportunities have sought out case company A. With the company being approached by publisher and agents in Zimbabwe and Ireland this has allowed case company A to enter markets without too much prior knowledge of the market and again allowing them not to commit large amounts of financial or tangible resources.

Case company B has chosen the first market to target before inception. Case company B had a global vision and informant B used his private and professional networks to have a customer awaiting services of the company on the day of inception. The company sells directly to its clients. It uses word of mouth with in its current client's network to generate more business for the company. This in turn allows the company not to have to commit large amounts of tangible or financial resources. The company do not target any specific country to enter, rather go after opportunities that arise through their network. This allows the company to enter foreign markets without too much prior knowledge of the market and again not to have to commit large amount of tangible or financial resources.

Case company C where internationally focused but opportunity lead. Case company C sell directly to their clients which requires a lot of tangible and financial resources. Case company C did not target any specific foreign markets instead they tried to recognise where the opportunities arose. Case company A in order to have a global presents and sell directly to their client's they have setup sales offices in London, New York and Singapore. With the international focus of informant C and the global strategy of the company, case company C was able to catch opportunities that arose in foreign markets. The international experience, market knowledge and network of informant C allowed the company easier entry to the foreign markets.

To sum it up, the author believes that entry mode of a company into a foreign market plays an important role in the process of internationalisation.

- Indirect entry mode, through agents and or distributors allows a company to enter foreign market easily without committing a large amount of tangible or financial resources.
- Born global companies do not target markets, they recognise or follow opportunity when they arise and catch these opportunities due to entrepreneur/founding team's network and the international outlook and strategy of the company.
- International experience, market knowledge and networks of the entrepreneur/founding team allow the born global companies easier access to enter foreign markets.

4.5.5 Pattern Matching

Using the frame work in table 3 we will not do a comparison of each of the case company and how they match either born global or traditional stages gradually internationalisation.

The Characteristics of the founder/founding team, both case companies A and B match born global; management vision of an international company, prior international experience, management commitment to internationalisation and international network to allow company to expand. Case Company C matches three of the four attributes of characteristics of founder/founding team except prior management experience. The founder/founding team had no international experience and no market knowledge in the financial market. The founder had only experience was in the domestic market and had no market knowledge. This was over come later with the hiring of key staff with both market knowledge and prior international experience.

Organisational capabilities, case company A and C have all the attributes of a born global company high market commitment, intangible assets based on knowledge and innovative product that create value. Case company B shows organisational capabilities of a gradual international or stages company. The services supplied by case company C are not innovative and they do not own the right to the knowledge of the outsourcing business. The third antecedent, Strategic focus all of the case companies are in line with born global firms with all companies being highly flexible, committed to an international strategy and close focus with both the clients and suppliers.

The last antecedent external commitment, all companies see little if any perceived external barriers to their internationalisation in line with born global companies. Both case company A and C are in line with born global as they see lots of incentives by government and government bodies to help companies internationalise. Case company B would be more in line with gradual internationalisation as the received little or no help from government of government bodies.

So sum it up, the three case companies according to the common frame work laid out in table 1 are all born global companies.

4.6 Conclusion

Did the author find the answer to the main question of the paper, how do SME in the ICT sector internationalise? The author has found there are many parts needed for an SME to internationalise. The entrepreneur/founding team need to the right characteristics; innovative, risk taker and a constant focus on growth of the company. The entrepreneur/founding team to enable the company to internationalise quickly also need market knowledge, international experience and international networks built up from their previous international experience. There characteristics coupled with a products or services that are innovate and unique using a strategy of differentiation that makes the product or service attractive to companies in foreign markets. This again coupled with a limited domestic market so sell that product and the company an international outlook enables the company to internationalise.

Entry into a foreign market can be achieved in a couple of ways for an SME. The entrepreneur/founding team using the characteristics and key drives enters foreign markets either directly, setting up in the target market through a subsidiary or indirectly using distributors or agents. Using agents/distributors is easier and quicker, allows the SME enter many markets close together without committing large amounts of financial and physical resources. Once the SME has started to internationalise they do not target markets, the SME recognise or follow opportunity when they arise and catch these opportunities due to entrepreneur/founding team's network and the international outlook and strategy of the company.

5. Discussion

In this next section the author will discuss the appropriateness of the finding in light or previous research carried out in this area of research.

5.1 Characteristics of Entrepreneur/founding team and SME

In the finding the characteristics of the three case companies, all three case companies are in line with born global companies. All three case companies adhere to Oviatt and McDougall (2005) and Knight and Cavusgil (2005) definition of a born global company "*Competitive advantage from the use of resources and the sale of output in multiple countries*" (Oviatt & McDougall, 2005). This is in regard to companies having internationalised either at inception or very soon after the inception of the firm and also have at least 25% of their revenues from overseas markets.

The three case companies match all or most of the distinctive characteristics of an SME as laid out Cavusgil and Knight (2009). All three case companies highly active in global markets, the enterpreneur has a global vision and the company has an international strategic focus. Like all SMEs they have limited tanagable intanagable and fininical resources. Case company A have levereged the use of agents and distrubitors when entreing foregin markets lessing the efffects of limited resources as suggested by Solberg (2012). Case company C uses direct selling which has cost the company a large amount of physical resources and costs to the company, it spends more that 20% of its revenue for cost of sales.

Both case company A and Case company B use a strategy of differentiation and quality which matches Cavusgil and Knight (2009) distintive characteristics of an SME. Case company B use cost effenctcey as there strategy. We can see from the pattern matching some marked contrasts between product companies of case company C and case company A and service company like case company B. There are differences in the areas of organisational capabilities. This could be could be down to the fact that case company B do not own the knowledge on out sorcue and there are many companies in this sector. Out sourcing is not a very innovative industry so there is no real value creation there is no real differentiation between them and other suppliers of out sourcing they need to compete on cost. Case company B has lessoned the effects of its orginisational capablity issues by using the international experance and the networks of there founding team. They leverage the networks of there current customers to get new customers, using the loose network ties of there current customer to become there future customers as explaned by Bell et al (2003). According to Tanev (2012) all three case companies match many of the specific characteristics of born global technology companies, a domestic market which is too small to sustain the company, market segment is knowledge intensive, few perceived market barriers to enter foreign markets and founder or founding team will have international experience.

The influence of the entrepreneur/founding team has a major impact on the growth and performance of the SME (Kangasharju, 2000; Montserrat, 2002). In the finding and the literature it was found that it's important for the entrepreneur/founding team to be innovating, risk taking and internationally focused. More importantly for a company to internationalise early and quickly the objective behaviours; knowledge, experience and network are needed. Westhead et al (2001), state the network of the entrepreneur / founding team play a vital role in not only the decision to go international but can be a source of competitive advantage and knowledge. In the findings we can see that case company A and case company B who had knowledge of the market, international network in the market and international experience where able to internationalise from inception. Where case company C took three years to get there first international client and it was not until they got knowledge of the market, international experience and networks. Case company C got these objective characteristics by a combination of hiring people with the network, knowledge and experience along with an investments partner giving them access to their network, knowledge and experience. The objective characteristics also help determine the speed of internationalisation. Having them allows the case companies to internationalise at inception without them it takes time to gain that experience, market knowledge and to build network if the companies can do this at all.

5.2 Key Drivers to Internationalisation

One of the key drives for case company A and case company B was that the Irish domestic market of a limited size to sustain the companies. With only 60,000 students through the Irish education system in a year there is not enough students in the system for case company A to sustain their company. Whereas case company C there was no market for the product within the Irish domestic. This forced all three case companies from inception to have an international outlook (Cavusgil & Knight, 2009). The case companies to implement there international strategy need a unique product that is different and attractive to other companies in foreign markets with the literature states is one of the key drives and characteristics of on SME. Both company A and company C have a unique product that is different and makes them attractive to companies in foreign market. There is a noticeable different in the framework around organisational capabilities between case company A and case company C and case company B .Case company B is a services company and does not have a unique or innovate service, the companies completive advantage is based on cost efficiency and not on differentiation. The organisation capabilities match more the stages model having building up experience and knowledge as it learns more about the opportunity. Case company B has an international strategy but is opportunity focus entering foreign markets where the opportunities are. This also matches with Nessel (2013) when he used this framwork for another service company and it showed the same results as case company B. This shows if limited that there is a marked difference between product and services companies.

5.3 Market Entry

The three case companies used different types of entry mode. All three case companies used there international experience, market knowledge and networks in international markets to access foreign markets. Due to limited financial, tangible resources (Knight & Cavusgil, 1996) case company A at the beginning used agents and distributors already known to them to enter foreign markets. Case company A then progressed to use, both indirect relationship (agents and distributors) and direct relationships with their clients, selling subscriptions to clients and allowing new foreign market opportunities to come to them. Case company A have also leveraged larger company's sales channels to enable them to enter markets. Case company B also with limited financial, tangible resources used the loose network ties to enter foreign markets. Loose network ties being more value as they are the networks of your current customer's base and you get access to these potential customers through your current customer (Loane & Bell, 2006). Case company C used the networking approach of direct relationships. This is the direct one to one relationship between the seller and the customer. Anderson et al (1994) argue that this relationship offers the seller an ability to gain experiential market knowledge faster.

After first international case company A followed the classic stages model of physic distance (Johanson & Vahlne, 1977). Case company A targeted foreign markets that they had known from their previous international experience and market knowledge through their own networks first before attempting to enter a market that was unknown to them. This shows some evidence that the two models are in fact just opposite ends of the same continuum (McAuley, 2010; Nessel, 2013). This is also the case with case company B when they first internationalise but after that they became more opportunity focused. After internationalising all three case companies did not target markets, they stated to recognise and or follow opportunity when they arose. They were able to capitalise on these opportunities due to their learning form their experiences of internationalisation and entering foreign markets.

All three case companies do not see any real barriers for internationalisation rather challenges to be solved. Some cultural learning of how business is conducted in foreign market again can be lessened by correct network in conjunction with the appropriate local market industry knowledge. The second small barrier they see would be language which can be overcome easily. As all of these products or services can be accessed remotely via the internet there are no real barriers to entry.

The real barrier the case companies see is their own organisational capabilities to fulfil project requirements with the limited resources available to them. Case company A and case company C have handled this well with an innovate architecture allowing them to on board clients quickly. Case company B are slightly different due to their business model where resources are key to the growth of the company and finding the right resources takes time, which can slow the process of growth for the company.

5.4 Conclusion

The finding of this paper has supported the literature of previous studies on born global companies. The companies show most if not all the characteristics of a SME, with the entrepreneur/founding team being important. There market knowledge, international experience and networks both private and professional gained for that international experience are vital for the case companies in question to international at inception or soon after inception. These objective characteristics affect the speed at which the SME internationalise. There seems to be a marked difference between services and product companies around organisational capabilities which would require further research.

6 Conclusions

6.1 Conclusion

The main research question set out in this dissertation was how do SMEs in the ICT sector in Ireland internationalise. The reason for the focus on SMEs was the importance of this sector to Ireland, both in terms of employment, and as a potential solution to overreliance on foreign MNCs. SME internationalise in different ways. The author has found that his findings back up the previous literature on Born Global companies (Chetty & Campbell-Hunt, 2003; Cavusgil & Knight, 2009; Coviello & McAuley, 1999; Coviello et al., 2011; Gabrielsson & Pelkonen, 2008; Knight & Cavusgil, 1996; Madsen & Servais, 1997; McDougall & Oviatt, 2000). The author found that there are many parts and combinations needed for an SME to internationalise. The entrepreneur/founding team need to possess the right characteristics: s/he/it need to innovative, a risk taker, and have a constant focus on growth of the company. These characteristics coupled with products or services that are innovative and unique using a strategy of differentiation that makes the product or service attractive to companies in foreign markets. This again coupled with a limited domestic market so sell that product and the company an international outlook enables the company to internationalise. In order to internationalise quickly, the entrepreneur/founding team also needs market knowledge, international experience, and international networks built up from their previous international experience.

From research on three case companies, this study found that there are two key requirements for an SME to internationalise early. The first key is having the three strong objective characteristics of the entrepreneur. The first objective characteristic of the entrepreneur is the creation of networks (personal and professional). The second is knowledge--knowledge of the market or niche. The last objective characteristic is experience, and especially international experience in the market or niche. The second key requirement for a SME to internationalise early is how the company uses its networks for market entry into a foreign market. The three case companies analysed used their networks in different ways to enter their selected markets, but never ventured from their previously experienced markets in their selection of their first and subsequent foreign markets to enter.

In the literature review we have discussed definition of SMEs, the traditional process of internationalisation. and Born Globals. In undertaking future research on this question. I would expand the study to include not only ICT companies but also companies from low tech industries, both product and services companies, in order to see if the findings in organisational capibilities are different for these types of companies. This would enable reserchers to build a more holistic model across different industies. The framework used in the paper worked well in identifying if a company was born global or went through a gradual process of internationalisation. The interviews were also successful in finding out the details of how a SME in the ICT sector in Ireland internationalised

6.2 Limitations

This case has given the author insight into the process of internationalisation of an SME. There have been some limitations in the study, however. The author has tried to keep all bias aside but it is inevitable that the author has implemented some of his own interpretations. The author could also have widened the criteria in include different industries to test his framework and findings to study if the framework and findings are similar across both high and low tech industries. The framework which worked well was limited in what it asked in the study. In future research, I would expand the methodology to include quantitative analysis in order to measure the speed at which companies internationalised and the scope of this internationalisation, i.e. the companies' geographical footprint. The size of the interview pool of three case companies has limited the research and could be seen as a weak basis for generalisations of the conclusions.

6.3 Future Research

This study has given the author the opportunity to establish a framework for understanding how SMEs internationalise. Building on the analysis of the research carried out and the interviews conducted, the author has concluded that there are two areas that could be of interest for future research.

The first area would be longitudinal studies on international entrepreneurs and Born Global to see the effect of the entrepreneur and his characteristics over a period of time. This would enable researcher to study as an SME gets bigger and older do the characteristic of the entrepreneur need to change over time. Another suggestion for an area of research would be on the strategy of international SME differentiation versus cost efficiency. This would be to study the organisational capabilities of both strategies and how they affect the speed of internationalisation.

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