ABSTRACT
A conceptual model for researching SME growth through a life cycle perspective is discussed in this paper. A gap in the literature regarding research in SME growth is addressed. This gap can be identified based on the firm life cycle theory. Researchers have concentrated on formulating and validating a uniform life cycle theory of firms, and neglected the relation between the features of the different development and their position in the life-cycle models. (Perényi, Selvarajah and Muthaly 2007) In this paper, the authors outline an alternative framework to research the firm life cycle theory focusing on firm growth.

1. INTRODUCTION
SMEs (Small and Medium Sized Enterprises) achieve various growth rates in their different development stages. In an observed time period, both growth and the factors influencing the company may change. The model presented in this paper proposes that there may be transitions between stages with different growth levels, and these transitions may be correlated with the changes in the influential factors. The relevance of the topic – SME growth – in entrepreneurship research has been postulated by papers published in journals, e.g. Lester, Parnell and Carraher (2003), Massey, Lewis, Warriner, Harris, Tweed, Cheyene and Cameron (2006), and McMahon (2001). Papers discussing the topic have been presented at conferences, e.g.: Fitzsimmons, Steffend and Douglas (2005) and Steffens, Fitzsimmons and Davidsson (2006). It is therefore the intention of this research to further develop the understanding of the growth stages of SMEs.

Life cycle theories have been applied to predict a probable path of firm development. They have been used to: suggest managerial skills, knowledge, attitudes (Lippitt and Schmidt 1967); priorities (Smith, Mitchell and Summer 1985); efficient ways of problem solving (Lyden 1975); provide a model for small business growth (Scott and Bruce 1987); identify internal (Churchill and Lewis 1983) and external (Quinn and Cameron 1983) factors of success and failure for SMEs. The role of innovation and entrepreneurial activity has been analysed in the early stages of firm development by Kimberly (1979) using this framework.

The linear nature of life cycle models can be strongly criticised. Empirical evidence of several authors (e.g.: Massey et al. 2006; McMahon 2001) approves of the existence of life cycle stages that represent a “dead end” in terms of firm growth.

Researchers of the firm life cycle models have focused on the existence and nature of the development stages while the process of development has lost focus during the validation of the firm life cycle.
theory. The focus of analysis has shifted in the conceptual model proposed in this paper. The transitions between the life cycle stages, is in focus. The conceptual model concentrates on the changes of firm growth in the different life cycle stages. These transitions can indicate the development of SMEs, without constraining the model by imposing the sequential nature of the stages. Conducting research in such a framework can and according to the authors’ intentions will be subject to further research.

2. LITERATURE REVIEW

This section provides a detailed account of the various literature in the field of firm growth studies. The connection between the life cycle model and firm growth theories is addressed in the second subsection. The different approaches to firm growth originate from several theories describing the firm itself. To discuss firm growth, the definition of a firm needs to be addressed. The firm as an industrial organization can be defined by its economic function (Penrose 1995). A firm acquires and organizes different resources, such as human resources, in order to supply goods and services to the market at a profit. A firm is a collection of resources bound in an administrative framework (Penrose 1995). In a private market economy the firm is a basic unit of organization and production. However no firm is a clear entity, as its borders shift with time (Penrose 1995). A firm is thus defined in this paper as an administrative organization, whose legal framework may shift in time, and it is a collection of resources of physical, intangible or human nature.

2.1. Firm growth and development

Goals or motivations of firms involve profit (clear guidance for investment decisions) and growth. The growth of the firm is an evolutionary process, which is based on the accumulation of “collective knowledge in the context of a purposive firm” (Penrose 1995 pxiii). Growth can be defined from two different angles: (i) as increase of size and other quantifiable measures, and (ii) a process of changes, improvement. (Penrose 1995)

Firm size is the result of firm growth over a period of time. While firm growth is a process, firm size is a state. Firm expansion can be organic or through acquisitions. Organic expansion means extending the firms’ operations by broadening its structure gradually, set of activities, and while expansion by acquisitions means drawing in resources in the form of already existing firms. (Penrose 1995)

The discussion of alternative theories of firm growth started in the 1950s by Edith (Penrose 1995). Previous paradigms emphasized the linear nature of firm growth, based on Gibrat’s law -- the law of proportionate effect -- stating that firm growth is independent of firm size (O’Farrell and Hitchens 1988; Penrose 1995; Reid 2007). The evolutionary theory conceptualized non-linearity starting from the analogy with the evolutionary idea in biology (Darwin 1910) and was addressed by (Penrose 1952). Life-cycle theories -- which introduce non-linearity in conceptualizing the path dependence of organizational development -- have been introduced by Greiner (1972), Lippitt and Schmidt (1967), Mueller (1972), and Steinmetz (1969). Aldrich (1999 p198) defined the stage model of organization development as “Life cycle model, in which organizational change proceeds in stages during which [organizational] members must solve new problems.” The life cycle model is defined as an organization development approach where “[t]ime is viewed from the perspective of a focal organization. Age represents accumulated experience” (Aldrich 1999 p198).

Several barriers can limit firm growth such as external factors which could be deficient in resources (e.g., supply of capital, labour, and appropriate management) and opportunities (for profitable investments). Internal limits to expansion can be described as restricting factors. These restricting factors affect expansion plans, and the composition of the expansion programme. The knowledge accumulated in the firm limits its growth as well. Ghoshal, Hahn and Moran (2002) point out that the practical limit to growth is the availability of resources to the firm.

Penrose (1995) argues that large firms are capable of influencing their environments unlike smaller companies. This enables large firms to reach more favourable resource positions. However, SMEs still exist for several reasons. (1) Some activities are simply unsuited for large firms. (2) Larger firms in an industry might also have interest in keeping a minimum price level and small firms can exist under the “price umbrella” of these large firms. (Penrose 1995) This phenomenon is called competitive edge in
the neoclassical economic theory (Kopányi 1999). (3) Easy entry conditions and high profit expectations might also be a reason for the existence of SMEs in an industry. (4) Finally, large firms might not want to eliminate their significantly smaller competitors, for a variety of reasons (Penrose 1995).

2.2. SME growth in the life cycle paradigm

SME growth literature discusses a broad range of theories while trying to find explanations. McMahon (1998) refers to the critical review of O’Farrell and Hitchens (1988) when describing three significantly different conceptual frameworks: classical economics, stochastic approach and managerial theories. The theories applied in the conceptual model proposed in this paper are of stochastic nature. This means, that firm growth is affected by many factors and there is no dominant theory to describe growth.

The paradigms based on classical economics theory emphasized the linear nature of firm growth, based on Gibrat’s law. Gibrat’s law incorporates two effects: (1) firm growth rate of a given period is independent of firm size and (2) the probability of a firm growth rate is industry-specific phenomenon (Becchetti and Trovato 2002). Becchetti and Trovato (2002) found, that most empirical analysis actually rejected the independence of growth from age and size. As a matter of fact, firm growth is negatively correlated with size and age. Becchetti and Trovato (2002) also suggested that size-age-growth relationship should be of greater relevance for theory.

Stochastic and managerial theories derive firm growth from the notion of entrepreneurship on behalf of the owner-management of independent companies. Later findings conclude that SMEs tend to grow in an organic way, while large corporations through acquiring (Davidsson, Delmar and Wilund 2006).

The rejection of Gibrat’s law supports the applicability of non-linear approaches, such as the life cycle theory. In contrast to managerial theories, stochastic theories include a broad range of influential factors, enabling a wider testing of influential factors to firm growth.

Further remarks need to be made on the units of analysis in SME growth research. Research can capture firms as different entities (Davidsson et al. 2006):

- A unit of business activity controlled by an individual or a group of individuals (the focus is on the group of owner-managers).
- A unit of specific business activity (the focus is on the product).
- A coherently controlled and administered decision-making unit (the focus is on the legal entity).

Table 1: SME growth processes

<table>
<thead>
<tr>
<th>Authors</th>
<th>SME growth types</th>
</tr>
</thead>
<tbody>
<tr>
<td>O’Farrell and Hitchens (1988)</td>
<td>Fast growers; Satisfiers; Growth attempted but failed</td>
</tr>
<tr>
<td>Storey (1994)</td>
<td>Failures; Trundlers (survive but no jobs created); Flyers</td>
</tr>
<tr>
<td>Mariussen and Wheelock (1997)</td>
<td>Growth rejecting; Growth ambivalent; Growth enthusiastic; Non-employment growth</td>
</tr>
<tr>
<td>McMahon (2001)</td>
<td>Traditional or lifestyle business; Capped growth SMEs; Entrepreneurial SMEs</td>
</tr>
<tr>
<td>Bridge, O’Neil and Cromie (2003)</td>
<td>Lifestyle; Comfort zone; Growth</td>
</tr>
<tr>
<td>Massey et al. (2006)</td>
<td>Maturity and decline; On a growth curve; Capped growth</td>
</tr>
</tbody>
</table>

In the case of SME growth research, focussing on legal entities is the most adequate choice. Due to their size, SMEs usually have a single business activity. Quantitative research is also more convenient to conduct on such entities, as population data is mostly available in this breakdown.

Massey et al. (2006) reviewed articles and summarized the different typologies of SME growth (Table 1). A limited growth scenario has been found by researchers. It has been confirmed, that non-growth scenarios can be a consequence of the lack of intentions to grow on behalf of the owner-managers. This however leads to the discussion of the question, what makes SMEs grow.
3. FACTORS INFLUENCING SME GROWTH

Factors affecting firm growth can be considered internal or external. Internal factors comprise of phenomena existing within the firm, external factors are originated from the environment. Firm resources may be external or internal in terms of resource generation and ownership. There are purely external factors, such as the industrial environment and the marketplace. The internal and some of the external factors are discussed in the following section. Resources as a rather important group of factors are highlighted for discussion in a separate section.

3.1 Factors of firm growth

Davidsson et al. (2006) have surveyed a broad range of empirical studies (55 studies were compared) in firm growth and entrepreneurship. They found entrepreneurial and strategic orientation to be related to firm growth. Studies have also proven that access to growth opportunities in the environment and to resources directly influences the actual growth of the company (Davidsson et al. 2006).

According to the definition of Penrose (1995), firm growth is the increase of certain parameters of the firm (e.g. employment, revenues, profit, assets). The boundaries of the examined entity (the firm) may however change in time, thus measuring growth is ambiguous.

Studies have been conducted analysing the factors of growth as well as the process of growth, the former ones seeking explanation to “why”, the latter “how” firms grow (Davidsson et al. 2006). Factors largely contributing to firm growth -- so called success factors -- were found to be: experience, industry and market specific knowledge of the owner-manager; close customer relations and commitment to quality; innovativeness and flexibility both in terms of technology and marketing; primary focus on profit with good cost management; good employee management; and a growing market (Feindt, Jeffcoate and Chappell 2002).

Perren (1999, p366) defined four groups of factors influencing the growth of micro-enterprises, namely: “owner’s growth motivation, expertise in managing growth, resource access, and demand.” Later Perren (2000) empirically tested these factors with a positive result. These factors are similar to the categorization of Feindt et al. (2002). Feindt et al. (2002) used the conceptual framework of Perren (1999, 2000) to set up their conceptual framework of rapid growth SMEs in the e-commerce sector. It was found, that success factors in the different stages of development vary and this is in contrast to Perren’s model and findings.

Firm growth may depend on firm size, age, financial and market power. Findings of a study conducted on Italian firms over a three year period in the manufacturing industry indicate, that firm age influences firm growth rate (if only survivors are considered). Firms with a higher availability of external finance grow faster, especially in firms with less than 50 employees. Market power also accelerates growth rate (Becchetti and Trovato 2002).

Becchetti and Trovato (2002) suggest the use of a multivariate model where the dependent variable is change of growth and the independent variables represent factors which are expected to affect firm growth. Their model implied, that firm growth measured by the number of employees depended on the industry type (classification) and characteristics (scale, specialised, traditional and high-tech industries), regional location inside the country, size in the previous period, age of the firm, ownership structure (share of controlling owners), the presence of government subsidies, credit history (has the firm been refused crediting), and amount of leverages and rents (profit rate).

Reid (2007) conducted a study of 150 Scottish entrepreneurs to identify factors of growth for their businesses. He found Gibrat’s law (Penrose 1995) irrelevant just like Davidsson et al. (2006) in his research. However in his study, another issue has been highlighted: a possible trade-off between profit and growth. This may affect the reliability of profit as a measure of size for SMEs. Becchetti and Trovato (2002) on the other hand argue that there is no such trade-off effect according to Gibrat’s law, as it states, that growth rate in an industry in a specific time period is the same for any firm. Thus it can be concluded, that a trade-off between growth and profitability for SMEs is a reasonable supposition. Profitability in the past may in fact affect firm growth in the future. Furthermore, MacMillan and Day (1987) argue, that growth leads to higher profitability, while Hoy, McDougall and D’Suoza (1992) suggest that the pursuit of growth will result in low profitability. Cowling (2004) investigated the
relationship between growth and profitability and found little evidence of the growth versus profit trade-off.

Fitzsimmons et al. (2005) found that firm growth pattern is dependent on industry, age and size; and growth is not static in time. This is also supported by the findings of Delmar et al. (2003). Funding growth can come from retained earnings or external finance. So there is an important relationship between growth and profitability (Fitzsimmons et al. 2005). According to Markman and Gartner (2002) growth is a precursor of profitability. The growth-profitability relation seems ambiguous according to the different authors, however introducing the temporal dimension might give a more clear explanation. It seems possible, that either profitability follows growth, or growth follows profitability in time. There needs to be empirical evidence to be collected to confirm this.

Massey et al. (2006) have found in their research that the growth process is different for every enterprise, however intentions and attitudes of founders have been found crucial in determining their progression.

3.2. Resources and firm growth

According to the resource based firm theory definition of Ghoshal et al. (2002), the firm comprises of differentiated technological skills, complementary assets and organizational routines and capacities. The roots of this firm definition reach back to Hayek (1995) and Smith (1910). The basic conceptual model describing the resource based firm theory is displayed in Figure 1.

Figure 1: The resource based firm theory conceptual model

![Diagram of the resource based firm theory conceptual model](source)

Resources can be defined as “anything that could be thought of as strength or weakness of a given firm.” Resources are “(tangible and intangible) assets that are tied to the firm over a substantial period of time” (Gottschalk 2007 p5). Priem (2001) considers this definition problematic, as basically anything in connection with a firm can be considered a resource. In the opinion of Gottschalk (2007), resources can be viewed as stocks and flows. Firm specific resources are developed, and used by the company to adapt to the changing environment.


Barney (1991a) has researched how resources contribute to the performance of one single-business firm. He assumed that resources are (1) heterogeneously distributed across firms and (2) cannot be
transferred only with costs. Barney (1997) also identified four attributes of resources: (1) value, (2) rarity, (3) imitability, and (4) operability.

The resource based firm theory explains differences in firm performance. According to Conner and Prahalad (2002) and Gottschalk (2007) resources influence firm performance. Firms’ competitive advantages can be derived from the availability of resources that are valuable, unique and difficult to imitate. (Garud and Kumaraswamy 2005) Resources can create and sustain competitive advantages, however only a few of the many possible resources generate sustained competitive advantages. (Wade and Hulland 2004)

Barney (2001) altered the VRIO -- value, rarity, imitability and operability -- framework of firm resource attributes. Operability was expanded into substitutability, combination and exploration. Substitutability of a resource diminishes above normal profits generated by a resource. (Gottschalk 2007) Exploration and combination enable the company to utilize the resources to generate competitive advantages.

Wade and Hulland (2004) define six attributes of firm resources. Resource attributes, which ex ante limit competition are value, rarity, appropriability. Imitability, sustainability and mobility ex post limit competition. Wade and Hulland (2004) suggest that while some resources generate competitive advantages, others help sustain them. Resources, which generate competitive advantages, can be thought of as ex ante limitations to competition, whereas resources that sustain competitive advantages can be identified as ex post limitations to competition. The definitions of value, rarity, imitability, sustainability and mobility are the same as defined by Barney (1997), and Dierickx and Cool (1989). Appropriability of a resource relates to its potential to generate rent (Wade and Hulland 2004). “The issue of appropriability concerns the allocation of rents where property rights may lack precise definition” (Grant 1991 p128).

Resource based firm theory states that “unique organizational resources of both tangible and intangible nature are the real source of competitive advantage” (Gottschalk 2007 p2). An organization’s performance is shaped by the unique combination of resources it has access to. These resources include physical assets and also competencies.

Table 2: Firm resource attributes – development of the VRIO model

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>Value</td>
<td>Ex ante Value</td>
<td>Value</td>
</tr>
<tr>
<td>Rarity</td>
<td>Rarity</td>
<td></td>
<td>Rarity</td>
</tr>
<tr>
<td>Imitability</td>
<td>Imitability</td>
<td>Ex post Appropriability</td>
<td>Exploitability</td>
</tr>
<tr>
<td>Operability</td>
<td>Substitutability</td>
<td></td>
<td>Imitability</td>
</tr>
<tr>
<td></td>
<td>Combination</td>
<td></td>
<td>Substitutability</td>
</tr>
<tr>
<td></td>
<td>Exploration</td>
<td></td>
<td>Mobility</td>
</tr>
<tr>
<td></td>
<td>Exploration</td>
<td></td>
<td>Combinability</td>
</tr>
</tbody>
</table>


Gottschalk (2007) suggests the use of seven attributes that measure resources to determine the level of competitive advantage given by them: value, rarity, exploitability, imitability, sustainability, combinability, mobility. Gottschalk (2007) expands the attribute of appropriability (Wade and Hulland 2004) into exploitability and combinability. Table 2 shows the evolution of models on firm resource attributes. Wade and Hulland (2004) and Gottschalk (2007) both applied a five point scale to evaluate these resource attributes.

Some groups of factors affecting firm growth have been overviewed in this section of the paper. Based on these factors, a conceptual model can be drafted to explore what makes SMEs grow. This conceptual model is discussed in the following section.
4. THE PROPOSED CONCEPTUAL MODEL

This paper proposes a conceptual model to analyse factors that affect the growth of SMEs. Reviews of SME growth theories suggest that a conceptual framework could be developed incorporating three antecedents of small firm growth, namely; abilities, opportunities and needs (see Figure 2). (Davidsson et al. 2006)

*Figure 2: The three antecedents of firm growth*

![Diagram of three antecedents of firm growth](source)

Source: Davidsson et al. (2006)

Based on this, the model starts out with the three antecedents of growth (abilities, opportunities and needs) described by Davidsson et al. (2006) and a model of Ghoshal et al. (2002) identifying entrepreneurial judgement and organizational capability as factors affecting growth (see Figure 3).

*Figure 3: Role of management competence in firm growth*

![Diagram of role of management competence](source)

Source: Ghoshal et al. (2002 p287).

Six fields of possible research emerge from combining the models displayed in Figure 2 and Figure 3: (1) entrepreneurial knowledge; (2) opportunity recognition; (3) motivations to grow; (4) accumulated capacity, resources; (5) environment; and (6) economies of scale, economies of growth. All the above fields of research are closely associated to the SME growth theory (see Table 3).

In this conceptual model, three of the six fields, namely (3) motivations to grow; (4) accumulated capacity, resources; and (5) environment are addressed. The reason for the exclusion of the other fields is mainly due to the abundance of variables for each of the constructs. The application of the life cycle theory, the stage model of organizational development and the focus on SMEs can also support the constructs appropriately.
Table 3: Influential factors of firm growth -- a combination of approaches

<table>
<thead>
<tr>
<th>Antecedents of firm growth</th>
<th>(Davidsson et al. 2006)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abilities</td>
<td>Opportunities</td>
</tr>
<tr>
<td>Entrepreneurial judgement</td>
<td>Entrepreneurial knowledge</td>
</tr>
<tr>
<td>Organizational capability</td>
<td>Accumulated capacity, resources</td>
</tr>
</tbody>
</table>

Own combination of concepts from Davidsson et al. (2006) and Ghoshal et al. (2002)

The matter of SME development is addressed by the SME growth theories (Davidsson et al. 2006; Penrose 1995; Pitelis 2002; Reid 2007). Davidsson et al. (2006) provides a summary of several review articles regarding SME growth, and points out, that growth is actually a good performance measure of SMEs. It has been already pointed out in a previous section, that the investigation will be based on the prior findings of firm life-cycle theories and resource based firm theories.

Growth itself is a multidimensional construct, so needs to be assessed adequately, by several measures simultaneously. Heterogeneous samples may lead to false conclusions as well. Industry specific samples enable the researcher to reduce uncertainty of such studies and to identify special indicators or influencing factors of performance. Studies have also proven that access to growth opportunities in the environment and to resources directly influences the actual growth of the company (Davidsson et al. 2006).

Firm life-cycle theories (Adizes 1979; Aldrich 1999; Cyert and March 1963; Garnsey 2002; Greiner 1972; Hanks et al. 1993; Kimberly 1979; Kiriri 2004; Lester et al. 2003; Lippit and Schmidt 1967; MacMahon 1998; Massey et al. 2006; Miller and Friesen 1984; Mueller 1972; Penrose 1952; Quinn and Cameron 1983; Scott and Bruce 1987; Smith et al. 1985) introduce non-linearity and a framework of analysing SME growth. The life cycle hypothesis is valid (Penrose 1995), if small firm development is a non-linear process (Davidsson et al. 2006) instead of a linear one according to Gibrat's law. A great variety of studies have been conducted to examine the firm life cycle model (Churchill and Lewis 1983; Hanks et al. 1993; Lester et al. 2003; Miller and Friesen 1984; Quinn and Cameron 1983; Scott and Bruce 1987; Smith et al. 1985), and the life-cycle hypothesis has been directly tested and proved positive by Reid (2007). SME growth has been studied in the framework of life-cycle theories (Hanks et al. 1993; Lester et al. 2003; Massey et al. 2006; Miller and Friesen 1984; Scott and Bruce 1987). The findings include descriptions of transitions from one stage of development to another. These stages include non-growth, low-growth and high-growth stages.

The resource based firm theories are addressed in connection with strategic issues (Barney 1986b), organizational culture (Barney 1986a) and managerial resources (Castanias and Helfat 1991). A series of articles describe the basic suppositions, applications and implications of the resource based firm theories (Barney 1991a, 1991b; Barney 1996). Resource based firm theories are addressed by SME growth and life cycle theories providing explanation for the sources of changes in the firm’s development.

Figure 4: Composition of life-cycle, firm growth and resource based theories

The general composition of the groups of factors influencing firm growth is depicted in Figure 4. The environment of the firm (market, industry), the accumulated factors inside the firm and the resources
the firm has access to (factors on the boundary of the firm) are the three groups of influential factors to firm growth considered in this model.

Figure 5: The network of factors affecting SME growth

According to the three areas of literature addressed (SME growth, firm life cycle and resource based firm theories), the following network of factors can be drawn (Figure 5), based on the starting point provided by Ghoshal et al. (2002) and Davidsson et al. (2006). The linkages are supported by survey results published in books and referenced journal articles (see Table 4 and Table 5). Table 4 shows how literature supports each link in the conceptual model in detail, and Table 5 gives the literature based justification for the measures applied to measure the constructs in the conceptual model.

Source: Author -- based on conceptualization of literature referenced in Table 4 and Table 5.
Table 4: References to the links between the concepts affecting firm growth

<table>
<thead>
<tr>
<th>Link</th>
<th>Reference</th>
<th>Nature of connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opportunities, abilities, needs to firm growth</td>
<td>Davidsson et al. (2006); Feindt et al. (2002)</td>
<td>Antecedent concepts of firm growth.</td>
</tr>
<tr>
<td>Firm life cycle to firm growth</td>
<td>Hanks et al. (1993); Lester et al. (2003); Massey et al. (2006); McMahon (2001); Miller and Friesen 1984; Scott and Bruce 1987</td>
<td>Growth rate is a determinant of the life cycle stage. Life cycle stages indicate future growth rates.</td>
</tr>
<tr>
<td>Resources to abilities</td>
<td>Barney (1997); Barney (2001); Davidsson et al. (2006); Feindt et al. (2002); Gottschalk (2007); Wade and Hulland (2004)</td>
<td>Resource based firm theory</td>
</tr>
<tr>
<td>Resources to profitability, through products</td>
<td>Barney (1991a); Penrose (1995); Priem (2001); Wernerfelt (1984)</td>
<td>Resources affect profitability through products, thus create opportunities for the company. Resources enable companies to enter markets with their products.</td>
</tr>
<tr>
<td>Resources to opportunities through products</td>
<td>Barney (1991a); Penrose (1995); Priem (2001); Wernerfelt (1984)</td>
<td>Resource based firm theory</td>
</tr>
<tr>
<td>Market to environment Industry to environment</td>
<td>Bucchetti and Trovato (2002); Fitzsimmons et al. (2005); Kopáčky (1999); Kotler et al. (2006); Porter (1985, 1980); Smith (1910)</td>
<td>Classical economics, Competitiveness, Marketing concept</td>
</tr>
<tr>
<td>Profitability to firm growth</td>
<td>Bucchetti and Trovato (2002); Conner and Prahalad (2002, 1996); Cowling (2004); Delmar et al. (2003); Fitzsimmons et al. (2005); Gottschalk (2007); Hoy et al. (1992); Markman and Gartner (2002)</td>
<td>Growth enables profitability, and profitability generates growth.</td>
</tr>
<tr>
<td>Attitudes, motivation to firm growth</td>
<td>Davidsson et al. (2006); Massey et al. (2006); Munoz et al. (2005); Perren (1999, 2000); Pistrui (2003); Pistrui, Welsch and Roberts (1997); Pistrui, Welsch, Wintenmantel, Liao, Pohl (2000)</td>
<td>Expansion plans that only exist if there is an intention to grow.</td>
</tr>
<tr>
<td>Firm age to abilities</td>
<td>Aldrich (1999); Barney (1996); Bucchetti and Trovato (2002); Hitt et al. (2001)</td>
<td>Organizational development, knowledge accumulation, knowledge as resource</td>
</tr>
<tr>
<td>Firm age to firm life cycle</td>
<td>Aldrich (1999); Miller and Friesen (1984); Smith et al. (1985)</td>
<td>Age influences what life cycle stage the company has been able to reach.</td>
</tr>
</tbody>
</table>

Table 5: Measures applied for the constructs explaining SME growth

<table>
<thead>
<tr>
<th>Measure</th>
<th>Reference</th>
<th>Nature of measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Firm life cycle measures</td>
<td>Lester et al. (2003); Miller and Friesen (1984)</td>
<td>Validated measure determining firm life cycle based on firm size, structure, ownership and motivation.</td>
</tr>
<tr>
<td>Market and industry measures</td>
<td>Kotler et al. (2006); Porter (1985, 1980)</td>
<td>STEP, five forces, analysis based on secondary data.</td>
</tr>
<tr>
<td>Resource measures</td>
<td>Barney (1997); Barney (2001); Gottschalk (2007); Wade and Hulland (2004)</td>
<td>Developed based on the VRIO framework</td>
</tr>
<tr>
<td>Expansion plans measures</td>
<td>Lester et al. (2003)</td>
<td>Validated life-cycle stage measure for SMEs in manufacturing.</td>
</tr>
<tr>
<td>Profitability</td>
<td>Storey (1982)</td>
<td>Multiple measures possible, calculated from the same input data.</td>
</tr>
<tr>
<td>Firm growth</td>
<td>Davidsson et al. (2006)</td>
<td>Multivariate construct, needs to be measured in several dimensions: employment, assets, sales, profit.</td>
</tr>
</tbody>
</table>
Stages of firm development can be divided into categories according to the growth rate experienced in the firm during the examined period of time. Depending on the measures applied, different groups of firms can be identified. Some of them can be considered high-growth, some low-growth, and some non-growth (Hanks et al. 1993; Lester et al. 2003; Miller and Friesen 1984).

Figure 6 shows the possible transitions between the different stages of growth in time. Miller and Friesen (1984) and Lester et al. (2003) identified in their research results three distinct groups of SMEs regarding their growth rates: no growth, moderate growth and high growth. Based on the conceptual model explaining firm growth, explanation can be given for the transition of firms between growth and non-growth stages.

Figure 6: The stage model of growth

In the figure, T(n-1) and T(n) represent two consecutive points in time.

5. FURTHER RESEARCH

The conceptual model introduced in this paper will be used to achieve a better understanding of what makes firms grow, focussing on the SMEs in the information communication technology (ICT) sector, using quantitative methodology. The research project aims to identify the importance of factors which trigger growth in SMEs in the ICT sector in Australia (Victoria) and Hungary (Central Region and Southern Great Plains). Quantitative data is gathered by survey method, and analysed statistically. A combined and comparative analysis will be conducted on the survey results between the two countries. The comparative analysis allows the best practices to be identified and spread across the participating countries. Furthermore, the special interest in this comparison lies in the fact, that one of the authors comes from Hungary, and is part of his PhD research. Thus the research can be performed for the benefit of both communities.

In the research, firms that have the capability and intention to grow will be tested for the different factors influencing growth identified in the conceptual model. Four different transitions in time can be identified in the conceptualization: increased growth rate, decreased growth rate, sustained growth rate and stagnation (see Table 6).

Table 6: Firm transitions in time

<table>
<thead>
<tr>
<th>T(n-1)</th>
<th>T(n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-growth</td>
<td>Growth</td>
</tr>
<tr>
<td>Non-growth</td>
<td>Stagnation</td>
</tr>
<tr>
<td>Growth</td>
<td>Increased growth</td>
</tr>
</tbody>
</table>

The most interesting in transition regarding the research question is the increase of the growth rate. The control group for firms going through this transition is the group of stagnating firms. The
differences between these two groups indicate the factors that triggered growth in the firm, and can show to what extent the different factors contributed to firm growth.

The control group for firms of the decreased growth category is the sustained growth group. These groups can identify the factors that are responsible for the loss of growth, implicitly indicating the importance of factors responsible for firm growth.

Data collection is planned through the industrial organizations of the ICT sector. Members of these organizations will be approached by the researchers and questionnaires will be handed out to them. The collected data can be analysed to point out the importance of the different groups of factors displayed in the conceptual model. The results can be utilized in various areas. For the academic sector, it is a milestone for further research or theory development. For the public and private sectors, the results can aid policy decisions.

REFERENCES


