

Growth Determinants of Small Enterprises (SEs) in Sri Lanka: A Comparison of Sales and Employee Growth Models¹

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Abstract

Small enterprise growth is very important for the economic growth of any country. Although the factors contributing to a firm's growth have been studied by researchers in various disciplines, an integrated analysis is still lacking. This paper attempts to provide two integrated growth models: sales growth model and employee growth model. Many determinants of a firm's growth are classified according to four dimensions: social capital, human capital, access to external resources and internal capabilities. By conducting an empirical study using 97 Sri Lankan small enterprises the study identified factors contributing to growth measured by sales and employee growth. The results broadly support the theoretical model. Our findings show that entrepreneurs who have previous experience in the same field with training are more likely to grow their firms. Variables related with the social capital dimension have the most influence on a firm's growth: organizational network with network maintenance and resource sharing with SEs have a substantial impact on sales and employee growth. Access to external resources (i.e., access to inputs) is also found to be an important factor in SE growth. Finally, as an internal capability, innovation and imitation are found to have a positive impact on sales and employee growth.

Key words: SEs, firm's growth, sales growth model, employee growth model, Sri Lanka

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Introduction

The Small Enterprise (SE) sector generates substantial employment opportunities and economic output in developed and developing countries. It is a common phenomenon that causes many SEs to close their doors within a short period of time. Among the operating SEs, some grow rapidly while others lag behind or grow only slowly. According to Nichter and GoldMark (2009), “we know very little about micro and small enterprise growth”. Most of the growth studies relate to one of a number of theoretical perspectives to derive hypotheses for empirical testing (Wiklund et al, 2009). It limits the ability to see the whole picture of enterprise growth.

The main purpose of this study is to propose and test two comprehensive multidimensional integrated models of small enterprise growth, namely, the sales growth model and employee growth model, in order to understand the factors contributing to the growth of small enterprises in Sri Lanka. The study involved five research dimensions: human capital (HC), social capital (SC), access to external resources (AER), internal capabilities and business structure (IC & BS) and Firm Growth FG). The specific objectives of the research are to: (1) assess the relative contribution of variables associated with Human Capital, Social Capital, Internal Capabilities and Business Structure and Access to External Resources for Growth of SEs, (2) construct integrated growth models on sales and employee growth, and (3) identify the important growth determinants, which can possibly explain the growth of Sri Lankan SEs (direct and indirect) by comparing two growth models.

The article proceeds as follows: After establishing a theoretical framework for the study and reviewing prior empirical work in the area, the research method is outlined. Thereafter, the findings of the research are presented, followed by research implications, limitations conclusions.

Literature Review

In this section we review the literature relevant to each of the research dimensions used in this paper. Then the method is outlined. The section which describes the measures is followed by the results and discussion section of the two growth models. Research implications and the limitations of the study are recorded next. The final section contains concluding remarks.

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Small Enterprise Growth

Small enterprise growth is a research area that has attracted considerable attention in recent years (Wiklund et al, 2009). Recent reviews of the literature on small enterprise growth suggest that little is still known about the phenomenon, and conceptual development has been limited (Wiklund et al, 2009). One feature of growth studies seems to be that the majority of them consider only a single perspective and a small portion of the variables that are pertinent to growth literature. The growth of small enterprises is a complex, multidimensional phenomenon (Scase & Goffee, 1980). A convergence of owner-manager factors, internal factors, and external factors impact upon the growth of small enterprises. The abilities and motivations of owner-managers and their actions to address issues related to these factors determine the direction and performance of small enterprises.

The resource-based perspective has established its position in one of the most essential modern firm level theories and research on firm resources has attracted increasing attention in the past years. More recently, the emphasis has turned from identifying the resources needed for obtaining a competitive advantage to empirically explaining the relationships and links between resources and enterprise growth.

Another commonly utilized approach to enterprise growth is through the deterministic approach (Dobbs & Hamilton, 2007). The objective of this approach is to identify a stable set of explanatory variables relating to the people, the firm, and its industry environment that can explain a major proportion of the observed variations in business growth rates. There are many studies in this genre, with researchers typically applying multivariate techniques to large cross-sectional data sets to test the significance of associations between a wide range of determinants and the growth rates of small businesses.

The existing literature on small enterprise growth is highly fragmented (Wiklund & Shepherd, 2009). The majority of growth studies relate to one of a number of theoretical perspectives or dimensions to derive hypotheses for empirical testing. It limits the ability to see the big picture. To overcome this limitation, it is necessary to empirically combine primary perspectives or dimensions to develop a “comprehensive model” of small enterprise growth that is integrative and broad in scope and parsimonious in nature. As the purpose of this research is to build integrative growth models of small enterprise growth, the researcher focused on four research dimensions, namely, human capital, social capital, access to external

resources and internal capabilities and business structure as the basis of this model. We now introduce each research dimension, and discuss the relationship between its components and small enterprise growth.

Human Capital (HC) and Small Enterprise Growth

Castanias and Helfat (1992) defined 'human capital' as a hierarchy of skills and knowledge with varying degrees of transferability. Human capital is comprised of relevant education, employment experience and other types of experiences such as family background, professional background and vocational training (Doris Gomezelj and Antoncic, 2008). Human capital provides entrepreneurs with knowledge that assists them in identifying opportunities and knowledge of ways to more effectively and efficiently pursue growth opportunities (Wiklund, 2009). The entrepreneur's education and work experience can be regarded as surrogate measures of general human capital while variables relating to prior ownership experience can be regarded as entrepreneurship-specific human capital (Ucbasaran, Westhead, & Wright, 2008). According to Storey (1994), prior experience has been shown to influence the firm's growth and entrepreneurs with some managerial experience, normally in their previous job, are likely to create firms which grow faster than firms founded by individuals without such experience.

Most of the previous researchers who examined the impact of human capital on the firm's growth have considered only the direct impact of human capital on growth. However, it is important to understand the indirect effect of human capital variables also on a firm's growth through different variables of different dimensions. For example, human capital is essential for social capital development and may affect enterprise growth through social capital. As suggested by Jørgensen and Ulhøi (2010:399), "a certain level of expertise and knowledge is generally considered a prerequisite for membership and networks broaden opportunities for innovation by increasing the geographical environment in which learning and social interaction can take place".

Social capital (SC) and Small Enterprises Growth

As defined by Inkpen & Tsang (2005), social capital is the aggregate of resources embedded within, available through, and derived from the network of relationships possessed by individuals or organizations. Most definitions regard networks and relationships as core to the concept of social capital (Stringfellow and Shaw, 2009).

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Owner-managers' networks help to mobilize additional resources, attract customers, and identify entrepreneurial opportunities since social relations mediate economic transactions and confer organizational legitimacy (Granovetter, 1985).

Much of the existing literature on the network form of social capital has focused on benefits of networks and little attention has been given to how SE owner-managers maintain and develop network relationships. In addition, as in human capital, most researchers have examined only the direct effect of social capital on enterprise growth. Owner-managers' social capital may enhance small enterprise growth indirectly also by providing more opportunities to access resources and by improving internal capabilities such as innovation and imitations. Wiklund and Shepherd (2009) also noted the ability of social capital to enhance an individual's access to information about new opportunities and the equipment, financial capital, advice, information, and reassurance necessary to exploit such growth opportunities.

Access to External Resources (AER) and Small Enterprise Growth

Many external factors may influence the growth of the firm such as access to finance, to raw materials and to markets, and competition. According to Hung and Katsioloudes (2002), the problems faced by entrepreneurs in developing and transition economies include a generally weak economy, limited access to financial capital, inability to hire reliable employees, and too much competition.

In this context, access to financing has been shown to be a significant variable in enterprise growth. For various reasons ranging from a lack of collateral to bias against small enterprises, small enterprises tend to face greater financial constraints than do large firms (Nichter & Goldmark, 2009). Over the life of the firm, growth can also be hindered by credit constraints that curb investments in the maintenance or improvement of technology. Besides access to finance, access to raw materials and labour are also crucial to small enterprises as attested to by research on small businesses in Turkey, which revealed that inability to attract and retain reliable employees is one of the most serious obstacles (Benzing, Chu, & Kara, 2009) hindering small enterprise growth.

Internal Capabilities, Business Structure and Small Enterprise Growth

The resource-based view argues that a firm's valuable, rare and inimitable resources and capabilities create greater competitive advantage (Barney, 1991; Saffu et al, 2008). According to Birley and Westhead (1990), the internal environment consists of the resources of the firm itself and includes the financial situation of the firm and the physical asset base in terms of age, quality of machinery and equipment.

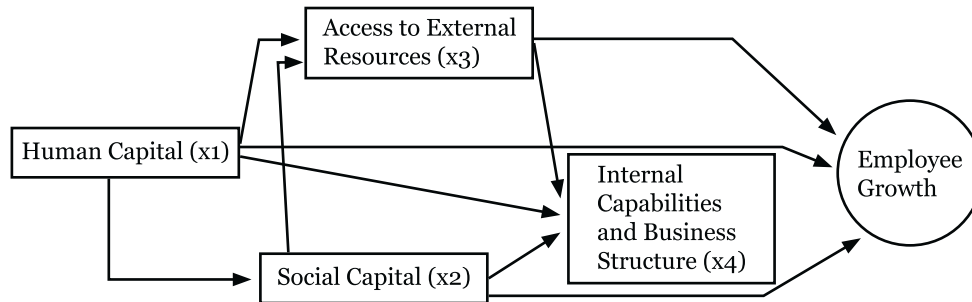
A few studies have focused their empirical investigations into internal capabilities and structure that impact small business growth. A study by using Swedish data (Davidsson et al, 2002), found that business age, beginning size, ownership form, the industrial sector in which the firms operates and the legal form are the most important factors related to growth. A firm's growth is inversely related to its age. Based on Australian data, Wijewardana and Tibbits (1999) found that older firms grow less rapidly than younger firms. Studies in both Africa and Latin America show that young small enterprises are more likely to show high rates of growth compared to small enterprises that have been in existence longer (Nichter & Goldmark, 2009).

The legal form of the business is another important internal variable that affects a firm's growth. Businesses can take on several different legal forms such as sole proprietorship, partnership and limited liability company. Among these different forms, the limited liability form is more formal and it frees the owners from some types of liability in regard to business operations. Small enterprises that are run in informal ways tend to grow more slowly than do their formal counterparts (Richter & Gold mark, 2009).

Product and process innovations may contribute to small enterprise growth. Further support for this idea comes from the understanding that smaller firms rarely have the same economies of scale as larger firms as a result of which their competition must be based primarily on innovation rather than on price. For example, Zahra and Nielsen (2002) in a technology commercialization study found that product innovations open firms to market share growth and hence sales growth by increasing the customer base in current markets or attracting new customers by opening new markets for the firm.

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Figure 1: A Hypothetical Model of Growth of SEs



The conceptual framework of SE growth was developed on the basis of key insights gained from the literature on a firm's growth and socio-economic factors in Sri Lanka.

Based on the extensive literature review and proposed hypothetical framework we developed the following hypotheses to gain an understanding of the determinants of small enterprise growth in Sri Lanka.

Hypothesis 1: Human capital is positively related to social capital.

Hypothesis 2 a: Human capital is positively related to access to external resources.

Hypothesis 2b: Social capital is positively related to access to external resources.

Hypothesis 3a: Human capital is positively related to internal capabilities and business structure.

Hypothesis 3b: Social capital is positively related to internal capabilities and business structure.

Hypothesis 3c: Access to external resources is positively related to internal capabilities and business structure.

Hypothesis 4a: Human capital of the SME -owner-managers and employees– is positively related to a firm's growth.

Hypothesis 4b: Social capital of the SME-owner managers is positively related to a firm's growth.

Hypothesis 4c: Access to external resources of SMEs is positively related to a firm's growth.

Hypothesis 4d: Internal capabilities and the business structure of SMEs are positively related to a firm's growth.

Methodology

In this section we describe the sample, data collection procedures, measurement of variables and the data analysis method used in the study.

Sample and Data Collection

The unit of analysis for this study is small enterprises from Colombo district, Sri Lanka. The definition of small enterprises varies from organization to organization and from country to country. For the purpose of this study, a small enterprise is defined as an enterprise with less than fifty employees. The sample size of 100 small enterprises was randomly selected from an address list of 2420 SEs in the Department of Census and Statistics (DCS) list for Colombo district.

Data for this study was gathered through a survey questionnaire. The questionnaire was first prepared in English and then translated into Sinhala (local language). Using a primary draft questionnaire, a pilot test was conducted with 10 entrepreneurs, whose responses were excluded from the final study. The questionnaire was revised using the feedback from the pilot study. The data was collected through personal interviews by contacting each organization and seeking permission to collect data. One hundred entrepreneurs were interviewed with a questionnaire for this study. Three questionnaires were rejected in the process of data editing. Finally 97 questionnaires were used for the data analysis.

Operational Measures of the Variables

In this section we describe the items used in measuring the variables in our study:

Human Capital

We used seven indicators of human capital: formal education, acquisition of technical and craft skills, years of work experience in same field or/and different field, previous ownership experience in the same field or/and different field, training received, family background and skill level of employees. Based on these indicators, 19 variables were used to measure the human capital dimension of SE-owner managers.

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Social Capital

Each measure of social capital employed in this study was derived from surveys in which owners were prompted to describe their ego-centred social networks. There are three types of actors in the networks: personal social, organizational (inter-firm), and supporting (Premarathne, 2001). Personal social networks in this study refer to family members, relatives and close friends. Organizational networks consist of both large and small enterprises, while supporting networks include supporting agencies such as banks, government agencies, and non-government organizations.

The existence of each network was identified through dummy variables: 1= if the entrepreneur was interacting with the above mentioned network members during the past six-month period to secure the business information and resources that were important to his or her business (yes=1, No=0) otherwise. At the same time, respondents were asked to identify each network size. SE owners share different resources with network members and achieve mutual benefits. As defined by Miller et al (2007), resources are potential assets that are tangible or intangible and used by the business to compete in the market place. We categorized these resources into eight categories: finance, technology, labour and skill development, market and market information, raw material supply, consulting, subcontracting and other resources. We used eight dummy (1=yes, 0= no) variables to measure resources received by owners from their networks and another eight dummy variables to measure resources given to the networks in the last six months.

To measure the commitment of respondents to the maintenance of network relationships among SE owners, we used the following four indicators: average number of annual cards sent per year, average number of e-mails sent per month to network members, average number of meetings and number of associations which the entrepreneur has taken membership of.

Access to External Resources

This dimension includes variables related to access to finance, availability of raw materials, availability of employees, availability of market, and the level of competition. *Access to finance* was measured with respect to the availability of finance, use of credit, number of financial sources, percentage of external finance and sources of finance. We used dichotomous variables coded as “1” for those who have not faced difficulties in raising finance and “0” for those who have faced difficulties

in raising finance. If the owner-manager used bank loans (credit) as a financial source, it was coded as 1, otherwise, coded as 0. We asked the respondents which financial sources were used in the past 12 months. They had a number of alternative financial sources, namely: own funds, borrowing from family members, borrowing from friends, borrowing from banks and borrowing from finance companies. Based on their answers, we identified the number of financial sources and the percentage of external finance they had used in the last 12 months. We used four dummies to measure external sources of finance.

Access to Credit Information: We measured access to credit information by using four dummy variables: (1) loan (credit) information received from friends, (2) loan information received from financial institutions, (3) loan information received from supportive organizations, and (4) loan information received from SMEs. *Access to Raw Materials:* We measured access to raw materials with three indices. The first one pertains to the availability of raw material (coded 1= have not faced any difficulty in finding raw materials, 0 = have faced difficulty to finding raw materials). The second is the number of supplier firms from which they buy raw materials. *Access to market:* The respondents were asked to indicate how they sell their products. We used two dummy variables: (1) large business (subcontracting), (2) for government agencies, in addition to that, the respondents were asked to identify their focused market segments at the startup year, year 2007 and 2008. The variable incorporates four market segments; (1) village (town), (2) district, (3) province, (4) national economy and (5) international market. Based on their responses for each year (start-up year being 2007 and 2008) and for each market segment, we developed the market expansion variable. The current market segments of the business were compared with the market segments in year 2007 and in the start-up year. It is a dummy variable that takes the value 1 if the owner-manager has entered the new market segments. *Market Competition:* We assessed the market competition faced by small enterprise owners by using two indices. The first one related to the SEs. The respondents were asked to identify a number of SEs directly competing with the business. The second reflected the competition coming from large enterprises. The respondents were asked to identify a number of large businesses directly competing with the businesses. *Employee Availability:* We included a dummy variable to indicate whether or not the owner-manager had faced difficulties in finding employees.

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Internal Capabilities & Business Structure

We captured the internal capabilities dimension with four indicators: innovations and imitations, capacity utilization, number of products produced, introduction of new products and employee benefits. The dimension of the business structure consisted of five indicators, namely, legal form, age, value of fixed assets and number of family workers. Based on these indicators, 39 variables were used to measure the internal capabilities and business structure of sample SMEs. *Innovations and Imitations:* We followed a “subjective” approach rather than an “objective” based approach where innovation counts are based on the likes of patent statistics. As Sri Lanka is a developing country, the market for patents is in its infancy. In this survey the approach which was adopted to measure innovations and imitations is similar to the survey conducted by Robson and Obeng (2008) in Ghana. SE owner-managers themselves identified whether innovation activity did or did not take place. Respondents were asked to indicate whether they had introduced a novel innovation, an incremental innovation (imitation), or no innovation with regard to each of the following categories: (i) product or services, (ii) production process, (iii) way of stocking, (iv) work practices or workforce organization, (v) supply and supplier relations, (vi) markets and marketing, (vii) administration and office systems, and (viii) product or service distribution. A novel innovation was one that was new to the entrepreneur’s business and also new to the industry while an incremental innovation (imitation) was new to the entrepreneurial business but not new to the industry. *Capacity Utilization:* We measured capacity utilization as a percentage based on two questions: (i) on average, the number of units the enterprises was producing per day and (ii) if all resources were effectively utilized, how many units could be produced per day? *Number of products and introduction of new products:* We measured the number of products produced and introduction of new products in numbers.

Small Enterprise Growth

SE growth was measured by using two indices, namely, Sales Growth Index and Employee Growth Index (Table 01). These two measures are often used indicators.

Table 01: Definition of Variables of Firm Growth

Variable	Definition
Employee Growth Index ²	$\frac{EMP_{2010} - EMP_{2009}}{EMP_{2009}} * 100$
Sales Growth Index	$\frac{SALES_{2010} - SALES_{2009}}{SALES_{2009}} * 100$

Notes: EMP 2010 represent number of employees engaged in 2010
 EMP2009 represent number of employees engaged in 2009
 SALES2010 represent sales in 2010
 SALES 2009 represent sales in 2009

Source: Author

Data analysis method

The statistical plan involved three main processes: factor analysis, step-wise multiple regression analysis and path analysis. Factor analysis was used to determine the number of factors associated with HC, SC, AER and IC & BS and it is one of the most widely used multivariate statistical procedures³ in applied research endeavours across a multitude of domains (Brown, 2006).

Results and Discussion

The results are presented in four parts. The first section presents the characteristics of the sample by using descriptive statistics. The second section analyzes the factor analysis results. The final section presents the results of regression and path analysis.

Sample Characteristics

The majority of entrepreneurs surveyed were males (84.5 %) while 15.5% of them were females. Their ages ranged from twenty-two to eighty. The majority of them self-started their businesses (80.4%), whereas a relatively small proportion inherited their businesses from their families (19.6%).

² This metric is frequently employed in research on SEs primarily because using employment levels is believed to yield the most accurate and comparable data. SE owners are typically able to remember their number of employees overtime, even if they fail to maintain reliable written records (Nichter & Goldmark, 2005). In addition to that, this measure is most relevant to many policy makers since small enterprise growth is seen to reduce unemployment.

³ Factor analysis follows the following mathematical principles: (i) the variables which are most closely inter-correlated are combined within a single factor; (ii) the variables allocated to a given factor are those which are most nearly independent of those allocated to the other factors; (iii) the factors are derived in such a manner as to maximize the percentage of the total variance attributed to each successive factor (given the inclusion of the previous factors); and, (iv) the factors are normally uncorrelated with each other (Bell, 1969).

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With respect to education, 49.5 % of respondents had passed the G.C.E. Ordinary Level exam and 30.9% the G.C.E. Advanced Level exam. The number of full-time employees per firm ranged from one to fifty, with an average of 11.1 full-time employees per firm.

With regard to the industry categories, nine major categories were identified: twenty-six firms producing food, beverages and tobacco products (26.8%); fourteen enterprises textiles and clothing (20.8%); seventeen enterprises non-metallic mineral products (17.5%); fifteen enterprises wood and wood products (15.5%); nine enterprises in basic metal industries (9.3%); five coir and fiber-based enterprises producing coir-based products (5.2%); two enterprises chemical, petroleum and rubber based products (2.1%); eight enterprises manufacturing other products (8.2%); and one enterprise manufacturing small machinery and equipment (1.0 percent).

Principle Component Analysis

The results of the principle component analysis for the four research dimensions are shown in Table 3. All the factors or components had Eigen values of greater than one. The results showed all of the items to have high loadings on their factors. A total of 18 variables in the Human Capital dimension created seven principle factors. In the case of Social Capital, we used 19 variables for the final factor analysis, and it produced five representative factors or components. Access to external the resources dimension had 17 initial variables for factor analysis which produced six representative factors. Our last research dimension was internal capabilities and business structure dimension and they represented 21 variables. Five factors were extracted from them.

Table 3: Summary of principle component analysis results

Component	Communality	Factor loading	Cumulative variance explained
Human Capital Dimension			
Training with work experience in same field (TR_WESF)			18.67
1. Number of years worker experience in same field	0.860	0.909	
2. Work experience in same field	0.880	0.887	
3. Received training	0.656	0.554	
4. Previous job	0.574	0.536	

Education with experience in government sector (ED_EGS)			30.67
1. Experience as government employee	0.781	0.866	
2. Number of years' experience as government employee	0.774	0.854	
3. Formal education	0.495	0.565	
Self-learning with work experience in a different field (SL_WEDF)			40.86
1. Work experience in a different field	0.786	0.867	
2. Number of years worker experience in a different field	0.784	0.849	
3. Technical knowledge from self-learning	0.571	0.495	
Self-learning with ownership experience in a different field (SL_OEDF)			50.80
1. Technical knowledge from self-learning	0.571	0.426	
2. Ownership experience in a different field	0.863	0.920	
3. Number of years ownership experience in a different field	0.802	0.875	
Family tradition (FA_TR)			59.76
1. Father is an entrepreneur	0.772	0.857	
2. Family tradition	0.755	0.788	
Ownership experience in same field (OW_ESF)			66.64
1. Ownership experience in same field	0.754	0.855	
2. Number of years ownership experience in same field	0.734	0.826	
Technical and professional education (TE_PRE)			72.89
1. Professional education	0.717	0.738	
2. Technical College education	0.582	0.722	
3. Received training	0.656	0.424	
Social Capital Dimension			
Organizational network and network maintenance (ORN_MA)			26.42
1. Size of organizational network	0.756	0.786	
2. Number of annual cards sent per year	0.587	0.741	
3. Subcontracts received from large businesses	0.647	0.736	
2. Average number of telephone calls given per week	0.644	0.730	
3. Total network size	0.811	0.720	
4. Number of associations with membership of	0.573	0.542	
5. Number of e-mails sent per week	0.612	0.407	
Resource sharing with SMEs (RS_SEs)			38.63
1. Raw materials received from SEs	0.726	0.772	
2. Market information received from SEs	0.731	0.736	
3. Market information given to SEs	0.572	0.687	
4. Raw materials given to SEs	0.528	0.590	
5. Number of e-mails sent per week	0.612	0.476	
Government supportive activities (GO_SUP)			49.94
1. Consultancy received from government	0.785	0.873	
2. Technology received from government	0.734	0.845	
1. Market information received from government	0.451	0.661	
Sharing consultancy with social network (SH_CO_SN)			58.72
1. Size of social network	0.776	0.837	
2. Consultancy given to friends	0.610	0.721	
3. Consultancy received from friends	0.557	0.715	

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Supportive network with financial institutions” (SU_NE_FI)			65.66
1. Number of e-mails sent per week	0.612	0.447	
2. Finance received from financial institutions	0.695	0.827	
3. Size of supportive network	0.680	0.751	
Access to External Resources Dimension			
Access to credit and credit information (ACC_CR_IN)			18.34
1. From banks	0.861	0.913	
2. Use of credit	0.792	0.847	
3. Loan information from financial institutions	0.569	0.635	
4. Percentage of external finance	0.449	0.515	
5. Loan information from supportive organizations	0.440	0.452	
Access to inputs (ACC_IN)			33.36
1. Employee availability	0.718	0.831	
2. Availability of raw materials	0.621	0.716	
3. Finance availability	0.617	0.657	
Capital Sources with credit from finance companies (CA_CR_FC)			43.16
1. From finance companies	0.728	0.851	
2. Number of financial sources	0.695	0.608	
Supplier availability (SUP_AV)			51.81
1. Number of new suppliers	0.814	0.884	
2. Number of suppliers	0.803	0.767	
Competition from large and small enterprises (CO_LA_SE)			59.47
1. Number of small firms directly competing with firm	0.688	0.809	
2. Number of large firms directly competing with firm	0.557	0.613	
Access to markets (ACC_MAK)			65.89
1. Selling to large firms (Subcontracting)	0.795	0.852	
2. Market expansion	0.622	0.555	
3. Selling to government agencies	0.432	0.537	
Internal Capabilities and Business Structure Dimension			
Innovation and imitations (INN_IMI)			22.39
1. Number of imitations	0.940	0.964	
2. Market and marketing imitation	0.509	0.689	
3. Way of stocking imitation	0.485	0.671	
4. Product distribution imitation	0.542	0.657	
5. Work practices imitation	0.469	0.656	
6. Number of innovations	0.813	0.656	
7. Process innovation	0.540	0.649	
8. Product imitation	0.494	0.594	
7. Supply relation imitation	0.483	0.582	
Number of products with employee incentives (NU_PR_EMI)			35.13
1. Bonus	0.635	0.770	
2. Money advance	0.560	0.692	
3. Providing benefits other than salary	0.695	0.619	
4. Number of products	0.438	0.570	

Ownership structure with stock related innovations (OW_ST_STI)			45.35
1. Partnership	0.860	0.917	
2. Sole proprietorship	0.802	-0.895	
3. Way of stocking innovations	0.428	0.471	
Market related innovations with employee benefits (MA_INN_EMBE)			54.87
1. Lunch/breakfast	0.702	-0.750	
2. Market and marketing innovations	0.505	0.651	
3. Number of innovations	0.813	0.525	
4. Providing benefits other than salary	0.695	-0.522	
5. Number of new products introduced	0.630	0.468	
New products and new machines (NE_PR_MAC)			62.35
1. Number of new machines introduced	0.803	0.890	
2. Introduction of new machines	0.763	0.843	
3. Number of new products introduced	0.630	0.486	

Sales Growth Model

The sales growth model explains the factors influencing sales growth of small enterprises. The overall regression model for investigating the relationship among sales growth, human capital, social capital, access to external resources and internal capabilities and business structure was significant ($F= 29.755$, $R^2=0.705$, $p < 0.001$) suggesting that 70.5 percent of the variance of sales growth is explained by our explanatory variables (Figure 02). Table 4 presents the estimated path coefficients used to interpret the causal relationship in Figure 2.

The findings of the research concerning the effect of human capital on sales growth showed that there is no direct effect but certain human capital variables, namely, *training with work experience in the same field, technical and professional education, education with experience in government sector, self-learning with experience in a different field and family tradition* indirectly influence sales growth via certain variables in social capital, access to external resources and internal capabilities and business structure. Especially, *training with experience in the same field* had relatively stronger effects on *sales growth via organizational networks with network maintenance and innovations and imitations* ($TE^4 = 0.449$). It implies the importance of industry-related experience and knowledge for the success of small enterprises in Sri Lanka. According to Westhead (1995), on-the-job training or prior work experience may, in fact be more important than formal education in that

⁴ See table 4; TE (total effect)= Direct effect + Indirect effect

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such training not only familiarizes the potential entrepreneur with processes and organizational functions but also involves the individual in a network with suppliers and buyers who deal with such firms. *Technical and professional education and education with experience in the government sector* also had a positive indirect effect on *sales growth via organizational networks with network maintenance*. It reflects the importance of human capital in developing and utilizing social capital to achieve high sales growth.

In the case of social capital, three variables, namely, *organizational networks with network maintenance*, *resource sharing with SEs* and *supportive networks with financial institutes* have significant direct effects on sales growth. The effect of organizational network with network maintenance was found to be strong for sales growth. This finding highlights the importance of building and maintaining network relations with small and large enterprises. No doubt, resources are very important for any kind of enterprise. Small enterprises in particular are handicapped by a lack of resources. Sharing excess resources with other enterprises paves the way for overcoming the lack of resources problem in small enterprises. As in the study by Littunen and Tohmo (2003) on high growth new metal-based manufacturing and business service firms in Finland, co-operation between firms is an important factor achieving high growth.

The results showed that three index variables of access to the external resources dimension have direct effects on sales growth, namely, *competition from large and small enterprises*, *access to inputs* and *access to credit and credit information*. Compared with the other three research dimensions, the impacts (β weight) of these three variables are not very strong (Figure 2). It is interesting to note that *access to credit and credit information* had a negative impact on sales growth. It may be due to the majority of the owner-managers who borrow money from lending organizations have invested that money on idle assets and those assets have been a hindrance to the efficiency of those enterprises.

The findings of the research concerning the effects of internal capabilities and business structure of sales growth showed that only one variable, namely, *innovation and imitation* had a positive significant impact on sales growth because innovation and imitations attract customers to the businesses. Similar results were found in the small and medium manufacturing sector in Tanzania (Mahemba & Bruijn, 2003).

With regard to product innovation and imitation, we found that 70% of SE owner-managers have followed product imitations while only 28 % of the owner-managers have followed product innovations. These figures reflect that SE owner-managers in our sample are more oriented towards imitations than innovations.

Employee Growth Model

The findings on the second theme, which explored the effects of human capital, social capital, access to external resources and internal capabilities and business structure on employee growth, showed that certain variables of each research dimension have effects on employee growth. The overall model of the employee growth is shown in Figure 3.

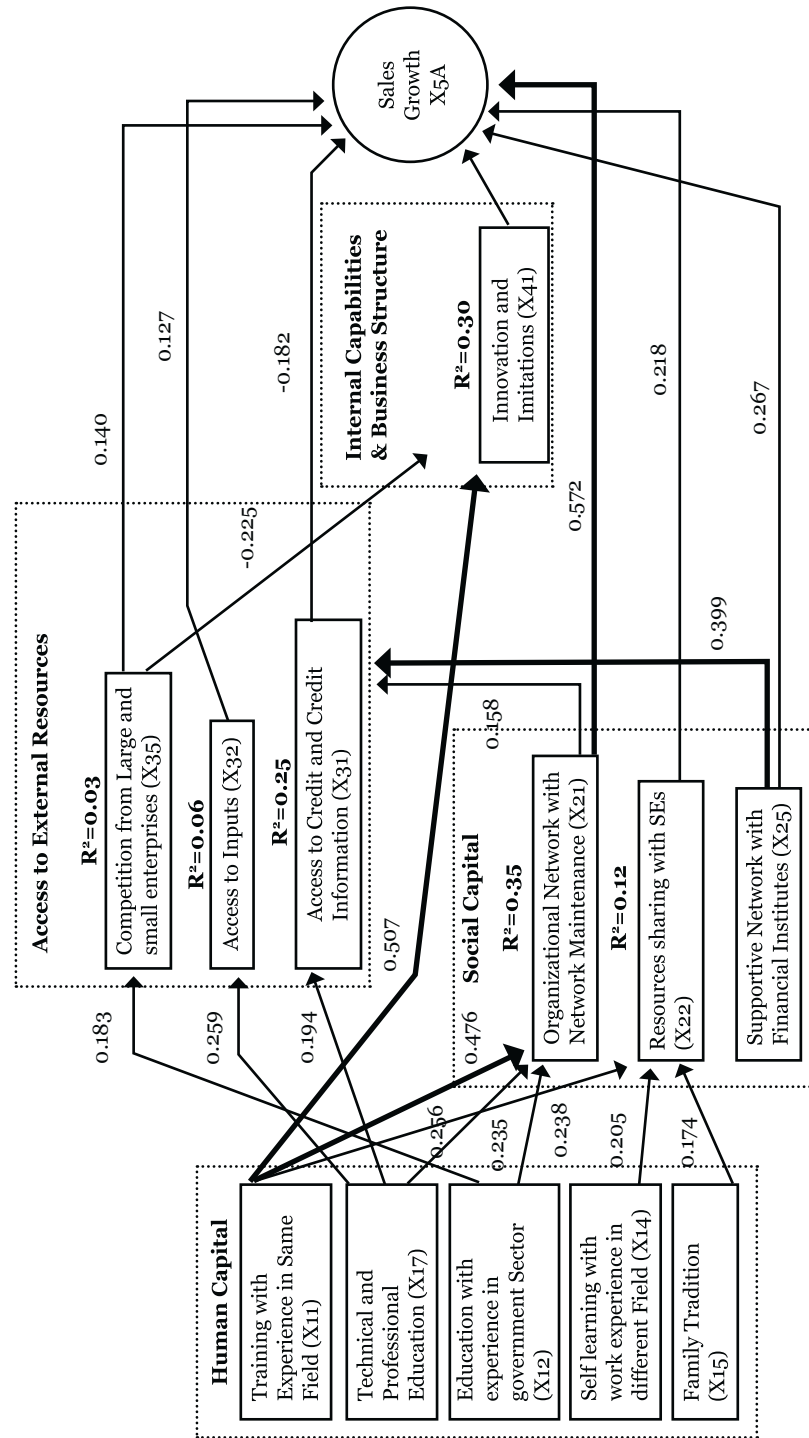
The overall regression model for investigating the relationship among employee growth, human capital, social capital, access to external resources and internal capabilities and business structure is significant ($F= 14.650$, $R^2= 0.541$, $p < 0.01$), suggesting that 54.1 percent of the variance of employee growth is explained by our explanatory variables. Based on the results of path analysis (Table 5) we identified the most important variables affecting employee growth.

In the case of human capital the research showed that *training with work experience in the same field* had both direct and indirect effects on employee growth. As shown in Figure 3, *training with work experience in the same field* has a positive effect on employee growth via *innovation and imitations*. It implies that owner-managers with prior work experience in the same field of business and training follow innovation and imitations. Innovation and imitations enhance employee growth.

The research found that *technical and professional education* had indirect effects on employee growth via *access to inputs* and *organizational networks with network maintenance, a number of products with employee incentives*. This finding highlights that when owner-managers of SEs develop their human capital through technical and professional education such human capital facilitates employee growth by enhancing social capital access to external resources and internal capabilities. As a *human capital variable education with experience in the government sector* has an indirect effect on employee growth through variables in social capital (*organizational network with network maintenance*), variables in access to external resources (*competition from large and small enterprises*) and variables in internal

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Figure 3: An Integrative Model of Small Enterprise Sales Growth (only with significant paths)



Note: All coefficients are significant at $p < 10$

Table 4: The Decomposition of Effects of the Sales Growth model into Direct and Indirect Effects

Independent Variables	Description of Paths (from →to)	Direct Effect	Indirect Effect	Total Effect
<i>Human Capital Dimension</i>				
Training with work experience in same field (X_{11})	$X_{11} \rightarrow X_{41} \rightarrow X_{5A}$		0.139	
	$X_{11} \rightarrow X_{21} \rightarrow X_{5A}$		0.272	
	$X_{11} \rightarrow X_{21} \rightarrow X_{31} \rightarrow X_{5A}$		-0.013	
	$X_{11} \rightarrow X_{22} \rightarrow X_{5A}$		0.051	0.449
Technical and professional education (X_{17})	$X_{17} \rightarrow X_{32} \rightarrow X_{5A}$		0.032	
	$X_{17} \rightarrow X_{31} \rightarrow X_{5A}$		-0.035	
	$X_{17} \rightarrow X_{21} \rightarrow X_{5A}$		0.146	
	$X_{11} \rightarrow X_{21} \rightarrow X_{31} \rightarrow X_{5A}$		-0.007	0.136
Education with experience in government sector (X_{12})	$X_{12} \rightarrow X_{35} \rightarrow X_{5A}$		0.025	
	$X_{12} \rightarrow X_{35} \rightarrow X_{41} \rightarrow X_{5A}$		-0.011	
	$X_{12} \rightarrow X_{21} \rightarrow X_{31} \rightarrow X_{5A}$		-0.016	
	$X_{12} \rightarrow X_{21} \rightarrow X_{5A}$		0.134	0.142
Self-learning with work experience in a different field (X_{14})	$X_{14} \rightarrow X_{22} \rightarrow X_{5A}$		0.045	0.045
Family tradition (X_{15})	$X_{15} \rightarrow X_{22} \rightarrow X_{5A}$		0.038	0.038
<i>Social Capital Dimension</i>				
Organizational network with network maintenance (X_{21})	$X_{21} \rightarrow X_{31} \rightarrow X_{5A}$		-0.028	
	$X_{21} \rightarrow X_{5A}$	0.572		0.544
Resource sharing with SMEs (X_{22})	$X_{22} \rightarrow X_{5A}$	0.218		0.218
Supportive network with financial institutes (X_{25})	$X_{25} \rightarrow X_{5A}$	0.267		
	$X_{25} \rightarrow X_{31} \rightarrow X_{5A}$		-0.072	0.195
<i>Access to External Redources</i>				
Competition from large and small enterprises (X_{35})	$X_{35} \rightarrow X_{5A}$	0.140		
	$X_{35} \rightarrow X_{41} \rightarrow X_{5A}$		0.062	0.078
Access to inputs (X_{32})	$X_{32} \rightarrow X_{5A}$	0.127		0.127
Access to credit and credit infor (X_{31})	$X_{31} \rightarrow X_{5A}$	-0.182		-0.182
<i>Internal Capabilities & B.Structure</i>				
Innovations and imitations (X_{41})	$X_{41} \rightarrow X_{5A}$	0.276		0.276

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capabilities and business structure (*innovation and imitations, number of products with employee incentives*).

The next human capital variable, *self-learning with work experience in different fields*, also has an indirect effect on employee growth via the social capital-related variable, namely, *resource sharing with SEs*. In addition to the above mentioned four human capital variables, *family tradition* has an indirect effect on employee growth via the social capital variable, namely, *resource sharing with SEs*. The possible explanation could be that SE owner-managers who have come from entrepreneurial families may have long-term relationships with enterprises of similar size and those relationships may lead to sharing resources with other enterprises in their organizational networks.

The finding of the research concerning the effect of social capital on employee growth showed that three social capital variables, namely, *organizational networks with network maintenance, resource sharing with SEs* and a *supportive network with financial institutes* had direct effects on employee growth. Based on a longitudinal study in the Netherlands, Bosma et al (2004) found that contact with other entrepreneurs in networks, such as Rotary Clubs, has a positive effect on the employment the business founder generates. The negative effect of supportive network with financial institutes on employee growth was an unexpected result. This negative impact does not necessarily mean that *a supportive network with financial institutes* would always result in poor growth. In the field interviews, we observed that owner-managers who have better relationships with financial institutions have a relatively higher possibility of receiving loans from them. Such owner-managers take loans to purchase machines and they have substituted machines for labor inputs. It leads to decreasing employee growth.

In addition to the direct effects, four variables namely, *organizational networks with network maintenance, resource sharing with SEs, government supportive activities and sharing consultancy with social networks* have indirect effects on employee growth via *number of products with employee incentives*.

In the case of access to external resources we found that *only access to inputs* has a direct positive total effect on employee growth. Four variables, namely, *competition from large and small enterprises, access to inputs, capital sources with credit from financial companies and supplier availability* have an indirect effect on employee

growth through *number of products with employee incentives*. As shown in Figure 3, competition from large and small enterprises has a negative effect on innovation and imitations. This result might be due to the defensive behavior of SE owner-managers in Sri Lanka, for example, when competition increases owner-managers prefer to face the competition by reducing price rather than focusing on innovation and imitations.

Figure 3 presents the internal capabilities and business structure variables which have a relatively greater positive total effect on employee growth. Two variables, namely, *innovation and imitations* and *number of products with employee incentives* have significant positive effects on employee growth. *Number of products with employee incentives* factor comprises four variables, namely, number of products, bonus, money advance, and providing benefits other than salary. Our result highlights the importance of employee incentives in attracting and retaining employees. Previous studies show that finding and retaining skilled labour in Sri Lanka is one of the problems faced by small entrepreneurs (Lakshman, 1994).

Comparison of two growth models

Among the seven initial indexed variables of human capital dimension, only one indexed variable, namely, *training with work experience in the same field*, has a substantial positive total effect on both dependent variables: sales growth and employee growth. Moreover, another two human capital variables (*technical and professional education* and *education with experience in the government sector*) increase sales growth moderately but their positive effect on employee growth is relatively low. This implies that specific aspects of human capital that influence each growth measure are not similar. The study further indicates that human capital variables such as *family tradition* and *work experience in different fields* have only a minimal effect on small enterprise growth.

Social capital also appears to influence our two growth measures. Three out of five variables namely, *organizational network with network maintenance*, *resources sharing with SEs* and *supportive network with financial institutes* have above the moderate level total effects on sales and employee growth. It is interesting to note that while *supportive network with financial institutes* has positive total effect on sales growth, it has negative total effect on employee growth. As we discussed earlier, probably owner-managers who have network relations with financial institutes borrow money and substitute machines for labour.

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With respect to access to external resources we found that one variable, namely, *access to inputs* has a moderate positive total effect on sales and employee growth. Competition from large and small enterprises also has only a minimal effect on sales and employee growth. It is interesting to note that while competition from large and small enterprises has a positive effect on sales growth it has a negative effect on employee growth.

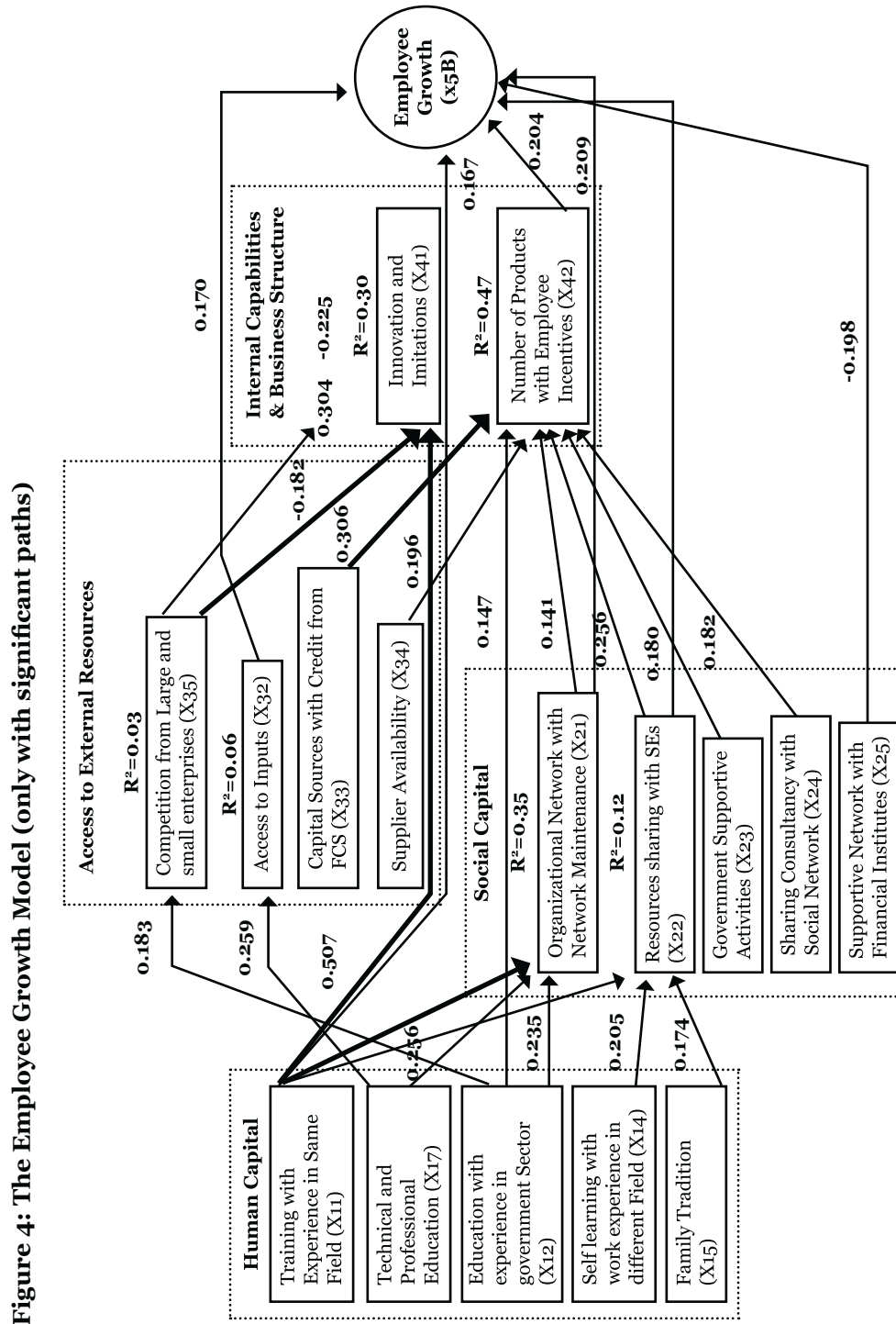
Contrary to our expectation, access to credit and credit information has a negative total effect on sales growth. *Capital sources with credit from finance companies* and *supplier availability* increase employee growth but their total effect sizes are minimal.

In the case of the internal capabilities and business structure dimension, we found that *innovation and imitation* have a moderate positive total effect on sales growth and a substantial positive total effect on employee growth.

Implications for Theory and Practice

The study shows a few important implications for owner-managers of Sri Lankan small enterprises. Participating in training programmes and starting enterprises with prior work experience in the same field of business enhance the skills and knowledge of the entrepreneurs. Owner-managers with such human capital are more likely to improve their social capital and internal capabilities of the enterprises and finally sustainable growth. The study highlights the importance of organizational networks and network maintenance, resource sharing with SEs and supportive network with financial institutes for sales and employment growth. Cooperative relationships and favourable understanding with other firms facilitate knowledge transmissions (Parra-Requena, Molina-Morales, & Garc A-Villaverde, 2010).

The present study identifies innovation and imitations as a common factor in increasing sales and employment growth. This finding suggests that owner-managers of small enterprises in Sri Lanka can achieve higher growth by following different forms of innovations and imitations such as product, process, work practice, marketing and supply relations. This can be realized by strengthening existing contacts with organizational networks and enhancing human capital through training and experience. Collaboration with business support institutions and other organizations can serve to acquire the expertise and services that is currently lacking in the industry.



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Table 05: The Decomposition of Effects of the Employee Growth Model into Direct and Indirect Effect

Independent Variables	Description of Paths (from →to)	Direct Effect	Indirect Effect	Total Effect
Training with work experience in same field (X_{11})	$X_{11} \rightarrow X_{5B}$	0.167		
	$X_{11} \rightarrow X_{41} \rightarrow X_{5B}$		0.171	
	$X_{11} \rightarrow X_{21} \rightarrow X_{5B}$		0.099	
	$X_{11} \rightarrow X_{21} \rightarrow X_{42} \rightarrow X_{5B}$		0.014	
	$X_{11} \rightarrow X_{22} \rightarrow X_{5B}$		0.034	
Technical and professional education (X_{17})	$X_{11} \rightarrow X_{22} \rightarrow X_{42} \rightarrow X_{5B}$		0.012	0.497
	$X_{17} \rightarrow X_{32} \rightarrow X_{5B}$		0.044	
	$X_{17} \rightarrow X_{32} \rightarrow X_{42} \rightarrow X_{5B}$		-0.009	
	$X_{17} \rightarrow X_{21} \rightarrow X_{5B}$		0.054	
Education with experience in government sector (X_{12})	$X_{17} \rightarrow X_{21} \rightarrow X_{32} \rightarrow X_{5B}$		0.007	0.096
	$X_{12} \rightarrow X_{35} \rightarrow X_{41} \rightarrow X_{5B}$		-0.014	
	$X_{12} \rightarrow X_{35} \rightarrow X_{42} \rightarrow X_{5B}$		0.011	
	$X_{12} \rightarrow X_{21} \rightarrow X_{42} \rightarrow X_{5B}$		0.007	
Self-learning with work experience in a different field (X_{14})	$X_{12} \rightarrow X_{21} \rightarrow X_{5B}$		0.049	0.053
	$X_{14} \rightarrow X_{22} \rightarrow X_{5B}$		0.029	
	$X_{14} \rightarrow X_{22} \rightarrow X_{42} \rightarrow X_{5B}$		0.011	0.040
Family tradition (X_{15})	$X_{15} \rightarrow X_{22} \rightarrow X_{5B}$		0.025	
	$X_{15} \rightarrow X_{22} \rightarrow X_{42} \rightarrow X_{5B}$		0.009	0.034
Organizational network with network maintenance (X_{21})	$X_{21} \rightarrow X_{42} \rightarrow X_{5B}$		0.029	
	$X_{21} \rightarrow X_{5B}$	0.209		0.238
Resource sharing with SMEs (X_{22})	$X_{22} \rightarrow X_{5B}$	0.142		
	$X_{22} \rightarrow X_{42} \rightarrow X_{5B}$		0.052	0.194
Government supportive activities (X_{23})	$X_{23} \rightarrow X_{42} \rightarrow X_{5B}$		0.037	0.037
Sharing consultancy with social networks (X_{24})	$X_{24} \rightarrow X_{42} \rightarrow X_{5B}$		0.037	0.037
Supportive netowrk with Financial institutes (X_{25})	$X_{25} \rightarrow X_{5B}$	-0.198		-0.198
Competition from large and small enterprises (X_{35})	$X_{35} \rightarrow X_{41} \rightarrow X_{5B}$		-0.076	
	$X_{35} \rightarrow X_{42} \rightarrow X_{5B}$		0.062	-0.014
Access to inputs (X_{32})	$X_{32} \rightarrow X_{5B}$	0.170		
	$X_{32} \rightarrow X_{42} \rightarrow X_{5B}$		-0.037	0.133
Capital sources with credit from FCs (X_{33})	$X_{33} \rightarrow X_{42} \rightarrow X_{5B}$		0.062	0.062
Supplier avilability (X_{34})	$X_{34} \rightarrow X_{42} \rightarrow X_{5B}$		0.039	0.039
Innovation and imitations (X_{41})	$X_{41} \rightarrow X_{5B}$	0.337		0.337
No. of prod. with employee incentives (X_{42})	$X_{42} \rightarrow X_{5B}$	0.204		0.204

The researcher observed that most of the owner-managers who borrowed money from financial institutes have not put it to proper use. They have invested borrowed money in idle assets and they are paying high interest on their loans.

This research suggests that owner-managers of SEs should recognize the multiple dimensions that affect enterprise growth. Firms' growth is to a certain extent internally determined (owner-manager's human capital and social capital), but environmental factors (access to external environment) and firm-related factors (internal capabilities and organizational structure) also have direct effects on firm growth.

Implications for Policy Makers and Supportive Organizations

The study provides important insights into the determinants of a firm's growth, several of which may be useful for those who intend to provide assistance and support to small enterprises in Sri Lanka.

First, this study points towards assistance measures aimed at promoting human capital formation. Government can introduce policies aimed at improving the knowledge and skills of individuals. Policy measures to develop human capital could include skills training, mechanisms for self-learning and encouragement of entrepreneurship. In order to meet industry-specific skill requirements of the SEs, it is necessary to conduct skills development programmes tailor-made to specific industry sectors. Specially from the SE point of view the following reforms on education are needed: (1) introducing entrepreneurial skills-related subjects into the existing curriculum of schools, (2) introducing entrepreneurial and management skills-related training courses at tertiary education level for school-leavers.

Second, the study highlights the importance of subcontracting relationships between large and small enterprises. "Obviously sub-contracting, by its very nature, is a mechanism which ought to help both parties to the arrangement, and the distribution of benefits could well be unequal" (Lakshman, 1994). Subcontracting can facilitate SE growth by expanding a firm's set of viable business opportunities and improving a firm's capabilities (Nichter & Goldmark, 2005). In most countries, governments are playing a vital role in promoting subcontract activities among large and small enterprises. For example, the Japanese government has conducted a series of SME promotion policies such as multiple channels for helping in financial arrangements,

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managerial practice and technology, cooperative organizations, modernization schemes through advice and tax concessions (Kimura, 2002). In Sri Lanka where the process of developing sub-contracting practices is yet in its infancy, the government has to take necessary steps to promote the subcontracting concept among large and small enterprises.

Third, this research shows the positive effect of training with work experience in the same field, organizational networks with network maintenance, resource sharing with SEs, access to inputs and innovation and imitations on both sales and employee growth of SEs. This underscores the importance of investing in human capital, encouraging networking, and focusing on innovation and imitations in Sri Lankan SEs for enhancing their growth. Thus, policy-makers are advised to consider these findings in designing programmes to support SE development.

Fourth, the insights from this study help to formulate a more defined targeting strategy for developing the SE sector. In particular, SE development programme designers and implementers can use our integrated causal models to understand how the intervention works to achieve small enterprise growth in Sri Lanka. Importantly, an understanding of how the intervention will influence SE owner-managers' human capital, social capital, access to external resources and internal capabilities and business structure.

Limitations of the Study and Directions for Future Research

This study has several limitations. Firstly, focusing on manufacturing enterprises limits the scope of the study. Secondly, the focus on small enterprises renders the study size-specific. Thirdly, by studying only one district in Sri Lanka the study suffers from being district-specific. Another limitation is the focus on four dimensions as the determinants of firm growth. There may be more factors that may impact on firm growth.

Another limitation is related to the cross-sectional nature of the study. Even though this study combines both survey data and secondary data collected at different times, the nature of the study is essentially cross sectional. This design limits the opportunities for claiming causalities in the identified relationships purely on the basis of empirical findings. However, the hypotheses were developed on the basis of received theories and empirical research, thus improving the validity of the results.

These limitations suggest areas for future research. Research is needed to compare the growth factors of small manufacturing enterprises with service-oriented enterprises of the economy. Future research is needed to focus on small enterprises in other districts in Sri Lanka. Additionally, research on medium and large enterprises throughout the country is desirable to ascertain if the findings about firms' growth are size-specific and/or district –specific.

The findings of the study are based on cross-sectional data. The next logical step in this line of research would be to investigate the relationship between human capital, social capital, access to external resources, internal capabilities and business structure and a firm's growth over a period of time, treating contextual variables as potential moderators. Future research using qualitative and longitudinal methods, case studies as well as field experiments would be useful in examining the validity of our findings.

Conclusion

In this study we have examined the relationship between human capital, social capital, access to external resources, internal capabilities and business structure and small enterprise growth. To our knowledge, this study is the first attempt to integrate those different dimensions to explain small enterprise growth implying that the findings of this study have important implications for academic researchers, owner-managers of small enterprises and small enterprises support agencies. The human capital variable, namely, training with work experience in the same field was identified as one of the important factors contributing to sales and employee growth. Social capital variables seem to be more powerful predictors of sales and employee growth. In particular, organizational networks with network maintenance has a relatively greater positive effect on both growth measures. In addition to that, resource sharing with SEs also could contribute to the growth of SEs. In the case of access to the external resources dimension, access to inputs (raw material, labour and finance) contributes to sales and employee growth. Innovation and imitations as internal capability substantially contributes to the growth of SEs.

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