

## THE SURVIVAL OF NEW FIRMS

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### ABSTRACT

The role of new firms, for example in the promotion of employment and as producers of innovations, cannot be utilized until they demonstrate their ability to remain in business after the critical first years. This follow-up study seeks to clarify which factors are connected with the success of new firms. The research topic was widely investigated from the viewpoint of the trait model and of contingency theory. Factors influencing the success of newly established firms were looked for in the characteristics of the entrepreneur, the success of the start-up project, and the characters of the firms themselves. The subjects of this study were Finnish metal products manufacturing firms and business-service firms established in 1990.

The firms were interviewed for the first time at the turn of the year 1992. Follow-up data was gathered by means of telephone interviews yearly in the period 1993-96. According to the results, family firms clearly continued in business more often than firms formed through reorganization. On the whole it was typical of firms which had closed down in the critical operational phase that they had transferred problems connected with the start-up situation to the critical first years of their operation. After the critical operational phase, the firms which had closed down put resources very heavily, in the critical first years, into product development, and at the same time expanded their market area. The high specialization of these firms had led to growing risks, which they had tried to level down through their connections with the business world outside.

### INTRODUCTION

How to improve the survival rate of new firms is an international problem. It is well-known fact that only a small proportion of new firms survive, and few of them grow to be big companies. In Finland, about 59% of the firms operating in 1986 and employing less than five persons had closed down by the year 1993. At the same time, the establishment of new firms with less than five employees created about 68 500 new jobs during this period (SME Report 1996). In the UK, up to 85% of firms are estimated to disappear before their fifth year of operations (Bennet 1989). Surviving and rapidly-growing firms, however, are of great importance both locally and nationally: it is these that really create employment, since their share of new jobs has been estimated to be as high as 16%, according to a recent study (Foley and Green 1989). The first 1-3 years are the most critical operational phase for firms as regards their survival; when firms have survived three years they can with good reason be described as having passed through the valley of death (Gibb 1990).

The question of how to approach the success of firms can be seen from the viewpoint of a firm's goals and its ways of realizing them. The goals of a firm are established by its interest groups, such as the entrepreneur himself or other proprietors; the employees, and the firm's financiers. Instead of defining the goals of firms, a common approach is to define the preconditions which ensure the continuity of business activities. In order to succeed, a firm has

to achieve some kind of rapport with its environment, and obtain sufficient financing in order to be able to stay in business. A certain minimum profitability is a necessary precondition for survival. Once the firm has been established, continuing in business proves that the firm has, at least to some extent, been able to meet the expectations of all of its interest groups. In the start-up phase of the business it is essential that the firm is able to cope with the costs directly caused by its operations (Rhenman 1972). Continuing in business can, in the critical start-up phase, be interpreted as the minimum aim of the entrepreneur. In this study, empirical results are presented which show why firms manage to stay in business during two development phases. These are, the critical operational phase (from one to three years) and the established phase of operations (from four to six years). The question is approached by studying how business activities have developed in firms, which, after the critical operational phase, have set goals, and try to obtain a stable development course in firms continuing in business.

## AIMS OF THE STUDY

The study is a follow-up study based on interviews with business managers. The study approaches the success of new firms mainly in three phases; these being the firm's birth, the critical operational phase, and the established phase. The first phase scrutinizes various situational factors which affect the birth of a firm. The second phase studies the development features and processes which affect the survival of a firm in the critical operational phase. In the third phase attention is focussed on the development of activities according to the goals set inside the different firms, and on survival after the critical operational phase. The establishment of a firm is here interpreted as a process advancing in phases which end with a particular business idea, and on the basis of this, in the establishment of a firm (Lehti 1990). The attached figure presents the research schedule of the present study.

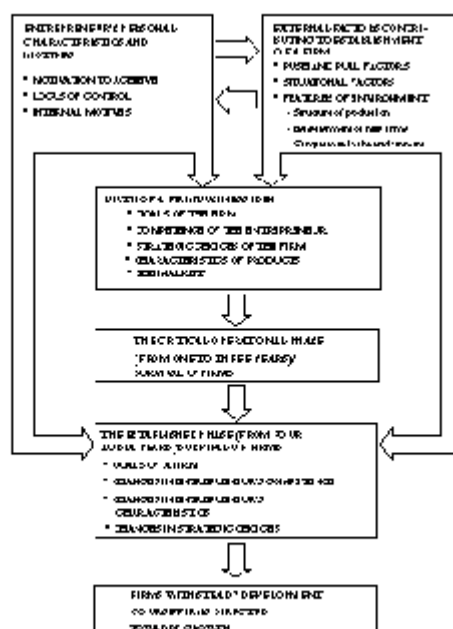


FIGURE 1 Research schedule charting factors in the survival of new firms

To interpret the establishment of a firm as a process means that in order to be able to predict whether a firm succeed in staying in business, knowledge of the entrepreneur's personality and degree of motivation are not enough. For this reason the present study examines the topic extensively from the viewpoints of the trait model and contingency theory. However, through the strategic choices made by firms and their business thinking, there are also links both to the frame of reference of strategic thinking and through the interaction of entrepreneurs to the network theory.

In this study, the characteristics of the entrepreneur's personality were measured both through their achievement motivation and their control expectations. As the theoretical basis of the study are the theories of McClelland (1961) and Rotter (1966). The achievement motivation of entrepreneurs was measured by four different dimensions each consisting of four different items, that is, work ethic, pursuit of excellence, mastery and dominance (Cassidy and Lynn 1989). The locus of control of entrepreneurs was measured by three different dimensions: change attributing, internal attributing and powerful others (Levenson 1982). The characteristics of personality are formed in interaction between an individual and the environment where the individual's life situation, experiences and the changes taking place in his life have a central position (Rotter, 1975, 1990). The characteristics of entrepreneur's personality were measured in this study two times in the start-up phase and in the fourth follow-up phase. When starting from the frame of the reference of the contingency theory, the characteristics required in the personality of an entrepreneur are tied to the action environment and the prevailing situation of the firm (Gilad and Levine 1986). This can be interpreted firstly, that the personal characteristics of an entrepreneur as such are not sufficient to explain continuity in business. The external factors affecting the start-up situation of a firm link the start-up situation with the manner in which entrepreneurship is realized. External factors can be divided into two groups: push factors and pull factors. Examples of push factors related to the environment are, unemployment or the threat of it, external spurring on or re-organization of business activities. Pull factors related to the environment include the opportunities offered by the market situation or previously created customer contacts.

The frame of reference of the contingency theory also connects the birth and success of new firms with the factors related to the start-up situation. Situational factors lead to entrepreneurship and connect the individual to situations preceding the start-up and the actual start-up itself. In the start-up situation, various situational factors connect the success of new firms with the knowledge and skills of the entrepreneurs, both of which are crucial to the success of new firms. In the start-up situation the situational factors can be interpreted as mainly related to the compatibility requirement between products, customers and the path of action (Norman 1976). The path of action is connected with the strategic choices that firms make. The contingency theoretical frame of reference links the business ideas of firms with the situations preceding the start-up of the firm and with various start-up situations. The factors prior to start-up affect the birth of business ideas.

From the viewpoint of a firm, the aim of different interest networks is ultimately to support the operation of the firm. The advantages of production networks lie in the fact that they create closeness, certainty and a belief in the firm's opportunities to act. These networks are needed to transfer information and to create pressure to develop activities. Through personal interest networks a firm is able to create new models of action and find connections with supporting persons and organizations (Johannisson 1985). According to Curran etc. (1993); whose view deviates from network theory, the intensity of co-operational relations tends to vary: and thus excessive networking is a threat to the independent position of the entrepreneur. According to

this viewpoint, small entrepreneurs have contact with their surroundings, but the importance of these contacts is more limited than network thinking implies (Curran etc. 1993).

## SUBJECT AND METHODOLOGY

The subjects of this study (n=200) were Finnish metal products manufacturing firms and business-service firms established in 1990. The interview data concerning the firms and entrepreneurs were gathered as part of a follow-up study. The firms were interviewed for the first time at the turn of the year 1992. Follow-up data gathered through telephone interviews during the years 1993-96, about three and six years after establishment, has also been used in this study. The last interviews will be made in 1998.

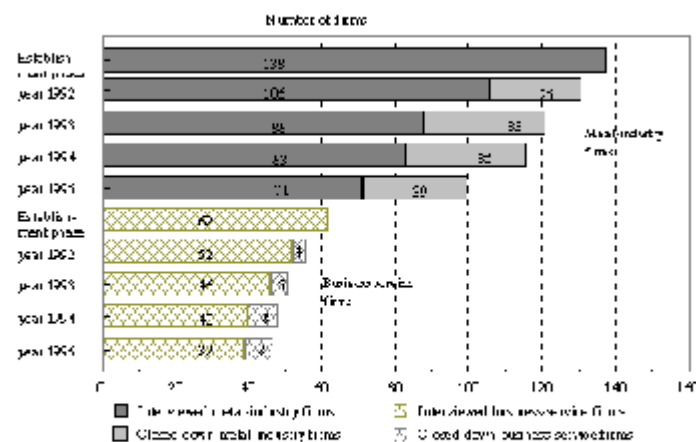


FIGURE 2 Interviewed and closed-down firms

The subject firms are mostly small firms dependent on the entrepreneur's own work and on the work of his family. The connection between the firm and the entrepreneur is strong. The strategy of the firm is chosen by the entrepreneur. The goals that the entrepreneur considers worth pursuing in his own life are also easily reflected on the activities of the firm. About 60% of the interviewed entrepreneurs acted in firms of less than five employees, and the rest in firms of more than five employees. Over 45% of the entrepreneurs included in the study had a basic education no higher than elementary school. The entrepreneurs who had established a metal-industry firm usually had technical education of the level of a vocational school. The most critical phase of new firms as regards their survival occurs from two to three years after the start-up. Older firms have usually found their own customer groups, and their activities have become well established, and therefore it is very seldom that their business activities are closed down. Of the firms interviewed in the follow-up study, about 76% of new metal-industry firms and about 93% of business-service firms continued in business after three years from the start-up. The share of firms with a short life-span was bigger in metal-industry firms than in business-service firms (figure 2).

The interviews of the first phase of the study constitute the basis for the investigation of the success of the firms. The results of the follow-up study are analyzed by grouping the features

of the entrepreneurs and firms by means of cluster analysis. The aim of the groupings is to simplify the interview data, which owing to its versatility is necessary. The results of the follow-up data obtained through interviews are grouped in the same way. The survival of firms in the critical operational phase and in the established phase of activities was explained by a logistic regression analysis. The logistic regression analysis is a suitable method when the variable to be explained is a dichotomy variable (Hosmer and Lemeshow 1989). The logistic models produced by means of the regression analysis predict with a certain probability the success of firms. The explanatory models describing the survival of firms were drawn up in two phases in the different development phases of business activities. In the first phase, the survival of firms was explained; and in the second the factors explaining the survival of firms were analyzed. In the following the models used are not described; but the results produced by them are interpreted. In addition to the logistic regression models used, the differences between means were scrutinized in various groups by means of an one-way analysis of variance, and the differences of personal features between two measurements with the t-test.

## RESULTS

The majority of entrepreneurs come from small and medium-size firms; something which emphasizes their importance in the birth process of firms. At the same time it can also be seen that the results reflect the opportunities and motives of entrepreneurship. In small and medium-size firms it is easier to form an overall picture of the firm's activities, which offers the opportunity to consider entrepreneurship as a personal alternative.

The development of the business activities of new firms is strongly tied to the establishment situation of the firm. A well-planned business idea realized according to plans is a precondition for the development of business. The success of the firm's start-up increases its chances to survive during the critical early years. In the firms which have closed down in the critical operational phase, the plans and the development realized were not proportional to each other. In cases where the start-up had failed, the firm had been established on the basis of unrealistic expectations, and the profitability of the firm had been poor all the time it had been in operation. Unrealistic expectations were linked with lack of resources or insufficient planning. The timing or basic the investments deviated from those planned, investments were carried through on a lower technical level, or financing arrangements did not materialize in the planned manner. On the other hand, familiar customers and an absence of competition in the firm's background meant that firms which had closed down had insufficiently examined the alternatives in the market. In the firms which had closed down in the critical operational phase, the share of owners' personal loans in the financing of basic establishing investments was nearly twice as high as in firms which continued in business.

Thus the costs of establishing a firm and starting its activities had been falsely estimated in relation to the firm's income. In the critical operational phase, family firms employ several forms of action in order to maintain continuity, which deviate from those of other firms. The family which owns a family firm commits itself in many ways to the development of the firm, and seeks new channels for its activities in order to develop the business idea. The activities of firms which have been born through reorganization are discontinued in the first years of business, if the firm does not attain the relatively demanding goals.

FIRMS CONTINUING IN BUSINESS	FIRMS STOPPED DURING THE CRITICAL OPERATIONAL PHASE
THE DEFINITION OF A FIRM	
<ul style="list-style-type: none"> <li>* Established as a firm</li> <li>* Firm by firm</li> <li>* The sole full employment</li> <li>* Mutual interest</li> <li>* Operation is given by the business is to be made</li> </ul>	<ul style="list-style-type: none"> <li>* Firm formed through cooperation</li> <li>* Financial cooperation</li> <li>* Little co-operation</li> <li>* Good relationship with financing</li> <li>* Financial floor financing</li> </ul>
THE START-UP PHASE OF A FIRM	
<ul style="list-style-type: none"> <li>* Establish an economic well-structured</li> <li>* Good profitability during the first year</li> <li>* Allocation of factors considered</li> <li>* The financing structure of the establishing is not considered</li> </ul>	<ul style="list-style-type: none"> <li>* Uncertain operation</li> <li>* Not profitable during the first year</li> <li>* Only little consideration of the economic situation</li> <li>* The financial structure of the establishing is not considered</li> <li>* The product or range of products similar to those of competitors too with a view of the economic</li> </ul>
THE PROFESSIONAL	
<ul style="list-style-type: none"> <li>* Professional education</li> <li>* More experience obtained as an employee or already several years experience in several business fields</li> <li>* Motivation is more</li> <li>* Risk taking</li> <li>* Strong motivation</li> <li>* Strong motivation</li> </ul>	<ul style="list-style-type: none"> <li>* The professional education</li> <li>* More experience with business-operations</li> <li>* Lack of planning</li> <li>* Strong work ethic</li> <li>* Lack of ability to solve problems</li> </ul>

FIGURE 3 New firms in the critical operational phase (from one to three years)

The knowledge and skills of the entrepreneur are important in the establishing situation of a firm. The nature of the entrepreneurs' professional education explains the survival of firms in the operational phase of business activities. The entrepreneurs who in the establishment phase had a professional (= technical or commercial) education usually continued their activities after the critical starting phase. The special characteristics of the entrepreneur's personality explained, through professional education, the continuity of business in the critical operational phase. The desire to lead and to solve problems was emphasized among entrepreneurs who had professional education at the time the firm was established. According to the results, the entrepreneurs' professional education strengthens the entrepreneurs' aim, and provides opportunities to affect the factors influencing the firm's working environment. On the other hand, there was no direct connection observed in the co-operation between firms and other interactive relations, and continuity in business.

#### The established phase of a new firm

The business idea, goals and action model of a new firm often presuppose changes in the operational phase of business activities. According to the results, controlled changes had been made to business in firms which had passed the critical operational phase of business activities. The firms continuing in business often specialized in the operational phase of business, but the risks they ran were under control. The firms had "margin" to meet with unforeseen changes e.g. in the market situation, and they had been able to resist overestimating the demand. The innovation of a firm can be defined as a change in a product, in marketing, or in the system or organization which develops the performance of the firm. Innovative firms often have success and growth. With active firms the control of customers was often based on key customers, and the innovativeness of the firms on careful product

development in the starting phase of business.

FIRMS CONTINUING IN BUSINESS	FIRMS CLOSING DOWN AFTER THE CRITICAL OPERATIONAL PHASE
<b>THE BIRTH AND STARTUP PHASE OF A FIRM</b>	
<ul style="list-style-type: none"> <li>*Internal motives and opportunities for entrepreneurship</li> <li>*Establishing a successful venture</li> <li>*The founding structure of establishing processes balance</li> <li>*Opportunity of the market situation</li> </ul>	<ul style="list-style-type: none"> <li>*Strong external motives</li> <li>*Establishing processes well conducted</li> <li>*The founding structure is finished</li> <li>*Having process in balance</li> <li>*Opportunity of the market situation</li> </ul>
<b>THE CRITICAL OPERATIONAL PHASE OF A FIRM</b>	
<ul style="list-style-type: none"> <li>*Probability good during the first year</li> <li>*High growth together with controlled growth</li> <li>*Critical period development</li> <li>*Development investments</li> <li>*Change in the market under control</li> <li>*Balance in management sufficient income financing</li> </ul>	<ul style="list-style-type: none"> <li>*Probability realized during the first year</li> <li>*High growth together with change in business</li> <li>*Overcapitalization</li> <li>*High growth in the first year but not in the second year</li> <li>*Strong dependence on the market users</li> <li>*Insufficient high resolution to income financing</li> </ul>
<b>ENTREPRENEUR</b>	
<ul style="list-style-type: none"> <li>*The entrepreneur's background, education and work experience have a connection with the success of the firm</li> <li>*High achievement</li> <li>*Group management - the firm's stakeholders</li> </ul>	<ul style="list-style-type: none"> <li>*High achievement without group management</li> <li>*Overcapitalization - the firm does not compensate the entrepreneur's dependence</li> </ul>

FIGURE 4 New firms in the established phase (from fourth to six years)

The results concerning the influence of the entrepreneur's professional education and his work experience and experience as an entrepreneur on continuity in business were divergent when compared with the results concerning the critical operational phase. The entrepreneur's education and work experience no longer had a direct connection with the success of his firm when firms which had passed the critical operational phase were looked at, whereas the management style of the firms, on other hand, had a clear connection with continuity in business. On the basis of the results it could be observed that most of all the internal networks of firms bring competitive advantage, innovation and efficiency to these firms' operation. Group management was emphasized in firms which continued in business. In a typical family firm, ownership, management and family are combined into one entity. In other group management firms the firm's stakeholders participate in the firm's strategic management.

When aiming at growth, a new firm has to re-estimate the grounds of its action, since the requirements of business activities grow. In the firms which closed down there had been in the critical operational phase especially heavy emphasis on product development, and the market area had been strongly expanded. The firms had made a lot of changes in their operations, and so uncontrolled risks had led to business failure. After a successful start-up between the fourth and sixth years of operation, the firm at first grew rapidly on the basis of its business idea, but the rate of growth was too hard both for the financing of the firm and for its management. The goals for growth were too demanding in the firms which had closed down in view of the resources of the firms and the entrepreneurs (figure 4).

According to the results, the entrepreneur's external control (powerful others) had clearly decreased in the fourth follow-up phase compared with start-up phase of the firm. On the other

hand, the entrepreneur clearly emphasized solving problems (mastery) more than in the start-up phase.

## CONCLUSIONS

In this study we clarified the success of new firms in three different development phases, i.e. the birth of a firm, the critical operational phase, and the established phase of business activities. The subjects of the study were 200 metal-industry and business-service firms established in 1990, and the data was collected through interviews with business managers. The study is by nature a follow-up study based on interviews with business managers, where in addition to the basic data, four sets of follow-up data were also collected during the years 1993-96. According to the results, a strong work ethic was connected, through the systematic character of the process of establishing the firm, with the closing-down of the business. The result is contrary to McClelland's (1961) theory, and supports Khan's (1986) critique of this. A strong work ethic may lower the threshold relative to the start-up of a firm, but does not guarantee the preconditions for action if there are shortcomings in the entrepreneur's competence. The dimensions describing the locus of control did not directly explain continuity in business but, through the entrepreneur's training, were connected with this continuity.

According to the frame of reference of contingency theory, the factors connected with the establishment situation of the firm and with the personality of entrepreneurs together explain continuity in business in the firm's critical operational phase. The importance of earlier work experience was clearly seen in the characteristics of the products. Family entrepreneurs who had experience in many fields and products which differed from those of the competitors usually continued their activities after the starting phase. Professional education explained continuity in business. On the basis of the framework of contingency theory, the personality characteristics required for entrepreneurship are tied with the environment of the firm. The empirical results of this study support the contingency-theoretical view that entrepreneurship involves moulding the characteristics of the entrepreneur's personality. In the phase of established activities, the entrepreneurs emphasized problem-solving noticeably more than they had done in the firm's start-up phase. On the other hand, the external control orientation (powerful others) had clearly been reduced from the establishment phase of the firm. The emphasis on the entrepreneur's ability to solve problems, and the decrease of external control can, according to Rotter's (1966) theory, be interpreted as meaning that the experience of entrepreneurs had developed along with their entrepreneurship.

Small firms have many kinds of relationships with their environment. No connections in the degree of co-operation between firms and entrepreneurs' other interrelationships, with whether the firms stayed in business could be seen in the critical operational phase. When variables describing interrelationships were introduced into the models explaining continuity in business, the models became significantly weaker. The results can be interpreted as showing that interrelationships do not increase the opportunities of entrepreneurs to continue in business if there are gaps in the competence of the entrepreneur. Another interpretation was that the gaps in the entrepreneur's competence may be reflected as exploitation of interrelationships in business activities. The results rather supported the view that the network theory of connections was of restricted importance in explaining continuity in business (Curran etc. 1993). The results of the influence of the entrepreneur's professional education, and work experience and experience as an entrepreneur on continuity in business were divergent from

the results concerning the critical operational phase of business. The entrepreneur's education and work experience were no longer directly connected with the success of firms when firms which had passed the critical operational phase were looked at; whereas the management style of firms had a clear connection with their continuity in business.

On the basis of the results it was observed that in the first place, the firms' internal networks bring competitive advantage, innovation and efficiency to the action of the firm. Group management was emphasized in the firms which continued in business. In a typical family firm ownership, management and family are combined as one entity (see. Hoy and Verser 1994). In other group-managerial firms the stakeholders participate in their strategic management. The results of this study on the whole can be connected in different phases of business with the results of Argenti's (1976) study. A firm has been established based on unrealistic expectations, and its performance does not during its whole active period get a better mark than weak. The gaps in the entrepreneur's competence were emphasized in failed firms. A firm which after a successful start-up has failed in the establishing phase of business at first, grows rapidly in the operational phase thanks to its product idea, but the rate of growth is too fast both for the financing and the management of the firm. Financial parameters at first give messages of favorable development, but after the turning point they fall, and the firm goes into liquidation.

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