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FACTORS OF SUCCESS AND WEAKNESS AFFECTING SMALL AND MEDUIM-SIZE MANUFACTURING BUSINESSES IN QUEBEC' PARTICULARLY THOSE BUSINESSES USING ADVANCED PRODUCTION TECHNIQUES

by

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Faculte d'Administration
University of Sherbrooke
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1 - INTRODUCTION.

In our age of giant corporations, national corporations whose production and distribution networks cover the whole country, to say nothing of the multi-national corporations with dozens of foreign subsidiaries whose assets and turnover are reckoned in billions of dollars, the small and medium-size businesses (SMB), many of whom have a turnover which scarcely reaches into the hundreds of thousands of dollars, certainly appear to be poor relations, if not negligible quantities. The disparity is even more striking when the comparison is extended to production techniques and, above all, administration. On the one hand, we find the large corporations which usually do a great deal of research, use advanced production techniques, are to the fore in matters of planning, organisation, control - in a word "management"; on the other hand, a number of small businesses which make very little use of modern management techniques. Under these conditions, it is evident that the major part of organisational theory and, in a general way, of what has been written about organisation, has been devoted to the study of large modern businesses. This does not mean, however, that small businesses have been neglected. On the contrary, a vast "literature" dealing with various aspects of the S.M.B. exists, but the great majority of these studies are of

an essentially practical nature and relate more to case history than organisational theory.

It is tempting to conclude from the above that the S.M.B. are of only marginal economic importance in an industrial nation as advanced as Canada, but this is not so. Statistics show that in 1970, in the manufacturing sector, businesses with less than 100 employees, that is, small businesses, represented 89.7% of the total number of businesses in Canada, and employed 31.5% of the total Canadian labour force (1). Their importance is slightly more marked in Quebec, but hardly so, which may moreover be surprising; thus, still in 1970, and for the manufacturing sector alone, businesses of less than 100 people represented 90% of the total number of establishments, and 33.7% of employment in the Province of Quebec. If a less restrictive definition of small and medium-size businesses (S.M.B.) is adopted, that is, if we include businesses with up to 200 employees and omit the craft businesses with less than five emloyees, whose economic importance is marginal, we can say that the S.M.B.

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(1) Statistics Canada: Annual Census of Manufactures, 1970, Preliminary Bulletin. Size of Establishments.

of Quebec embraced, in 1970, 64.5% of all the establishments in the province, employed 49.6% of all production workers, and accounted for 41.3% of the values of all deliveries (sales) and 39.4% of the added value (APPENDIX 1). Their economic importance is thus far from negligible and it is easy to understand the importance that the Canadian government attaches to them.

From another point of view, the S.M.B. are in much more danger of disappearing than are the large businesses. Thus, in July 1973, about 1,000 new businesses were registered in Quebec, for the most part small businesses; during the same month, 100 bankruptcy cases came before the courts, and the majority of these bankruptcies related to small businesses. According to Professor Henry Tutsch, of McGill University in Montreal, at least one business in seven goes bankrupt in the first three years of its existence (1); this report applies principally to small and medium-size businesses. Given the numerical and economic importance of the S.M.B., it is important to realize the losses caused for Quebec by such a mortality rate, losses amounting to hundreds of millions of dollars every year.

(1) Reported by Dave Chenoweth: "Students help salvage floundering small firms", The Gazette, p.19, August 31, 1973.

To avoid such a waste of resources, it would be fundamental to determine the factors affecting the success and failure of the S.M.B. and thus to be able to predict the chances of success for a business. Similarly, it would be possible to determine the weak points of a business, that is to say, the factors which could cause it difficulties and, in extreme cases, bring about its bankruptcy. Once these weak points are brought to light, it would be possible to eliminate them, and set the business back on its feet. This is the long-term objective of the report we have undertaken; our present objective is, however, much more modest.

II.- OBJECTIVES AND BASIS OF THE STUDY.

The immediate aim of this study is to determine the principal factors which seem to play a role in the success of certain S.M.B. The weaknesses of these same S.M.B. will be only treated indirectly, in the sense that we will consider as weaknesses the absence of success factors in a given business. A number of studies exist, which have attempted to determine directly the principal causes of bankruptcies, principally those occurring in small businesses, and thence to predict the probabilities of failure for a given business. Our study will adopt a radically different approach, since it will be based principally on the factors of success and not on the causes of failure. Again, we will

limit our research to a very particular group of S.M.B.: those which, in the manufacturing sector alone, use advanced production techniques. We will define a little later what must be understood by this and we will indicate the criteria which have lead us to choose the eight industries to which our study relates.

A secondary aim of our study is to provide data on the principal federal programmes of aid to small businesses and on their distribution among the firms of the eight industries that we are studying. Most of the businesses studied have only recently learned of these programmes, and it is thus not possible to determine precisely the influence of federal aid on the success of these businesses. It is, however, interesting to compare the distribution of this aid by industry, characteristics of the business, etc... Finally, this study is divided into three main parts: in the first (Chap. III), we will describe the methodology, that is, we will define the population studied, the sample used, and we will talk about the methods of analysis used. In the second part (Chap. IV), we will discuss in detail the variables. Last, in the third part (Chap. V), we will present the results of our analysis. We will close with a brief conclusion resuming the essential facts of this research.

III - METHODOLOGY.

- this part may be divided into three sections:

1) Definition of the population.

2) Methods used to collect the information.

3) Methods used to analyse the data collected.

1) Definition of the population:

In this section we will deal with two problems: first to define what we mean by a small or medium-sized business (S.M.B.) and then what we consider to be businesses using advanced production techniques. The combination of these two criteria will permit us to determine with precision the population that we wish to study.

a) Definition of small and medium-sized businesses:

Several definitions of these businesses exist; some are based on the external and physical characteristics of the business, such as the amount of turnover or assets for a reference year, the number of employees, etc...; others are based on internal characteristics, such as structure, or management philosophy. Because at the beginning we have no indication of the businesses to be studied and we wish to cover as many businesses as possible, we cannot use a definition based on internal criteria. Finally, our

choice of a definition has been determined by practical considerations; in effect, the only statistical indications available for businesses operating in Quebec are those which relate to the number of employees. Thus, we have chosen this criterion and have defined the S.M.B. as being those businesses with between 10 and 250 employees. We have eliminated businesses with less than 10 employees because this category consists of skilled trades and craft businesses whose economic importance is negligible (in 1970, these establishments contributed only about 3% of all business sales in Quebec, 2.6% of added value). The upper limit is more disputable, and several authors consider that businesses with 250 employees and an annual turnover of several million dollars are by no means small, or even medium-sized businesses. However, a report of the O.E.C.D. on "The Problems and Policies relating to Small and Medium-Sized Businesses" (1) underlines that in certain countries the upper limit on this class of business is quite high; thus, in Japan (300 employees), in Great Britain and the United States (500 employees).

(1) O.E.C.D.: Problems and Policies relating to Small and Medium-Sized Businesses. pp 41 and 42Analytical Report established by the Industry Committee of the O.E.C.D., Paris, 1971.

b) Determination of businesses and industries using advanced production techniques.

It soon became evident, always for reasons involving the availability of statistical data, that it would be impossible to make an a priori selection of businesses with advanced technology which alone interested us; in fact, the only statistical information that it was possible to obtain concerning technical data related to entire industries. It was then decided to choose advanced technology industries and to consider all the businesses which comprised it as using advanced technology. We will see from a study of the results that the data of the enquiry seem to confirm this hypothesis: in fact, the great majority of the businesses constituting the sub-sample from which we have extrapolated most of the results, consider themselves "technological" businesses. Moreover, there seems to be a strong relationship between the degree of technology in the industry and the degree of technology of the businesses of this industry which our sub-sample embraces.

Statistics Canada, in its Annual Census of Manufactures, as well as in several other publications, divides the manufacturing sector into twenty industries. We have thus based our choice of industries on this description.

It remains to define an industry (or business) that is "technological" or "uses advanced production techniques". It is obviously not a question of determining, for each industrial group, the type of techniques it really uses, and of deciding whether these techniques are advanced or not. We have thus used the criterion which seemed to be most reasonable to give us a good idea of the degree to which the industry took advantage of technology, to know the research criterion. In fact, we were only following the example of many authors.

To judge whether an industry was "technological", we have used three criteria relating to research, to know:

1) the amount spent on research(R and D) for every $100 of sales. This sum includes both "intra-mural" expenses, i.e., expenses made within the firm, and extra-mural ones.It also includes simultaneously current expenses and capital expenditure.
2) The number of employees engaged in research, for 1,000 employees.
3) The number of scientific and technical personnel engaged in reearch, for 1,000 employees.

For each one of the criteria, we have determined the mean for all the manufacturing industries (APP. II)

and we have chosen the industries above this mean for at least 1 of the 3 criteria used, the first criterion being, however, considered the most important. The statistics were obtained from the Statistics Canada publication entitled: "Industrial Research and Development Expenditure in Canada, 1967" (1), and are reproduced in APPENDIX II. Finally, we have chosen 8 industries which we will consider in future as technological industries; these are:

a) the rubber industry,
b) the non-ferrous metal industry,
c) the non-electric machine industry,
d) the airplane and parts industry,
e) the electric appliance industry,
f) the petroleum and coal industry ,
g) the pharmaceutical products industry,
h) the industry for other chemical products.

With the exception of the petroleum industry, all these industries showed a higher total research expenditure (per $100 of sales) than the mean for the manufacturing industries; this factor is considered to be of the first importance. As for the petroleum industry, it exceeded the mean in

(1) Statistics Canada: Industrial Research and Development Expenditures in Canada, 1967. Ottawa, February, 1970.

the number of scientific and technical personnel, which also indicates a certain effort made in research. Another industrial group could have been included in our population, since it lay above the mean for one of the three criteria: we refer to "Other manufacturing industries". However, this category does not correspond precisely to any one industry but embraces various sectors that it has not been possible to attach to other industrial groups: it was such a heterogeneous group, that we preferred to eliminate it.

The use of these criteria as a basis for the selection of "technological" industries in Quebec calls for caution, since the figures obtained are valid for the totality of all the businesses in Canada. The objection could then be made that the intensity of research, that is, the percentage of sales devoted to research expenditure, may vary within the same industry, first by provinces, and then according to the size of the businesses. On the first point, it is unlikely that there would be important variations from one province to another. The second point is more important, since the large businesses have the highest research budgets in terms of absolute value; thus the figures obtained for each industry reflect above all the research expenditures of the large businesses. Thus, it is possible that the intensity of research for the S.M.B. differs from that of the large businesses. In this case, a different selection of industries

would have been made if it had been possible to use data relating solely to businesses with less than 250 employees. Unfortunately, no sufficiently detailed statistics exist by industry and by size of business to test this hypothesis. However, it is unlikely that the research intensity for small businesses is radically different from the mean intensity for all businesses. We have thus ground for believing that our selection criterion is valid, especially as the eight industries chosen appear to do notably more research than the other industries. We note in passing that the research effort of the S.M.B., whether measured by dollars of intramural expenditure for each $100 of the business' sales, or by class of employees, is notably higher than that of the large businesses.

Finally, the criteria proposed allow for a precise definition of the population which will be the object of the present study.

From the information obtained from sections of the Manufacturing Statistics, published for each industry by the Ministry of Industry and Commerce of the Province of Quebec, it has been possible to evaluate our total population of S.M.B. manufacturers using advanced production techniques from 410 businesses, of which the distribution by industries is given in APPENDIX III.

2) Methods used to collect the information:

a) The almost total absence of published statistics on the S.M.B. has been a decisive constraint in the method used to collect the basic data on the population that we wish to study. As aresult of this deficiency, we had to decide to collect the statistics ourselves. In these circumstances, the most practical and least onerous method was a questionnaire. We thus sent questionnaires to the 410 businesses which made up our population. Thanks to this method, we were able to reach a considerable number of businesses, and at a reasonable cost; on the other hand, this method presents some inconveniences: first, the impossibility of controlling the return rate of the completed questionnaires; next, the fact that several of the questionnaires returned had gaps in them, since the businesses had not replied to all the questions; and also, the possibility of a wrong interpretation of questions; and finally and above all, the rigidity of the questionnaire, which did not take into account the particular conditions of each industry and even less those of each business. Some of these inconveniences caused problems when we came to analyse the reults.

To limit the inconveniences as much as possible we decided to interview, as soon as the basic information had been obtained by an analysis of the questionnaires, a number of selected businesses. We thus had about forty direct interviews with managers of S.M.B., as well as a considerable number of telephone interviews on precise points. These interviews had a threefold purpose: first, to complete the information left blank in the questionnaires, particularly in the field of financial data; next, to obtain a sample whose composition by industry was an appreciable reflection of that of the population - we accordingly oriented the interviews towards those sectors which had been relatively less replied to in the questionnaires - and finally, we tried to establish a direct contact with the businesses and their problems. In this way, we were able to eliminate a part of the inflexibility and impersonality inherent in the questionnaire method. It was possible here to take account of the particular conditions of each industry and to collect the comments of several managers.

b) After the questionnaires had been sent, and followed up by two mailed reminders and a certain number of telephone calls, we obtained 178 completed and usable questionnaires. Of the 178 businesses replying,

7 did not identify their industry or themselves; thus, for practical purposes our sample consists of 171 businesses whose distribution by industry is given in APPENDIX III. This sample covers 42% of the population, which is very good. On the other hand, its composition does not differ greatly from that of the population. Column (7) of APPENDIX III gives the ratio of the percentage of each industry in relation to the total, on the one hand for the sample, and on the other for the population. Ideally, this ratio should be 1: this would give the same composition for the sample and for the population. The table shows that the petrol and coal industry is clearly over-represented in the sample, while the rubber and other chemical products industries are rathermore under-represented. However, in these last two cases, the divergence with the composition of the population is not excessive. Finally, the sample is representative enough of the population, at least as far as its composition by industry is concerned.

c) We have indicated above that a considerable number of the businesses did not answer all the questions on the questionnaire, particularly in those parts dealing with financial questions. This caused serious problems of analysis. Thus, only 77 businesses

provided enough data about their turnover to allow calculation of the long-term growth rate of their sales, which rate is the principal criterion we have used to measure success. In consequence, much of the following analysis is based on a sub-sample representing only 19% of the population. However, this percentage is sufficient, as long as the sub-sample is representative of the population.

d) In fact, the sub-sample used often comprises less than 77 businesses, because as methods of analysis, we have sometimes used double-entry tables, and sometimes multiple regressions. Most of the problems have occurred with the latter method, since the regression equations sometimes included about ten independent variables, as well as the dependent variable (long-term growth-rate of sales). Then, if 77 businesses have provided enough data to establish the dependent variable, they have not, however, always replied to all the questions from which we have calculated the independent variables. Finally, the multiple regressions have been used with a sub-sample of 50 businesses, representing only 12% of the population. This percentage is a little low, but it is still enough. On the other hand, APPENDIX III shows that the distribution of businesses by industries in this sub-sample does

not differ noticeably from that of the population. Only the "Other chemical products" industry is under-represented.

As far as the double-entry tables are concerned, they relate to sub-samples of 50 to 77 businesses, depending on the questions analysed.

Finally, there is no reason to suppose that our sub-samples are biased or non-representative.

3) Methods used to analyse the data collected:

To study the success factors of the S.M.B. and to establish the questionnaire, we set up a model, on which we will speak in more detail in the next chapter, a model incorporating both qualitative and quantitative elements. To take both these elements into account at the same time, we decided to use two methods of analysis:

a) an analysis made with the help of double-entry table which takes all the elements into account, to use all the information. This table should permit a study of the relationships between all the different variables, taken two at a time. From the fact that we listed about forty factors affecting the success of a business, the possible number of combimations of all these variables taken two at a time was quite fantastic. To reduce the

analysis to more reasonable dimensions, one of the two entries has been, for the most part, the dependent variable (i.e. long-term growth-rate) which we have applied to each of the independent variables; further, some of the tables show the relationship between two independent variables, when these relationships seem to be particularly important.

b) Independant of this first approach, we had to use asecond method of analysis based on multiple regressions relating to a number of quantifiable variables, judged to be the most important. We thus hoped to confirm the principal results previously obtained. Unfortunately, various difficulties have made the complete presentation of this model based on multiple regressions impossible at the present moment. We will thus only use scattered elements of this method, in combination with the one discussed above.

Finally, we will mostly use the double-entry table method.

IV - THE MODEL: STUDY OF THE DIFFERENT VARIABLES

The basic idea of this model is that the success of a business is not the result of chance, but of the action of a certain number of factors which can be isolated and thrown into relief. We wish to add straightway that some of these factors are of a mainly qualitative kind.

If this model proves to be accurate, it should be possible to determine, at the time a business is set up, if the principle factors for success are present or not, and then, finally, to foresee its success or failure. The second postulate of this model is that a limited number of factors exist for success which are the same for all businesses, no matter what they be or to what industry they belong. Beyond these general success factors, there are obviously specific factors for this industry, for that type of business, etc,... Within the limited framework of this study, there can be no question of trying to determine the relative importance of each category of factors. All that we can hope to do is to classify all the factors in one category or the other. We should note, however, that to be absolutey sure that general factors for success exist, it would be necessary to make comparisons with the S.M.B. in other industries, in other provinces of Canada, and in other countries. Such an in-depth study does not fall into the framework of the present study. The many studies which have been devoted elsewhere to the S.M.B. allow us to think, however, that a priori this hypothesis is reasonable and that it is thus possible to aggregate the results obtained for all the businesses in our sample, businesses which belong to eight different industries.

Although we do not intend to demonstrate our analysis based on multiple regression at this stage, it is useful, for purposes of explanation, to think of our model in terms of a dependent variable (the success of an S.M.B.) and a certain number of explicative or independent variables. We should note in passing that the multiple regression model supposes the existence of a linear relationship between the dependent variable and the explicative variables. Now some indications lead us to suppose the existence of more complex relationships between these variables.

To return to our present model, we will describe successively the dependent variable, and then the various explicative variables retained.

A) <u>The dependent variable: the idea of success of a small business</u>:

Few ideas in economy or in administration are as ambiguous as the idea of success. Without going so far as to say that each researcher has his own definition, we must recognize that very many criteria for success have been proposed, some qualitative, some quantitative. Without wishing to push this question too far, it seems to us to be indispensable that four aspects of the idea of success be examined: first, the question of the dimensions

of success, then the idea of time, next the question of whether the success is static or dynamic, and last the idea of an absolute or a relative level.

a) The study of the criteria for success can be approached in two ways. It could first be reckoned that success has several independent dimensions and can only be defined in terms of several distinct factors: thus apart from the traditional quantitative criteria such as profitability or growth, one can add qualitative factors (such as reputation) which have hardly been mentioned up to this point. In this case, the appropriate method of analysis would be a multi-dimensional analysis.

The other approach would consist of admitting that a single factor can be found to reflect the influence of all the many factors which define success. Thus, one may reckon that, whatever the basic factors are, they will combine, if present, to allow the business to make higher profits. Consequently, a variable such as return on investments will finally gather together all the effects of the different basic factors. In other words, success can be expressed in terms of one dimension. We will use this latter approach in the present study, despite the promise shown by the former.

b) The second problem to be resolved is that of time: success, yes, but at what moment or during what period of time? From the fact that the economy of the country passes through a succession of periods of prosperity and depression, it is highly likely that the profitability of the business, or any other quantitative criteria of success, will move through highs and lows. To eliminate these temporary fluctuations, a certain perspective must be achieved, or, if you prefer, the success must be measured over a sufficiently long period for the long-term tendency to emerge from the short-term variations, and it is this tendency that we will try to measure. Most authors have indicated that it is necessary to cover a period of at least five years to reveal this tendency; we have decided to take a period of ten years, which will be that stretching from 1961 to 1971.

c) The question of whether the success is static or dynamic follows from this idea of time. Is the success a state or a process? Is it enough, to reckon that a business has been successful, that at a given moment it achieves a certain level of profitability, that it occupies a certain share of the market or even that it is above the mean for other businesses? That would be the static view of success. On the other hand, must there be a

certain evolution over a given period for success to be established? In this case, success would be a dynamic process. We have just indicated that we will examine the evolution of certain variables over a period of ten years, and are thereby adopting a dynamic view of success.

d) A last point to consider: is success measured in terms of an absolute, or a relative, level? For example, if we consider that success is measured by the profit-sales ratio, can we say that a business is successful if it reaches a certain percentage, such as 10%, 15% or 20%, or shall we consider that it has succeeded if it has out-performed its competitors, for example 50% or 75% of the businesses in the same industry? If we follow most authors, it seems that success is relative, that is, it can only be properly defined in relation to others.

Many specific criteria for success have been proposed; for some, the age of a business is already one. It is on this basis that authors like Lawrence Steinmetz (1) show that about 50% of those who launch a small business lose lose their money as a result of the bankruptcy of their business. The simple fact of survival in this

(1) Lawrence Steinmetz: Critical Stages of Small Business Growth. Business Horizon, February 1969, pp. 29-36.

hecatomb would be a sign of success. In fact, almost all the businesses created are small businesses; if they survive, they are induced to grow: thus, the combination of age and size would also be a good indicator of success. For others, however, success is above all a question of profitability and various financial ratios have been proposed as indicators of this profitability (after-tax profits as a percentage of sales, profits in relation to net value, etc...).

We agree with Lawrence Steinmetz in believing that the success of a business is above all a question of survival and growth. For Steinmetz, the S.M.B. category is very unstable; from the moment it is created, the business must struggle to survive, which induces it to develop progressively; if it does not grow, it is constantly threatened with disappearance. Those which succeed are thus going to grow, moving through a succession of stages which will make them pass progressively from being the very small business to the medium-sized business, and then to the large business. Steinmetz thinks that a small business passes through three stages before becoming a large business:

1) At Stage 1, the business has, at least in the United States, an average of 25 to 30 employees and assets of the order of $500,000 to $700,000.

2) If it succeeds in surviving the organizational problems of the first stage, it moves to category 2, where it has between 30 and 300 employees and assets of the order of $5 to $10 million.

3) If it is lucky and well-managed, its continued growth will move it into the third category. Here, it will have between 750 and 1,000 employees and assets varying from $25 to $30 million. If it continues to grow, it becomes a large business.

According to Steinmetz, this process is ineluctable, the business having no choice: it either grows or disappears. In some cases, it vegetates, but according to Steinmetz, this possibility has little chance of realisation; on this point, he writes: "At this stage, unfortunately, either the small businessman will succeed or he will fail. Statistics show that he cannot stagnate and stay small, nor can he even entertain the notion of hoping that his business will stabilize. He must press on or his business will die."(1) In fine,

(1) L. Steinmetz: op cit., p. 32.

success is survival, hence, growth. It is the criterion that we have adopted. A business is more successful than another if it grows faster. In practical terms, we have defined success, that is, our dependent variable, as being the business' long-term growth-rate, measured by the growth of its turnover between 1961 and 1971, i.e., over a period of ten years. Some businesses had not yet been created in 1961: for them, growth is the rate at which their sales increased from their inception until 1971.

We have also used another criterion of success : in certain regressions of which we will only speak briefly, we have chosen as the dependent variable the relationship of the business' turnover growth-rate to the growth rate of the industry to which it belongs, that growth also being measured from 1961 to 1971. This new dependent variable allows better account to be taken of differences which may exist between the eight industries chosen.

B) The explicative variables:

The various authors who have studied the problem of the success of the S.M.B. have presented a considerable number of factors which, according to them, can at least partially explain this success. The main fault of most of these studies is their lack of scientific rigour. The imperfections encountered in these works can be classified in three main categories:

a) Methodological weaknesses;

b) Lack of precision of the definitions and methods used to evaluate the explicative factors;

c) An insufficient and often biased sample.

The methods used often relate much more to the case method, that is, to description pure and simple, than to the scientific search for an explanation. It is rare to find, if not a model, then at least a theoretical scheme of explanation, verification of which is being attempted by real data. Otherwise, the explicative factors are often badly defined and the methods of measurement used only very vaguely indicated: this is the case, for example, of the factor "capacity for adapting to market changes" which recurs often but which is rarely defined in operational terms. Finally, because even of the method of observation used, the sample chosen is often weak and but lightly representative of the population.

As far as we are concerned, the multitude of factors which can have influence on the success of a business may be divided into three large categories:

1) The characteristic factors of the environment, that is, of the economic, socio-cultural and legal context of the market structure. Obviously, this context is a little different from one industry to another. On the other hand, it varies unceasingly and the business must attempt to adapt to it as well as possible. Because of its slight

importance, the S.M.B. cannot pretend to modify the context, and so can only adapt to it.

2) The characteristic factors of the business itself.

These factors are the results of the policies of the business, that is, of the way in which the management perceives the environment and attempts to adapt to it. If the management has little influence on the environment, it has, om the other hand, a great influence on the business, which it can modify at its wish. Obviously, some modifications, like, for example, a complete change in the range of products offered, can only be achieved over a considerable period of time. Since we are measuring the growth of the business over a period of ten years, these modifications will have had time ti take effect. The growth rate of the turnover is then, to a certain extent, the criterion of the skill of the managers of the business under consideration, of their ability to predict demand accurately and to adapt to it. One question occurs: does this skill depend on the tools used, modern management methods, or simply on the "flair" of the managers? In other words, is the growth-rate influenced by the techniques of management used, or do these techniques, on the other hand, achieve nothing but the addition of extra weight to the structure and a blurring of the view that the

managers must have of the market? We will attempt to answer this question.

3) The characteristic factors of the businessman.

A significant number of specialists believe that the deciding factor in the success of a small business is the businessman, his ability and his "flair". The definitions of the businessman differ a little, but generally this term is understood to mean the person who undertakes the risk of the operation, who is able to transform a theoretical idea into a product adapted to the needs of the market, who has enough perspicacity to sense what the consumers want. A distinction is generally drawn between the businessman and the manager, a simple organisational technocrat. Whatever he is, if there is any area where the businessman can influence the economy, it is the small business, Since the business is small, the businessman can control all the sectors directly, execute all his ideas without the distortion sometimes caused by different levels of command. Thus, claim the specialists, in the S.M.B. the qualities of the businessman have a direct influence on the results of the business, and if the manager is a good businessman, the business must succeed. If we extend this rationale a little, it

will be enough to determine the qualities that make for a good businessman, then to see if these qualities are in evidence in such-and-such a manager of an S.M.B., to foresee accurately enough the chances of success of the business. We will try our utmost to prove this hypothesis.

Finally, the model which we propose may be described thus: the success of a small business, measured by its long-term growth-rate, depends essentially on the prevailing conditions of the industry to which it belongs, principally the conditions of the demand for the products of the industry; on the characteristics of this business - physical characteristics, management methods used, policies followed and applied during the course of the ten years studied - and, finally, on the characteristics of the businessman who manages the business.

Let us now look in more detail into the individual factors making up each of these three categories. As we have indicated, a very great number of explicative factors have been proposed, and there can be no question of including all of them in our study, and so we have chosen those combine in the greatest unanimity. Some of the factors proposed were of a purely qualitative order, and not directly measurable, so we have tried to find

to find others to represent them or eliminated them.

DETAILED DESCRIPTION OF THE MODEL:

If, in theory, the three categories studied are clear and distinct, practice often proves otherwise. There are of necessity cross-references, since some factors belong to several categories; such is the case, for example, with the number of a business' customers, which can equally well be classified as a characteristic of the business or of the environment. In fact, this may relate to the consequences of the business' policies, which may seek to concentrate or to diversify its customers. It may equally be a consequence of the structure of the industry, whose clientèle is concentrated in the hands of a few large companies, or, on the other hand, spread out among many small businesses. The classification adopted is thus often somewhat arbitrary.

1) Characteristic factors of the environment:

Here, we are dealing with factors outside the business and over which it has practically no influence, but which play a large role in the success of the business. There are hundreds of external constraints which influence the growth of the business; however, we are only interested

in those which vary from one business or one industry to another and which thus allow us to explain the differences in growth established between the businesses. Thus, legal constaints certainly have an influence, but they are not the same for all S.M.B., and do not thus permit us to distinguish between successful businesses and others.

a) The industry and the demand for its products:

We have indicated above that our population is made up of the businesses of eight different industries. It is very likely that we will find different behaviour and different growth-rates for different industries. In fact, in the sense in which we use it, this term "industry" is a very broad one, and can be practically assimilated into that of the "environment"; what we mean is that in fact eight different environments exist, corresponding to each of the industries studied. In this broad sense, the word "industry" embraces the conditions of competition, demand, importance of the market, etc...specific to each industry, conditions which we will describe below in detail.

In this paragraph, we will use the word "industry" in a much narrower sense, as a synonym for the demand for the products of the industry. For some economists, demand is the essential factor in the success of a

business, that which explains by far the greates part of the variance of the dependent variable defined above. All other factors will be but secondary, and will only slightly reinforce or attenuate the influence of the demand. Taken to the extreme, this theory would show that the success of a business depends in no way on its efficiency, or on the quality of its managers. If it is lucky enough to be part of an industry in the process of full expansion and the demand for its products is very strong, it will experience a high growth-rate, even if its managers make mistakes, if production costs are high or if obsolete methods of management are used. Demand will be a sort of tidal-wave sweeping everything else away. In the contrary case, if demand falls drastically, the industry is in a depression (an example is the aeronautics industry in the United States), and even the best-run businesses will disappear or stagnate. Thus, it is the global demand for all the products of an industry, its general level and its fluctuations from one year to another, which would determine the growth-rate of a business. This theory is certainly a little exaggerated, in that most industries could not experience a sustained period of expansion, no more than that they could not be subjected to a perpetual depression without disappearing. Most industires are characterised by highs and lows, by variations, sometimes considerable ones. in demand. It is here that the other

factors should intervene: during a period of prosperity, the best-run businesses will be those with the highest rate of profit; in a period of recession, they will be best be able to absorb the drop in demand, which means that in the long term, they will show the best performance. This is true, but above all within a single industry; it is no less true that the difference between the growth rates of two businesses in different industries may be due in a very large part to the differences in demand for the two industries in question. The success of a business is thus linked, to a certain extent, to the success of the industry to which it belongs.

We have not introduced the demand for the products of each industry directly into our model; instead, we have used dummy variables in our multiple regressions, one for each of the industries studied. This dummy variable has a value of 1 when the business belongs to the industry that the variable represents, otherwise it has a value of 0.

We have not made demand explicit in our double-entry tables because we thought this factor sufficiently important to justify an industry by industry analysis, and that we should above all determine the influence of the other explicative variables for each industry. Unfortunately, as a consequence of the weak response from certain industries,

it was not possible to make this analysis by sector, except for one or two of them.

b) Number of customers:

Many studies insist on the importance of the number of customers. For example, the O.E.C.D. report quoted above, which presents a synthesis of several studies on the S.M.B. made in different countries, shows that, in many cases, the S.M.B. were successful because they specialised and produced specific products for one customer, products that it would not be profitable for this customer to make himself, given the low consumption he had of it. In the automobile industry, for example, several small manufacturers exist in the United States and Canada which produce very specialised parts for the big companies like General Motors and Ford.

To take this point further, we have attempted to discover if there is a relationship between the growth-rate and the number of customers. We have also tried to discover relationships exist between the dependent variable and, on the one hand, the percentage of a business' turnover attributable to its three principal customers, and on the other hand, the percentage of the turnover claimed by the principal customer. In other words, is the concentration of relations with a few customers (and hence, the specialization of the business) a factor for success?

Considered from this angle, the factor of the number of customers seems rather to belong to the following category, that of the characteristics of the business, that is, of the factors determined by the ploicy of the managers of the business. From another point of view, the concentration of customers factor is equally determined by the structure of the industry. If but few large businesses exist in these industries, the attachment of the S.M.B. to a few big customers will be less likely. This question of the structure of the industry and of its influence on growth has been studied with the problems of competition, which are problems of the environment. Because of the similarity of the two questions, we have included them both in the section on the environment.

c) Competition:

Most studies of this subject insist that that competition stimulates a business, forcing it to be constantly on its guard and to remain dynamic, which, in the long term, would bring beneficial effects. Thus, in those industries where competition is strongest, only the most dynamic and profitable businesses can survive: the others will be rapidly eliminated. As a result, businesses in industries where competition is strong will be generally more profitable than those in indutries where competition is weak. But too much competition can also force the members to lower their prices and compress their profit margins,

making them less profitable. By the same token, if the competition is very strong, the sales increase of each business will be fairly limited, unless the industry as a whole experiences a marked growth. The influence of competition on the growth-rate is thus not clear and simple. Let us note that competition can come from two sources: first, from businesses in the same country (that is, Quebec and, by extension, Canada), and then from foreign businesses. We will distinguish between these two sorts of competition.

A priori, we believe that competition profits the growth of businesses, that is, that there should be a positive relationship between these two factors.

In our study, we have not measured the intensity of competition directly, but, in the questionnaire, we have asked the respondents to evaluate this intensity. We will thus be comparing the managers' perception of the competition to the sales growth-rate. Obviously, we assume that these managers are able to make an accurate evaluation of the competition, and that their perception coincdes very nearly with reality.

d) Government aid:

For some years now, governments, provincial but principally federal, have initiated aid programmes to

businesses, particularly to small businesses. Some of these programmes are general, that is, they are applicable without distinction to all sorts of small businesses and finance the general needs of the businesses. Others are more specific, like programmes for research assistance, not aimed specially at small businesses, but of which some small businesses can avail themselves because of their technological nature. Nevertheless, we can expect that these programmes, by helping small businesses, contribute at least in some measure to the growth of a business. However, we should note that some of these programmes are very recent and most of the businesses in our sample have only benefited from them for two or three years at the most. Consequently, it is premature to evaluate the influence of these programmes on the growth of the beneficiaries. We have therefore decided not to take this factor into account in our model. On the other hand, we will devote a section in the analysis of the results to the study of these programmes and their beneficiaries.

These are the environment factors that we have used in our model. Others certainly exist, but we believe we have covered the most important ones.

2) Characteristic factors of the business:

These factors can be divided into two main

groups; first, those that can be called physical variables, which describe the business at a given moment: its age and size, for example. Then there are the variables representing the "management philosophy", which express the guiding principles used to approach the business' problems: the methods of planning, general policy on the range of products manufactured, research policy, export policy,etc...

A) The physical variables:

a) The age of the business:

It may seem strange to include a factor so static, so passive as age, as a criterion of success. Yet many authors have done so, and apparently, with good results. Age is a variable incorporating the effects of many others. Notably, there is arelationship between the age and the size of a business, the younger businesses being generally the small ones. But, and this is most important, we have seen that the simple fact of survival, of being able to accumulate years, is already a sign of success. It is during its first years that a business is most threatened with bankruptcy; those which manage to develop sufficiently to round this difficult cape will have the best chances of survival and success. In this case, the relationship operates in two ways: first, the growth-rate explains the age, but, equally, the age explains the growth-rate, in the sense

that a young, small and dynamic business will grow quickly, while an older, generally larger business will increase its turnover more slowly. There is thus an inverse relationship between age and growth.

b) The size of the business:

We have already mentioned Steinmetz' theory on the growth of small businesses and the relationship between this growth and size. We return to it only to show that, even if Steinmetz predicts three phases of growth, the first being characterised by a fairly slow start, the second by accelerated growth and the third by a more regular and moderate rate of increase, these three phases can be reduced to two, and a negative relationship between size and growth foreseen.

In practice, size may be measured in several ways: by the amount of sales, or of the assets, or by the number of employees. For statistical reasons, we will use the criterion of the number of employees. It remains to decide what year to choose as a reference to measure the size of the business. It is obvious that the only really valid year is that from which the growth-rate is to be calculated: in our case, 1961. If the most recent data are used, we would be measuring, not the influence of the size

on the growth-rate, but rather that of the growth-rate on the size of the business.

c) Subsidiary or independent business:

We are not here dealing, strictly speaking, with a physical characteristic of the business, but with a situation over which it has no control. That is why we discuss it here. The existence in Quebec of a considerable number of subsidiaries of foreign (or even Canadian) firms poses a number of thorny problems. First of all, one may wonder if small business is a proper description for the subsidiary of a multinational corporation whose assets and turnover reach into the billions of dollars, and this even if the subsidiary itself is small. The subsidiary does in fact have access to all the administrative expertise of the parent company, to the results of its research, the benefits of its credit,etc... In this way it enjoys incontestable advantages over the independent business. Further, can the manager of a subsidiary reaaly be described as a businessman? Is he not rather a senior employee who merely executes decisions made by the parent company?

On the other hand, should the subsidiaries be completely eliminated from our sample? That would be equivalent to eliminating 30 to 40% of the businesses consulted which respond to the criteria that we have set up for the S.M.B. To what extent would this new sub-sample

be representative of the population? Moreover, alongside the subsidiaries of the multinational parent companies, there are many subsidiaries of medium-sized businesses which enjoy considerable independence and which in many ways to independent businesses.

The ideal would be to make two models, one with the subsidiaries, the other with the independent businesses, but that would reduce the size of the sample, and, for lack of time, we have not been able to do it. In the final analysis, we have judged it preferable to include the subsidiaries in our sample and attempt to determine their impact. Do the subsidiaries meet with more success than the independent businesses? We will try to decide.

B) Management philosophy and the policies which result from it:

a) General management and planning:

It is generally admitted that the greatest weakness of the S.M.B. lies in the area of general management, and more particularly, in that of planning. As Steinmetz explains so well, at the beginning, the businessman-proprietor is at the head of the business and must play the part of the leader, not because he possesses the qualities

which fit him for this role, but because he is the owner. He is a man who has an idea or a product which he believes to be important, who has but little knowledge of administration and who deliberately pushes aside all problems of this sort in order to concentrate on production and sales; as Steinmetz puts it: (he) " experiences no real management problems other than buying low and selling high" (1). But as his business grows, the administrative problems take on ever greater importance: the organisation becomes too big for him to control himself.He must learn to delegate his authority and lead from behind,"to fly on instruments and not on sight". He must learn to use ever more complicated and indirect methods of management. He can no longer give orders directly to everybody, but must delegate part of his authority. For the business to function, and for him to keep control of it, he must fix objectives, plan, and control the results. We will return in more detail to the problems of delegation in the 3rd section which deals with the Characteristic factors of the businessman. For the moment we will treat other factors.

The first point is to set the objectives of the business, to show the direction which the whole organisation must follow. According to many studies, most S.M.B.

(1) L. Steinmetz, ibid. p. 31.

do not set precise written objectives. However, one may wonder if the existence of such objectives has a significant influence on the development of the business, that is, on its growth-rate. We will attempt to verify this.

Once the overall objectives are set, they must be transformed into precise, concrete directives by the planning process, first for the long term, then for the short term. There again, the "literature" indicates that few S.M.B. have long-term plans, but the question is to discover if the existence of an elaborate planning mechanism is a factor of success. We will attempt to establish the usefulness of planning by relating the existence of short- and long-term plans in the three major functions of Finance, Marketing and Production, to the sales growth-rate.

Finally, a check must be made to discover if the results are faithful to the plans. We will return to the question of control in discussing finance ratios. On this topic, a knowledge of exact production costs is fundamental. It is in fact difficult to imagime that a business could have a coherent pricing policy and be able, in a general way, to make logical decisions about the development or withdrawl of its main products, and, more

generally, about its whole marketing policy, if it has only a vague idea of its production costs. There should be a fairly clear link between knowledge of costs and the business' development.

b) Production and Marketing Policy:

A similar controversy exists over marketing policy to that which divides experts on the concentration or diversification of clientèle. Some authors insist that it is by specialising, that is, by concemtrating its efforts on a limited number of products, that the small business maximises its chances of success. The main reason would be that the small business, because of its size, has only a small research budget. Technological research requires great effort to be profitable; thus, it is by concentrating its funds and efforts in a few well-defined directions that the S.M.B. has the greates chance of remaining in the forefront technically. Other authors insist that this policy is very dangerous because it does not sufficiently diversify the risks and because the life of the business is tied to the success of a very limited number of products. Nevertheless, it has been apparent to us that, in the domain of advanced techniques which characterises the industries selected, the discoveries are so numerous that the techniques evolve very quickly, and that a business cannot stay long in the forefront (and thus be successful) if it does not

frequently renew the range of its products, whether this range be concentrated or diversified. We have even wondered if a connection exists between the number of new products and the success of a business. Incidentally we wished to determine the relationship between the number of new products offered and the success rate of these products.

c) Research and Development Policy:

When one speaks of new products and of industry using advanced techniques, one is inevitably speaking of research. It has been abundantly shown, in the case of large businesses, that a close connection existed between sales development and research effort. On the other hand, we must remember that research effort does not pay immediately: several years may pass before the sums invested in research allow the creation of a commercially useful product. Moreover, the cost of research increases in a fantastic way, such that now, even the big American companies are beginning to limit their expenses in this area. One is drawn to the idea that, for a given business, a relationship exists between the research effort, and hence its cost, on the one hand, and the benefits it will produce, on the other. How does this apply to the small business? It is important to realise that many S.M.B. do not

perform basic research, but rather applied research, to develop or improve products. One must also remember that a great number of the S.M.B. in Quebec are subsidiaries of large foreign firms and benefit from this by enjoying the fruits of the paremt company's research. Thus, they do not need to do much research themselves to remain up-to-date. In this way, the existence of the subsidiaries slightly falsifies the relationship between sales growth and research. We will make an effort to separate these relationships a little.

d) Export Policy:

This policy can be considered part of marketing strategy, although most businesses make a clear separation between domestic sales and marketing and their international activities. It has often been repeated that, in many industries, the Canadian market and, even moreso, the Quebec market, have been insufficient to reach an optimum production volume, in terms of costs. Exportation allows an increase in the market size, and thus a reduction in costs. It is normal, consequently, to expect a positive relationship between success and export volume. We have not, however, extended the analysis of these relationships far. We have

contented ourselves with seeing if the businesses which exported have significantly higher growth-rates than the others and with determining the importance of the country of destination of these exports for the success of the business.

e) Financial Policy:

The financial results are, in one way, the business' pulse: they reveal whether it is febrile or limp. Every action taken by the business, in whatever area, will affect the profitability of the business, its liquidity, etc..., that is, it will be transformed, at a given moment, into a "financial symptom." Initially we have determined six financial ratios which should permit us to measure the ,ain aspects of the business' financial activity; these ratios were the "quick ratios" (depreciated current stock assets, divided by current liabilities), the debt - total assets ratio, the rate of rotation of stock, the rate of rotation of accounts receivable, the sales - total assets ratio, the net profit - sales ratio and last, the net profit - shareholders' holdings ratio. Many studies have shown that from the evolution of various financial ratios, it is possible to predict the likelihood of a business going into bankruptcy; inversely, they can be used to predict its success. To these six ratios should be added six dummy variables which are used to measure the

evolution of these ratios (growth or diminution). Unfortunately, too many businesses refused to answer the financial section of the questionnaire to allow us to institute a series of ratios which could be used in the analysis.

3) Characteristic factors of the businessman:

It may seem strange to add to the two preceeding categories factors describing the physical and intellectual characteristics of an individual. It is not possible to see how the age or the income of the father of the person described as the businessman can influence the growth-rate of the business. This influence is certainly not direct. The use of the characteristics of the businessman to predict the success of the business is based on two points:

a) It is a self-evident truth that some individuals are gifted for business, just as others are gifted for the Arts, that they have an inherent gift for administration, a gift which may nonetheless be developed. We know that some people succeed in all their commercial or industrial enterprises and that their chances of making a business prosper are greater than those of the average person - from this, we develop the idea of assembling

their principal characteristics and deciding which would be connected with their administrative ability. By extrapolation, it would be possible to foresee that a person possessing most of these characteristics has more chance of success in business than another.

b) In a small business, the manager can affect the activities of the business directly, because of its limited number of employees and its small size. The personality of the manager may thus exert a decisive influence, may determine the success or failure of the business.This section will then attempt a sort of mechanical portrait of the successful businessman, to determine his principal characteristics from the many studies devoted to the subject, and to submit this portrait to the test of reality. Taken alone, no one of the characteristics generally quoted is enough to ensure the success of the business; on the other hand, the ensemble of those most often found in successful businessmen should allow us to create a typical portrait of the man who has the best chance of leading a business to success. We will rapidly review these principal characteristics.

1) Age: in general, businessmen of middle age (35-55 years) are the most successful.

2) Ethnic origin and language: Many studies have shown that,

in general, French-Canadians do not seem to have the qualities necessary to create the good businessman, that they have less business sense than English Canadians. Other studies, particularly valid for Ontario, show that there is a strong representation of New Canadians among the businessman who have been reasonably successful in that province. From these studies, one might expect to find a high proportion of New Canadians among the businessmen managing the businesses with the strongest growth-rates. English Canadians, and then French Canadians, would follow in order of importance.

3) Level and areas of studies pursued: The level of education reached by the businessman is probably an important factor in the good management of the business under his control. The more advanced are the studies he has completed, the better able he will be to resolve the complex problems of the business world and the better will be his knowledge of administrative techniques, or his ability to acquire it rapidly. On this basis, university graduates, and particularly those from the administrative, scientific and technical diciplines, should have an advantage over those who have not been to university. Further, the scientific and technical nature of the industries studied should favour graduates from these last-mentioned disciplines.

4) The type of experience acquired by the businessman before he enters business should also be an important factor. Here again, experience in administration or in the fields of science and technology should be a valuable asset.

5) Some authors think that the social class from which the businessman comes should also play a role, since businessmen come mainly from the middle class, that is to say, the bourgeoisie. To determine this class, we asked the respondents to classify the income of their fathers as low, middle or considerable.

6) Some authors believe that appetite for work is a necessary condition of success. The number of hours devoted to the business would then become an indicator of the chances of success.

7) A taste for risk shown by the businessman is probably more important still. Various studies show that the man who succeeds is the one who knows how to take an average risk. The business world is an uncertain one, and the businessman must be ready to take risks, but calculated risks. To measure this taste for risks, we asked the repondents to imagine that they had just received an important sum which could not be invested in their business. We then offered 3 choices with very different risks: government bonds, perfectly secure; ordinairy shares of blue chip stocks; and ordinairy speculative shares, which would be high-risk.

Then we asked him to distribute his present wealth among these three possibilities, with each choice expressed as a percentage of the total sum invested. By weighting the secured bonds at 1, the blue chips at 2, the speculative shares at 3 and then multiplying the percentages attributed by the businessman to the three proposed categories by the corresponding weighting, then adding the figures obtained, an index varying between 1.00 and 3.00 is obtained, which can be used to measure the businessman's taste for risk.

8) A last factor which seemed important to us is the ability to delegate authority. As we have indicated, at the point when the business becomes a little important, the businessman can no longer see everything, or direct every operation, and he must delegate a part of his authority. Some are unable to do this. We believe that the chances of a business' success are higher if the businessman shares his responsabilities with others than if he takes all decisions upon himself alone.

Such are the characteristics we have chosen as a basis for evaluating the businessman. As for his personality, we must reemphasize the problem already raised in the first part, on the question of subsidiaries. To what extent can the manager of the subsidiary of a large business be compared to a businessman? This problem is certainly going to falsify the results somewhat. However, we must note that one of the conditions for the success of

a business is the progressive transformation of the owner-manager, from the businessman that he must be at the beginning, to administrator, which he must become when the business reaches a certain size. At this moment, there is hardly any difference between the administrator of an independent business and that of a subsidiary, as long as this latter enjoys a modicum of autonomy. This is not always the case, and so we cannot expect very clear results in this area.

All the variables described above have been incorporated into a series of questions which constitute the questionnaire we sent to all the businesses in our population, and which is reproduced in APPENDIX XVI.

V - ANALYSIS OF THE RESULTS:

This section is divided into three parts:

A) Analysis of the results with the help of double-entry tables.

B) Some comments on the multiple regression models which we tested.

C) Conclusion on the models used.

A) Analysis of the results with the help of double-entry tables.

In order not to overload the text, we have gathered all the tables in APPENDIX V.

1) The dependent variable: the long-term sales growth-rate:

We have defined above our criterion for success, that is, our dependent variable. This criterion is the mean annual growth-rate of the business' turnover for a period of 10 years, from 1961 to 1971; if the business was created after 1961, we have used the period extending from that of its creation to 1971. There is nonetheless a very small number of businesses born after 1961. We must make it clear that this annual mean rate is a synthetic one, obtained by determining the long-term sales tendency. From now on, when we talk of the growth-rate, this will indicate the mean annual rate. We received 78 replies with sufficient information to calculate this rate. The average annual growth-rate was 61.22%, with a standard deviation of 48.93, which indicates widely spread results. One business, in particular, stood out with a rate of 262%, considerably higher than its nearest competitor (182%). This in itself would increase the variation greatly, and we decided to eliminate it in order to have a more homogeneous sample. Moreover, this business failed to reply to most of the questions. The new sample of 77 businesses had an average growth-rate of 58.61% with a standard deviation of 43.45, which is still considerable. The individual rates vary from -18.6% (which corresponds to a drop in sales of 18.6% during the ten years

studied) to +182%. These growth-rates have been grouped into twenty categories of 10% each and constitute the histogramme of APPENDIX IV. We notice that, first, three businesses had a negative growth-rate. If the rectangles of the histogramme are replaced by a continuous curve, we see that the curve thus obtained is far from normal: there is a clear asymmetry between the sharp incline of the left-hand side and the gentle incline of the right-hand side. The mode, that is, the category which includes the greatest number of businesses, is in fact double: it includes the categories of 20-29% and 30-39%. More than a quarter (exactly 26%) of the businesses in the sample have a growth-rate falling between 20 and 49%. Those businesses whose growth averaged less than 20% during the period can be regarded as businesses having difficulty keeping up and not developing and, to a certain extent, as failing. Let us not forget, however, that the average growth-rate, calculated from the growth-rates of 77 businesses is about 59%, well above the mode. The rate which divides the sample into two equal parts, in terms of businesses, is probably more important than the average rate, which gives an exaggerated reflection of the extremes. This rate is 51%: this means that half the businesses experienced a growth-rate of less than 51%, the

other half, a higher one. According to our definition, all the latter should be considered as successful. The number of businesses achieving or surpassing 80% drops considerably: we can say that these are in the category of businesses with a very strong growth. Finally, three businesses had an exceptional growth, having achieved or surpassed 170%. To sum up, in the double-entry tables, we have grouped all the growth-rates into three categories, each with approximately the same number of businesses: the first contains 31 weak-growth businesses (rates varying from -18% to 40%); the second includes 28 medium-growth businesses (from 41% to 80%); the last, 17 strong-growth businesses (more than 80%).

2) Analysis of the explicative variables:

We have described earlier our methodology for the explicative variables used. It only remains to present the results compiled from the questionnaires filled in by the businesses. These results are presented in the form of double-entry tables, one of whose enties is generally the dependent variable, that is, the growth-rate.

a) Characteristic factors of the environment:

1) The factor of the industry and the global demand for its products.

As we explained above, we have not developed

this factor in the double-entry tables, but we will give details of its influence when dealing with the multiple regressions. For the moment, we shall be content to point out that global demand seems to pay a very important role in a business' success.

2) Number of customers:

We have indicated earlier that it might be in the interest of the S.M.B. to specialize in the production of merchandise destined for a resticted number of customers or to operate as a sub-contractor. The businesses in our sample do not seem to have followed this policy. In fact, of the 77 businesses which replied to this question (Table A-1), only 7 had less than 50 customers, among whom three had less than ten. In these conditions, it is difficult to draw conclusions about the influence of this factor on success. Going further, we attempted to determine the influence on success of, on the one hand, the percentage of the turnover attributable to the three principal customers of the business (Table A-2), and on the other hand, to the principal customer (Table A-3). In both cases, the relationship is generally negative, that is, it does not seem that the businesses with the strongest growth have concentrated their efforts on a few customers. Table A-2 shows that, in the case of relations with the three principal customers, the optimum seems to lie at a happy medium, at which the

business receives between 20 and 50% of its business from them. Table A-3 shows that less than half the sample receive less than 10% of their business from the principal customer and that 81% of the businesses receive less than 30% of their business from him. There is no significant difference from the point of view of growth beween those which focus on a single customer and those which prefer greater dispersion of their efforts, except that one notices a slightly higher proportion of weak-growth businesses among the latter. Again, the ideal solution for our businesses seems to be to avoid extremes, that is, to spread their efforts among too many customers or to depend excessively on a restricted number of users.

3) Competition:

Competition can come either from domestic (i.e., Canadian) businesses or from foreign ones. We have determined the influence of these two sorts of competition on the S.M.B. separately. Tables A-4 and A-5 deal with domestic competition. We should first note that 84% of the respondents (65 businesses out of 77) declared that competition was strong in their sectors; of these 65 businesses, 43 even found it very strong. Only 9 businesses found competition to be of medium strength and 3 found it

relatively weak. The disproportion in the quantities expressed in each category makes comparison difficult. However, it appears that those businesses facing strong competition are relatively more successful than the others. To develop the point a little further, we wished to know if the domestic competition came principally from large or small businesses. In fact, the importance of these two sources is about equal (35 businesses competing above all against large firms, 28 against small ones), as shown in Table A-5. On the other hand, it was clearly apparent that there are relatively more successful businesses among those competing against large firms than among the others. Foreign competition (Table A-6) seems clearly less strong than the domestic variety: 27 businesses out of 77(35%) found it strong, 18 (23%) described it as average and 32 (42%) judged it to be weak. here again, that category of businesses facing the greatest pressure of competition contains a greater proportion of strong-growth businesses; however, this relationship was not very distinct. In general, strong competition seems to stimulate businesses exposed to it but the factor is probably not decisive for the businesses studied.

4) Government aid:

Government aid, in the form of direct subsidy,

research aid, etc... can help the S.M.B. to solve some financing problems. However, we have not been able to determine the impact of this aid on the growth of the businesses studied since, in most cases, the businesses have not been enjoying its benefits for more than a year or two. Thus, of the fifty businesses of our sample which have made requests, 46 have received the aid requested. Of these 46, 31 (67%) obtained aid between 1970 and 1971 while the other 15 had obtained it between 1965 and 1969. On the basis of the results obtained, it is not possible to establish if this aid has contributed to the development of the beneficiaries.

We will return to this question of government aid in greater detail since an entire section of this chapter will be devoted to it.

b) Characteristic factors of the business:

1) The age of the business:

Strangely enough, the age of the business is always put forward as one of the most significant of the explicative variables and this no matter what the method adopted (double-entry tables or multiple regression). Table B-1 shows that for our sample of 75 businesses, the coefficient of simple correlation between age (that is, the

date of creation) and the sales growth-rate is 0.384, one of the highest in our analysis. The same table shows that most of the businesses in this sample are young, since 43% of them (32 out of 75) are 20 years old or less, 35% are approximately between 20 and 40 years old and only 22% are more than 40. The data from the questionnaire also shows that most of the businesses in the sample (25, or 1/3 of the total) were created in the fifties. These results are confirmed by Table B-2, which gives a more precise distribution of the ages of the businesses, classed by industries, and this is for the gross sample of 172 businesses which we spoke of in the methodology. Nearly a third of these businesses were created in the fifties, 60% have been founded since the end of the Second World War. If the number of businesses is plotted against time on a graph (APPENDIX VI), we can see that the number of businesses created in the eight industries studied grew more or less regularly from 1910 to 1945 (with, however, slowdowns during the First World War and again in the Depression of the 1930's). The Second World War but a considerable check on this drive, which, however, recommenced with renewed vigour from 1945 to 1960. During the last decade, we have deduced a sharp decline in the number of small businesses. This may be the result of technical causes, such as a bad distribution of businesses in our sample in

relation to the population if the younger businesses had systematically refused to reply to the questionnaire, but this is hardly likely. Table B-2 shows that the four most important industries in terms of numbers of personnel (Chemical products, electrical appliances, machinery and pharmaceutical products) are also those which account for the highest number of long-established businesses. The most recent sectors are those of energy (petroleum and coal) and of aeronautics (airplanes and parts). To return to Table B-1, it is quite clearly apparent that the businesses with the highest growth-rates are, for the most part, the very young ones: among the four with a growth-rate higher than 140%, 3 were created after 1950; of the 17 surpassing 80%, 11 (65%) were created since that date. It should nevertheless be noted that a quite remarkable number of older businesses (created before 1930) also enjoy high growth-rates. By contrast, the middle-aged businesses (created between 1930 and 1950) are general not very successful.

How should this result be explained? The explanation may come from the relationship between the age and the size of a business. Table B-3 explores these relationships. Two warnings, however: as a consequence of the computer programme used, the categries used for size

covered a range of $5 million each, so that 84% of the businesses (54 out of 64) are in the first category. From this, the two other categories contain only a few businesses, which makes comparisons precarious and percentages hazardous. Another shortcoming of this table is that the size has been measured by the sum of the assets in 1971, at the end of the period studied. It would have been preferable to use a year at the beginning - 1961, for example. However this may be, the data are enough to show that a relationship exists between size and age (coefficient of correlation r = 0.186):the oldest businesses are the biggest, the youngest are the smallest. To see the success/age/size relationship, let us now look at the influence of size on growth.

2) The size of the business:

The influence of the size of businesses on their growth-rates is much less clear than that of their age; we should point out that we have used as the criterion of size the number of employees in the service of the business at the beginning of the period under consideration, that is, in 1961. The coefficient of correlation between size and growth-rate is quite low: r = 0.110. In Table B-4, we have divided the businesses into three groups, each of approximately the same number, where one group has businesses with less than 25 employees, a second those with 25 to 49 employees and a third, those with more than 50.

It may seem surprisingthat, with regard to Steinmetz' theory which we developed above, we state that, in our sample, it is among the largest businesses (as of 1961) that we find the highest proportion (50%) of businesses which were later to experience a high growth-rate. We also found an equally strong proportion (40%) among the very small businesses (less than 25 employees) which were about to enjoy a rapid growth. By contrast, the middle category contained few businesses heading for success. In fact, these results agree perfectly with the various phases described by Steinmetz, given that the data we used covered only the first two stages in the process indicated by that author. He claims, and our statistics confirm this, that small businesses grow fast (less than 25 employees), until they face the first series of administrative problems. This occurs when the business has 25-30 employees, according to Steinmetz, and with 25 to 50 in terms of our figures. At this point, the business encounters some sort of slowdown in growth. If the owner-manager succeeds in solving these problems comfortably, the business moves into the second stage, which is that of rapid growth. This second stage ends when the business meets a second series of problems: it then has 250 to 300 employees. In our sample practically none of the businesses arrived at that point because, in 1961, there were very few which had 250 to

300 employees. Our results thus point in exactly the same direction as those of Steinmetz: the smallest businesses have a very high effective growth-rate, at least most of them do; on the other hand, the medium-sized businesses, that is, those in the sharpest conflict with the first series of problems, form the majority of the category of weak growth-rate businesses. Once this growth crisis is regulated, those businesses, which are now of large size, again enjoy a high growth-rate.

We may now assemble the information given by Tables B-1, B-3 and B-4 to determine the relationships between age, size and growth-rate. Comparison is always difficult from the fact that some tables use the number of employees as a criterion of size, while others use the sum total of the assets.

Generally, the young enterprises (20 years of existence or less) dominate the small and medium-size sector. The smallest are probably the most dynamic and have the strongest growth-rates, the more so because it is much easier to double a turnover of tens of thousands of dollars than to double one which runs into the millions. In Table B-1, the 11 young businesses with growth-rates of more than 80% are probably the small ones. It must be the same for some of the 16 businesses whose growth-rates varied between 40% and 80%. The rest of this group of

young businesses consists of medium-sized firms (between $5 million and $10 million) with weak growth-rates. The middle-aged businesses (between 20 and 40 years) are spread through the three size categories. If we only consider the percentage of middle-aged businesses in each of the three size categories, we find that they are most important in the large business category; they represent 50% of all the businesses in this category (however, this only represents two businesses). These two businesses have probably enjoyed high growth-rates. The other middle-aged businesses are split between the small and the medium-sized businesses with weak growth-rates, which generally explains why these businesses do not seem to have succeeded as well as the others. A quarter of them experienced high growth-rates; for the others, growth was relatively weak.

It is interesting to study the influence, not of the size on the growth-rate, but, inversely, of the growth-rate on the size, by comparing the distribution by the size category in 1961, that is, at the beginning of the period, and in 1971, at the end (Table B-5). In general, the size of the businesses has grown considerably, whence the necessity of changing the size categories used in Table B-4. The class of small businesses (less than 50 employees) has

diminished considerably in absolute value, but above all, in relative value: in 1961, it included 69% of all businesses; in 1971, it included no more than 26%. Most of the small businesses of 1961 reappear in the middle category, which has increased its share by 25% (rising from 18% to 43%), but some, more dynamic, have joined the ranks of the large businesses.

3) Status of the business: subsidiary or independent?

We have indicated that, a priori, subsidiaries might be expected to perform better than independent businesses because they have access to all the technical, financial and administrative expertise of the parent company, which is sometimes a giant. They also have access to the results of the parent company's research and enjoy its credit when they borrow. All these factors give them an incontestable advantage over the independent business, which can only count on its own resources, which are often very limited. Various studies, like that of Safarian (1) and the Watkins report (2) have shown that, in general, the

(1) A.G.Safarian: Foreign Ownership of Canadian Industry. Toronto, McGraw Hill of Canada, 1966.

(2) Foreign Ownership and the Structure of Canadian Industry. Report of the Task Force on the structure of Canadian Industry, Privy Council Office, Ottawa, 1968.

subsidiaries of foreign businesses, which is the case for most of them, succeed better than purely Canadian independent businesses. With even greater reason, subsidiaries should be more successful than small independent businesses. Table B-6 shows that overall this is indeed so, but we must nonetheless note some shadings in these results. The subsidiaries, in the overall, have a less spectacular growth than do some independent businesses, but a more regular one: 66% of the subsidiaries (about 38% of the sample) have a growth rate of between 20% and 80%, against only 56% of the independents. The latter present many more variations: 5 independent businesses have a growth-rate which is either negative or zero (no subsidiary performs as badly); on the other hand, 7 independent businesses have more than doubled their sales (growth-rate higher than 100%) every year, and three of them have had a rate greater than 160%. No subsidiary has had a growth of more than 140%. In general, Table B-6 shows that the subsidiaries have an average growth-rate slightly higher than that of the independents; this may be due to the fact that their size is, on the average, greater than that of the independents.

When we speak of subsidiaries, we tend to think that the parent company is foreign, usually American. This is not always so. Table B-7 shows the geographic

distribution of the head offices for the subsidiaries in our sample.Three businesses did not reply to the section preceding the question, but replied about their parent companies, which gives us a sub-sample of 32 against only 29 in Table B-6.It is quite clear that the subsidiaries of foreign firms(in the United States or other countries), which represent 56% of all the subsidiaries, are more successful than the Canadian companies (including those firms whose parent companies are in Quebec). The subsidiaries of Quebec companies have, in general, very weak growth-rates. If we compare the data of Tables B-6 and B-7, it is shown that the subsidiaries of foreign firms are usually more successful than the independent businesses, in that they include a higher percentage of strong-growth businesses. On the other hand, subsidiaries of Canadian firms, particularly those whose parent companies are in Quebec, are less successful. The businesses whose parent companies are Canadian but based outside Quebec enjoy a more average and more regular growth: between 1961 and 1971, half of them had growth-rates of between 40% and 80%. We can see that there is a clear difference of behaviour between subsidiaries and independent businesses, and we will often return to this distinction in the analysis of the next explicative variables.

4) General management and planning:

We have already indicated that one of the main weaknesses of the S.M.B. lies in their lack of planning and the insufficiency of their management methods. It remains to discuss this in detail.

a) It is generally considered important for a business to set itself precise objectives which reveal its aims and the direction it wishes to follow. It is further recommended that they be set down on paper. However, the problem remains of knowing whether the fact of setting objectives creates enough improvement in the efficiency of the management team for them to be realised in the results. In a word, does the determination of precise objectives influence the long-term growth-rate? If we can trust Table B-8, the answer is no; at least the relationship between these two factors is not clear: the coefficient of correlation between these two factors is practically nil. At the most, it can be said that there seem to be slightly more strong-growth businesses among those which have written objectives, but it is not very significant.

If it is not fundamental to have written objectives, it seems on the other hand difficult to do without planning. We have thus explored the relationships which exist between a business' growth-rate and the

presence or absence of short- or long-term plans in the three principal functions, which are finance (Table B-9), marketing (Table B-10) and production (Table B-11). Many important points will emerge from the analysis of these tables.

First, something quite surprise: twelve or thirteen businesses in our sample seemed to have no kind of planning whatsoever, if we can believe their replies. Next, the distribution of the businesses between the groups which had only short-term plans (that is, for one year or less) and those which also have long-term plans, varies according to the functions. The highest percentage of long-term plans was in marketing (made by 40% of the businesses in the group); and the lowest in production (made by 22%).

One might expect that those businesses with the most carefully worked-out planning systems, that is, having both long- and short-term plans, would have the strongest growth-rates, followed by those which only had short-term plans and then finally would come those with no plans at all. In reality, the only clear distinction is between those which have planning systems and those which do not: the first have incontestably higher growth-rates than the second. On the other hand, there seems to be no advantage in planning more than a year ahead. The businesses with only

short-term plans constitute the greater part of the strong-growth businesses; most of the businesses with long-term plans experienced growth nearer to the average. Marketing seems to be the area in which it is most profitable to plan more than one year ahead; long-term planning of production, least profitable.

We have shown above the differences in behaviour between subsidiary and independent businesses. We judged it to be of interest to see if the differences touched upon planning. Tables B-12, B-13 abd B-14 are most revealing on this subject. It is immediately apparent that fundamental differences exist between subsidiaries and independents in reference to planning. Very nearly every one of the businesses which have no planning process is an independent. In the same way, there is a higher proportion of subsidiaries than of independents among those businesses which create long-term plans. Weirdly enough, there is a much stronger proportion of independents than of subsidiaries among those business with lomg-term plans for marketing. The independents seem to give great importance to marketing, to the detriment of production and, above all, of finance.

To sum up, the subsidiaries use more modern management methods than the independents, particularly in the field of planning. It is unquestionned that this is one of the reasons for their higher performance levels.

5) Production and marketing policy.

After the Second World War, there occurred an acceleration in science and technology, an acceleration marked particularly by the constant appearance of new products using the latest discoveries. Several studies have shown that in the areas of
have completely changed the range of their products during the last 4 or 5 years. To withstand competition, which is very strong in these areas, businesses must continually renew and modernize their products. In these circumstances, one wonders if the growth-rate does not depend on the rhythm at which the range of products is renewed. We thus attempted to discover if significant relationships existed between growth and the number of new products introduced into the market by the business in the course of the last three years (that is, from 1968 to 1971). It is quite surprising to find, in analysing Table B-15, that there seems to be no relation between these two factors, which is confirmed by a coefficient of correlation near zero (in fact, slightly negative). The table allows a more detailed examination of the data, which reveals that the strongest growth-rates are found among those businesses which have introduced less than ten new products during the last three years; here, there are 9

businesses with growth-rates higher than 100% (equal to 17% of the 52 businesses in this category) while there are only 2 with a comparable growth-rate among those which have introduced more than 10 new products (9% of 22 firms). We should note in passing that the great majority of businesses (70%) presented less than 10 new products during the last three years. Another quite important number (11 businesses, or 15% of the total) offered between 10 and 20 new products; four must have introduced some 90 new products, but their growth-rates were quite limited.

Finally, the fact of presenting too many new products could be a negative factor for the development of the business. This result is indeed surprising; how should it be explained? It could be assumed, perhaps, that the business is forced to offer new products constantly in order to meet competition, and that most of these products do not succeed on the market. To what should this considerable rate of product failure be attributed? Principally, to the fact that businesses which constantly produce new products have no time for renewed research: what they produce are not really new products, but more or less improved variations on a basic model. In these circumstances all the models respond more or less to the same needs, and are thus competing with each other. To develop this idea further, we might say that the more a business produces new models,

the lower is its percentage of successful products. Another possibility is that a business, faced with evidence that its products are not sellimg, will be practically forced to withdraw them and offer new ones. According to this version, a very high number would be a sign that the ousiness was failing: those with the least success would have the highest number of new products. In fact, the data given in Table B-16 show that the relationships between the number of new products and the success percentage of the products are quite complex. The analysis of these relationships is further complicated by the fairly restricted number of businesses which have introduced more than 10 products. Among the latter, the majority (57%) have a medium success rate: between 30% and 90% of their new products have been commercially profitable. We should note that two businesses, which show that they have produced more than 90 new products in three years, claim a success rate of more than 90%. Among the businesses which have introduced less than 10 new products, the two extremes are found: for a third, success has been limited, less than 30% of the ten products having succeeded; in contrast, for 56%, success has been outstanding, with more than 90% success. In a word, businesses which ahve presented many new products have a medium rate of commercial success; those which have presented

a limited number have either a very high or a very low success rate.

We can conclude, from the data in Table B-15, that commercial success, or the percentage of successful new products, is undoubtedly a good thing, but it is not enough to ensure the general success of the business. In a word, it is not enough to sell, even a great deal, but the total costs of production (production, research and administration) must not rise faster than the income. In Table B-17, we have attempted to find a relationship between commercial success and overall success (the growth-rate of the business). A priori, there seems to be no significant relationship. Among the businesses which had a high percentage of commercial success for their new products, we can note a slightly higher percentage of strong-growth businesses than in the other categories, but also a higher percentage of weak-growth businesses. This tends to support the explanation offered above. To be able to present a great number of new products, the business must increase its research expenses quite considerably; it must also retool frequently. All this tends to increase costs and to diminish the profitability of the business.

Thus there does not seem to be, in the final analysis, a linear relationship between the number of new products and the growth of the business.

6) Research and development policy:

The research policy is entirely bound up with, on the one hand, the technological nature of the business (and the industry), and, on the other hand, its marketing policy relating to new products and defence against competition. As far as the technological nature of the industry is concerned, we have indicated in the methodology that we had not been able to verify directly, before making our enquiries, if the businesses choesn and the industries to which they belonged, really lay in
The 8 industrial groups which we used embrace different sectors of which some are probably less technological than others. Beyond this, even within a
there may be businesses which do not use very advanced techniques. We then decided to check, a posteriori, if our sample included as many sectors and businesses using advanced technology as we had foreseen at the beginning. For this, we asked the responding businesses directly if they considered their business and their industry to be technological. The response was a very clear affirmative . Table B-18 shows that 78% of the businesses replying Considered their industry to be technological (36 out of 46). The remaining 22%, who replied to this question in

the negative, are probably in much less technological sectors than the rest of the industries to which they belong. We presume, of course, that the managers who replied are able to judge correctly the degree to which their businesses and their industries are technological, and that in consequence, their perceptions of this degree are in concert with reality. If we agree that this concert is perfect, it emerges that, among the businesses in industrial sectors strongly infuenced by technology, there is a much greater proportion of strong-growth businesses than among those situated in the less technical sectors: 25%, as against 10%. From Table B-19, we find the same phenomenon at the level of the businesses. First of all, the businesses which claimed to use advanced techniques and which we have also judged to be doing so, represent 78% of our sample. Here again, there is a much more weighty proportion of high growth-rate businesses among the "technological businesses" than among the others. Finally, these data support our basic hypothesis, that the businesses of our sample, selected on the basis of the degree of technology in the industries of which they are a part, are, by a strong majority, "technological industries".

Research is expensive and it is well known that most small or medium-sized businesses do almost none.

Even in industries as technical as the eight we have chosen, industries which, taken as a whole, spend more on research (per dollar of sales) than the average for all Canadian industries, one cannot expect all the small businesses to perform research. What proportion among the S.M.B. of our sample do and what influence does it exercise on their development?

Table B-20 tries to answer these questions. Of the 73 businesses which answered the question, 48, or about 76%, perform research. This corresponds very nearly to the proportion of businesses which considered themselves to be "technological". It seems that there is a slightly higher proportion of businesses with a high growth-rate among those which do research, than among those which do not. However, the presence of some very strong growth-rates among the latter group gives a negative coefficient of correlation to the relation between these two variables. Finally, it does not seem that research is a decisive element in the success of a business, even though it may have some influence. The following tables will allow this question to be studied more deeply, but first it is interesting to point out the difference between independents and subsidiaries as regards the question of research. Table B-21 shows that in numbers,

the subsidiaries do much more research than the independents. Among the subsidiaries studied, there were only 19% not doing any research, as against 42% of the independents. To return to the relationships between research expenditure and growth and development, we wished to establish these relationships more closely: in TableB-22, we have establshed the correspondence between research expenses, evaluated in percentages of sales (both for 1971), and the long-term growth of these sales. Surprisingly, the relationship is clearly negative. Businesses which spent less than 1% of their sales on research in 1971 had the highest growth-rates. We should note that these represented 58% of the companies included in the sample. Moreover, 38 businesses out of 50, or about ¾ of them, spemt less than 2% of their total sales on research. Only two businesses spent about 10% of their turnover on research; this was the maximum we observed. It is clear that, because of the restricted size of their turnover, there can be no question of the majority of these businesses doing real research, notably basic research. We are talking above all of the perfecting of new products, of the practical application of discoveries made in other laboratories. We should note, however, that APPENDIX V had shown previously that in 1967, the average research expenditure for all Canadian industries was 1.6%

of sales. 17 businesses of the 50 in the sample (34%) surpassed this average percentage, which is remarkable for small businesses. If the research expenses, expressed as a percentage of turnover, is very modest for the sample as a whole, they are certainly quite limited in absolute value. Tables B-23, B-24, B-25 and B-26 show the evolution of research expenses from 1961 to 1971 in periods of three years. They reveal the distribution among three categories more exactly: the first consists of businesses spending relatively little on research (less than $10,000), the second, those with a medium expenditure ($10,000 to $50,000), and last, those which spend a lot (more than $50,000). At the beginning, in 1961, 68% of them spent less than $10,000, and 15% more than $50,000. In 1964, the first category included only 58% of the businesses, and the third had risen to 23%. In 1967, those percentages were 42% and 26% respectively. Finally, in 1971, they were 36% as against 40%. The proportions were almost reversed, reflecting the considerable growth of most of the businesses during the ten years. Incidentally, we related the research budgets to the growth-rates of the businesses. Strange to relate, that category of businesses whose research budget was less than $10,000 experienced a fairly weak growth-rate. In contrast, in the category of

intermediate budgets ($10,000 to $50,000), most of the businesses had quite high growth-rates. In the high budget category, most had a medium growth-rate. There thus seems to be a sort of optimum for research budgets, which is situated between $10,000 and $50,000. Below $10,000, the budget budget would be too small to allow important results to be obtained, since the research would be on too small a scale, while above $50,000, research expenses would weigh to heavily on the general costs and produce an unfavourable effect on prices.

Research effort can be measured in dollars spent, but it can also be measured in the number of specialised employees involved in this activity. Table B-27 shows clearly that businesses which assign more than 5 employees to research have more chance of success than the others. In fact, for research to be fruitful, it must be performed on a certain scale: the minimum of specialists who could be assigned to it would be about 5. But 65% of the businesses in our sample were below this level; 92% of them assigned less than 25 employees to research and two had more than 40 working in this activity.

It is very difficult to reconcile all these results, but once again, it seems that the optimal situation lies between two limits.

The source of the research is another aspect of the question. The business can, in fact, spend a great deal on research without actually doing any itself, and thus employ only a minimum of specialists. It can "buy" research outside, that is, it can have research done by other organisations and apply the results to its products. Does the source of these results affect the usefulness of the research and, in the final instance, the success of the business? Table B-28 explores this problem. We can see at once that manufacturing permits are a low-profitability research source: the four businesses which had recourse to this source had very low growth-rates. The effectiveness of the other sources (parent companies, the businesses themselves, other organisations) seems to be almost the same; at the most, we noticed a slightly higher proportion of medium and high growth-rate businesses among those which obtained their research from the parent company. This makes us think immediately of the difference between the subsidiaries and the independents. Table B-29 shows that these two categories differ greatly in their ways of procuring research results. In the independents, research is done primarily within the business itself; this is so for 81% of the independents. For the others, research comes mainly from outside organisations (13% of cases) or is obtained by manufacturing products under licence. In the case of the

internal research plays the major role in only 47% of the businesses; 42% of the subsidiaries obtain their results directly from the parent company, while the other 11% obtain it through manufacturing licences.

7) Export Policy:

The Canadian market is quite limited by its size. One would think that businesses which export, and thus enlarge their market, will have more chance of success than those which limit themselves to the national market. In fact, Table B-30 shows that there is relatively little difference between them as far as growth is concerned. We did, however, notice adefinitely higher proportion of strong-growth businesses among those who exported to countries other than the United States. On the other hand, it does not seem that the fact of exporting to the United States is a success factor. Are there differences, as far as exports are concerned, between subsidiaries and independent businesses? Relatively little, according to Table B-31: the independents have more of a tendency to stay within the national market, while the subsidiaries tend to export to the United States, probably to their parent companies.

8) Financial policy:

We indicated at the beginning that many businesses had not answered the questions pertaining to

their financial activities. It is thus not possible to calculate financial ratios, nor to determine their influence on the growth of the businesses. All we have is some data on the profits and on the holdings of the owners. For the profits, we have established that in 1964, 30 businesses out of 64(47%) made less than $20,000 profit, 20 (32%) made between $20,000 and $100,000, and that 13 (21%) made more than $100,000. In 1971, 33% of 63 businesses replying made less than $20,000, 37% between $20,000 and $100,000, and 30%, more than $100,000. Finally, it is often said that one of the weaknesses of the S.M.B. stems from the insufficiency of the personal funds invested by the owner or owners. Table B-32 seems to show that a positive linear relationship exists between the growth-rate and the sum of the owner's holdings in 1971. This last factor, evaluated in 1971, may be as much the result of the growth as its cause.

c) Characteristic factors of the businessman:

Does the personality of the businessman have any influence at all on the business he manages? Can we determine in advance the physical and intellectual characteristics, as well as the type of practical experience which make a good businessman and which will rebound as garantuees of the high chances that the business he has created will

succeed? We are assuming the affirmative as a working hypothesis and the data we have collected in our enquiry will allow us to verify this. The following tables show the relationships between the principal characteristics of the manager who replied to our enquiry (and who we suppose to be the owner) and the success of the business. The definition of what a businessman is has created theoretical questions; the search for the person who can be considered the businessman in the business studied, posed a practical one.

1) The age factor:

We have grouped all the businessmen* in three age categories, of approximately equal numerical importance. An analysis of Table C-1 shows clearly that a negative relation exists between the success of the business and the age of the man who manages it. There is a much higher proportion of successful businesses among those managed by persons younger than 40 years old, than among the others; inversely, there is a much higher proportion of businesses with a low growth-rate among those where the businessman is older than 50. It seems, then, that the youth and, probably, the dynamism of the manager count a great deal towards the success of the business.

*Translator's note: In this section, the English usage of the French "entrepreneur" is perhaps more apposite. I have stayed with "businessman" for consistency's sake.

2)Ethnic origin and language:

Several studies have shown that French-Canadians are not particularly gifted for business and that they are less successful as businessmen than English-Canadians. On the whole, the data in Table C-2 agrees with these studies: the anglophone Canadians have far more of the strong-growth industries. However, 42% of the businesses with anglophone managers had development rates of less than 42%, which is the same percentage as that representing the businesses with francophone managers. For these last, the most striking thing is the diversity of experience: of the 5 businesses with a negative or zero growth-rate, four were managed by French-Canadians. In contrast, a French-Canadian business had the highest growth-rate of the group, with 181%. As for the businesses managed by New Canadians, their growth-rates were average, varying, for the most part (that is, 57% of them) between 40% and 80%. Very few of them are to be found among the high growth-rate businesses.

Finally, the ethnic factor seems to play a part, but it is in general a secondary one. The relationships between ethnic origin and success are far from being distinct.

3) Level and areas of studies:

As might be expected, this factor of "level and area of studies" presents much clearer relationships with the success of the business than the preceding factor.

We should first note that 3/4 of the managers replying to our enquiry had studied, either at the university or higher technical levels, which is not surprising, given the technical nature of the businesses studied. Overall, three main categories can be distinguished on this basis: a minority (25%) which did not go further than the secondary level, a slightly more weighty group (30%) which had done higher scientific or technical studies; and a majority (45%) with university studies in commerce or administration.

It is surprising that there are not more graduates from the scientific and technical sectors. It is clear from Table C-3, that the businessmen who did not go beyond the secondary level are mainly trapped in low-growth businesses. On the other hand, there is very little difference between the performances of the businesses run by those from the scientific and technical disciplines, and the ones run by graduates from the administrative courses, except for a slight advantage to the latter.

How should these results be explained? Tables C-4 and C-5 give at least a partial explanation. Table C-4 shows that university graduates are present in much greater numbers in the more "technological" industries than the high-school graduates. The latter, because of a lack of education, are less able to perceive the importance of

technology and tend to create or manage businesses which are less advanced technically than those of their competitors. Table C-5 confirms these data: more than 40% of the businesses managed by university graduates spend more than 1% of their turnover on research, as opposed to only 27% of the businesses run by high-school graduates. The university graduates are thus much more conscious of the importance of research than the others. We have seen that the relation between growth-rate and research effort is not as simple as it seems at first sight, but there no doubt that this effort has some influence on success. It is surprising to find that administration graduates are more conscious of the importance of research than are those from the scientific and technical disciplines.

Table C-6 offers another explanation. In this table, we related the level of instuction attained by the businessman to the sum of the profits achieved by his business in 1967. In fact, this last factor (1967 profit) should not be read as a measure of profitability, but rather as an indication of the size of the business. The relation is very clear. It is quite obvious that the administration graduates are located mainly in large and medium-sized businesses, the those from the sciences in the medium-sized businesses, and the others, who did not go beyond the high-school level, in small businesses. We should remember that the person we call

"the businessman" is not necessarily the creator of the business; he may simply be the present manager, the one who, at this point in time, sets the direction and takes the risks. It would indeed be interesting to know to what extent the "businessmen" questioned were responsible for the creation of all parts and elements of their businesses. Whatever may be the reason, the administration graduates, whether they were attracted to the large businesses whose direction has finally fallen into their hands, or they created small businesses which their abilities succeeded in making grow rapidly, are mainly located in the large businesses, which are also generally those with the strongest growth. There is a sort of cyclic phenomenon: the largest businesses have the highest growth-rates, which makes them grow even bigger.

4) Previous experience:

Experience accumulated from other jobs is certainly going to influence a businessman, in the style of management he is going to adopt, in the way he sees business, in his taste for risk, etc...It may thus have an indirect influence on the success of the business. Table C-7 shows that 29% of businessmen come from administrative careers, 9% from sales, 24% from the technical sector and 38% from various other careers, mainly from academic or

military careers. It is this variegated group which seems to be most successful, approximately equal to that of those coming from administration. On the other hand, businessmen coming from sales or technology seem to be less successful.

5) Number of hours devoted to the business:

Some traditionalist authors believe that the success of the business is above all a function of the work done by the businessman and the attention he gives to his problems. In fact, Table C-8 shows that the coefficient of correlation between the number of hours of work and the growth of the business is practically zero. Most of the businessmen (50%) worked 46 to 60 hours a week on their businesses; it is in this category that we find the highest proportion of businessmen whose firms have strong growth-rates. The figures do not seem to show that success grows with the numbers of hours of work, far from it.

6) A taste for risks:

We have shown in the methodology section how we made up an index to measure the risk factor. We have grouped all the indices in four large categories:

Category 1 contains the indices corresponding to a low taste for risk (scores between 1 and 1.4), category 2 those for a low-medium taste (1.5 to 1.9), category 3 those with a medium-high (2.0 to 2.4) and category 4 those with a strong taste (2.5 to 3.0).

Here again, the coefficient of correlation is very weak, but this may be explained in several ways.

Table C-9 shows first that the relation between a taste for risk and the success of the business is not linear. It is among the businessmen with a moderate taste for risk that we find most of those who have been very successful. Those with avery pronounced taste for risk have businesses with moderate growth, and in contrast, those with a low taste for risk have, for the most part, weak-growth businesses. This is easy to understamd: it is necessary to take some risks in order to succeed, but wittingly so; it is also important to avoid risks which are too great and of no purpose. The other possible explanation is that our index is but an imperfect measure of the businessman's taste for risk. It is obviously quite rudimentary, but it seems nontheless to have some connection with success, and thus a certain usefulness.

7) Capacity to delegate authority:

The last point which seems to us to have some bearing on the success of the businessman is his ability to delegate authority. In fact, when the business reaches a certain size, the businessman can no longer take all the decisions upon himself, he must delegate a part of his authority to subordinates, reserving for himself

after-the-fact control of the soundness of their decisions. Table C-10 shows that, here again, the relations are not quite distinct or, more exactly, are probably not linear. We should first note that most of the respondents (52 out of 76, or 68%) do not delegate authority. Further, the proportion of businessmen whose firms have enjoyed high growth-rates is much higher among those who do not delegate responsibilities, than among those who do. This result seems to go against all principles. However, it can be explained by the fact that most businesses in our sample are small ones and thus respond more easily to the orders of one man than can the big ones. The personal qualities and judgement are thus very important for these businesses. The fact that those businesses where the power is concentrated in the hands of a single manager succeed better than the others, implies that the managers are very capable men. However, it is possible that the question has been put badly; it would probably be necessary to go into more detail to do this factor justice.

3) Use of double-entry tables for different industries:

We have frequently indicated that there seem to be important differences among the eight industries studied in the importance attached to the different explicative variables used. To get to the bottom of this, we have used the same method of double-entry tables and

the same variables that we have just studied on an overall basis, but applying them to each industry. In reality, we have only been able to do this for three of the numerically most important, because the six others included too few businesses or had provided too little information for valid conclusions to be drawn. The three industries studied are the electrical appliance industry (sub-sample of about 24 businesses), chemical products (14 businesses) and non-ferrous primary metals (10 businesses). Among them, these three industries embrace 48 of the 77 businesses (or 62% of the businesses in the whole sample) for which we have been able to calculate long-term growth-rates.

It is obviously impossible to reproduce the tables obtained, in the same way that we have done for the overall sample. We will content ourselves with pointing out those factors which, for each industry, seem to be most closely connected with the growth-rate.

-I- The electrical appliance industry:

a) Dependent variable: In this industry, the average growth-rate is 59.33% (APPENDIX VIII), slightly higher than the average for the whole sample (58.61%). The rates vary from 9.3% to 175.40%; there are thus no businesses with zero or negative growth. About 30% of the businesses have a growth-rate less than 40%, against 40% for all the industries.

Similarly, 88% of the businesses making electrical appliances had agrowth-rate of less than 120%, as against 90% for all the industries together. Generally, the growth-rates are more homogeneous and more closely grouped than for the total sample.

b) Explicative variables:

1) The most important, i.e., that with the highest coefficient of correlation to the success of the business was its age.

2) Next came a series of factors related to research effort: research costs in 1961, number of employees engaged in research.

3) In third place, we noted the importance of the concentration of sales with the principal customer; however, the relation was negative.

4) Next came the competition variables: in particular, the intensity of foreign growth.

-II- Chemical Products Industry:

a) Dependent variable: The average growth-rate is weak in this industry; at only 41.29%, it is much lower than the average for all the industries. It also has many variations, ranging from -13% to +139%. The highest growth is also a weak one. If the two businesses with the highest rates are removed, the others all have rates lower than 78%, which

is very little. It is thus a weak-growth industry, which is confirmed by the statistics for the whole industry, statistics which indicate a growth-rate of only 7.3% for the 10 years for all the businesses.

b) Explicative variables:

1) The concentration of sales to a small number of customers heads the list: the percentage of turnover attributable to the three main customers, and to the principal customer. Weirdly enough, the relation between this concentration and success seems to be positive, while in general, it is negative.

2) In second place, variables relating to research are noticed.

3) Finally come the ethnic origin of the businessman, the state of competition, the ability to delegate authority.

-III- The non-ferrous primary metals industry:

a) Dependent variable: The average growth-rate in this industry is also very low, at about 44%. The rates reported vary between -19% and +139%. Here again, if one business is excepted, the others all lie below 75%. The statistics show that, for the industry in general, the growth-rate

has only been 8.3% during the 10 years studied; this is not an industry in full expansion.

b) Explicative variables: The most important variable seems to be the concentration of sales with a limited number of customers, but on this occasion the relation is negative.

2) The different variables relating to research are equally prominent.

To close, some variables seem to emerge from the analysis of these data, such as the research variables. However, one finds many differences in detail between one industry and another, which explains the great variation remarked in the overall sample. The fact of carrying this analysis over to the level of the industrial sectors reduces tthis variance considerably. Finally, a variable which we have not introduced directly into our model seems to play a predominant role; this is the demand for the specific products of each industry. A number of indices seem to suggest that this variable is very important.

B The multiple regression models:

We will present briefly two models: in the first, the variable is the absolute growth-rate of the turnover; in the second, we have used a relative growth-rate.

1) Absolute growth-rate model (APPENDIX VII)

The multiple regression was applied to a sample of 44 businesses whose distribution by industries did not differ noticeably from the proportions shown in APPENDIX III for what we have called the sub-sample. We included in it 30 explicative variables, as well as the dependent variable. The latter was identical to the one we have used up to now to find the sales growth-rate from 1961 to 1971. We should note that the average growth-rate for this sample was 52.66% (with a standard deviation of 40.45), as against 58.6% for the sample of 77 businesses. It would be tedious to enumerate all the independent variables used. We will mention below the four most important. Let us simply say that these 30 variables include most of those which we discussed in the previous section, as well as eight (8) dummy variables, representing each of the eight industries chosen. We have used a method of regression known as "stepwise", which introduces the variables one by one, in order of importance. In APPENDIX VII, we have indicated the first four stages in the "stepwise" regression.

We stopped the process when the increase in the coefficient of multiple determination dropped below 5%: each of the additional variables would have explained less than 5% of the total variance, which would produce a negligible effect. With the first four variables, we explain

44% of the total variance, which is enough. These four variables, in the order in which they were introduced into the regression, are:

X_{25} the ethnic origin of the businessman (francophone, anglophone or New Canadian)

X_{24} airplane and parts industry

X_{10} date of creation, measuring the age of the business

X_{5} electronic appliance industry.

We should note at once that, of the four, two are dummy variables representing industries. Others are to be found among the first 10 variables introduced by the mechanism of the regression in successive stages. This confirms the conclusions of the previous chapter about the importance of specific success factors in each industry.

In fact, of the four variables mentioned, only three are significant, among which are the ethnic origin of the businessman and, to a certain degree, the age of the business. The other variables omitted, beyond the fact that they would only have a tiny effect on the overall explanation, are not significant. Finally, the main conclusion which emerges is the difference shown between the

industries, a difference marked by the importance of the dummy variables.

2) Relative growth-rate model:

To eliminate the influence of the industry, we divided the long-term growth-rate of each business by the sales growth-rate of the industry to which the business belongs. This last growth-rate was calculated in the same way for the business and over the same period of time. We thus obtain a relative growth-rate: that of the business in relation to its industry. All the relative growths should then be directly comparable, without there being differences between industries.

We made a multiple regession with these relative rates, applying to them a limited number of explicative variables; we chose only eight variables from those which looked most promising, namely: age, number of products, marketing strategy, whether the business was independent or a subsidiary, the export factor, the ethnic origin of the businessman, the total assets in 1964 (the size variable), the amount spent on research in 1964, and, last, the percentage of the turnover attributable to the principal customer. We should first note that the average relative growth-rate was 5.22% (standard deviation, 4.36), which shows that the 50 businesses used in this regression

had, on the average, a growth-rate 5 times higher than that of the eight industries represented in the sample, which is considerable. Despite the change in the dependent variable, the dispersal of the results is still very important. Overall, the results were disappointing. Together, the 9 variables chosen explained only 24% of the variance, which is a weak result. Moreover, no single variable explains more than 7% of this variance. Finally, only one variable had any significance, and that was the age of the business. There seemed no use in giving the details of this regression here.

C- Conclusions about the models used:

What conclusions might be drawn from this pile of information? What in fact are the most important factors in predicting the long-term success of a business? Two factors stand out sharply from the rest:

a) First is the specific demand for each industry. Although this factor has not been tested directly against success, its underlying presence is noticeable throughout the study.

b) The age of the business. This factor appears in almost every study we have made, no matter what the method used, and no matter what the sample.

Beyond these two factors, one notes a certain diversity of success factors from one industry to another. Among those which seem most important are:

1) Among the characteristic factors of the environment: the intensity of domestic and foreign competition, the number of customers.

2) Among the characteristic factors of the business: the legal status of the business, that is, whether it is independent or a subsidiary, the existence of a planning system, research policy.

3) Among the characteristic factors of the businessman: his age and, in some industries, his ethnic origin, and finally the level and area of his studies.

VI - STUDY OF GOVERNMENTAL MEASURES IN AID OF SMALL BUSINESS:

We have indicated previously that most of the businesses asking for aid, from either Federal or Provincial governments, have done so quite recently and have thus only obtained the aid during the last few years: of 46 replying, 30(65%) had received the aid requested between 1970 and the end of 1971, the other 15 having had it between 1965 and 1970. In these circumstances, it is npt possible to evaluate the influence of government aid, where it has

been obtained, on the growth of the business, since the growth-rate has been calculated for the period from 1961 to 1971. On the other hand, it is possible to see if the long-term growth of the businesses which have made requests has been a factor in their acceptation or refusal. Table A-8 indicates two interesting facts:

1) The proportion of businesses requesting aid under one programme or another amounts to 71% (52 businesses out of 73 replying), which is quite a high percentage. We will see a little later that, with a larger sample, of 172 businesses, we still find a proprtion of 63% making requests. However, it is not certain that these two samples (of 73 and 172 businesses) are very representative of the population. In fact, the questionnaire that we sent to all the businesses of the population began with a considerable number of questions about programmes of governmental aid to business. It is quite possible that a great proportion of the businesses, not having made any requests, or having had their requests refused, or simply not being interested in this question of aid, did not bother to reply to our enquiry. In this case, our samples would contain a much higher proportion of businesses which had requested aid than does the entire population.

2) It is interesting to note that the businesses which did

not make requests are, for the most part, businesses with weak growth-rates. The low number of businesses in this category must, however, prompt us to be prudent in our use of these percentages.

There is, then, a higher proportion of strong-growth businesses among those which have asked the government for aid than among those who have not. However, it is not possible to carry this point too far, nor to determine if there are more strong-growth businesses among those whose requests were successful than among those who were turned down: in fact, our figures show the opposite phenomenon, but there are too few businesses in the "refused" category for us to put any confidence in this result.

We are now going to study the impact of federal programmes of aid to business, particularly to small businesses, in four sections:

1) knowledge of the existence of programmes;
2) requests for aid: their characteristics;
3) acceptance or refusal;
4) comments of businesses questioned about the usefulness and efficiency of the programmes.

Henceforth, since we are no longer comparing the growth-rates to various explicative factors, the number of usable replies will be considerably increased,

enabling us to work, in general, from a sample of about 178 businesses.

1) Knowledge of the existence of programmes:

APPENDIX IX shows that, in gemeral, the business knows of the existence of variuos aid programmes, programmes offered principally by the Federal Government. Of 175 businesses replying, 164 were informed of the existence of these programmes, which represents more than 92% of the sample. The analysis of the count by industries reveals that the percentage of businesses who have not heard of the aid programmes is almost always less than 10%; the only exception is the rubber industry, but this is a reflection of the very limited number of businesses in this industry. Two points to note:

a) Here again, it is very likely that we have obtained our replies mainly from businesses which knew of the existence of aid programmes. The percentage of those not knowing of these programmes is thus certainly an underestimation.

b) Having heard of the aid programmes does not necessarily imply a knowledge of their details and of what aid they may provide. The answers supplied by some respondents suggests in fact that those who have not made requests have but a vague idea of the precise contents of these programmes.

- How have the managers heard of them? APPENDIX X shows

that the principal source of information is the government itself (33% of cases), followed by the printed press (14% of respondents). Banks and other financial intermediaries come far behind (3.6% of cases), as do colleagues or customers, radio and television. About half of the respondents had heard from several sources, generally from periodicals, magazines, journals and the government itself. It is surprising that so little information is circulated by banks and other financial intermediaries. It should be possible to make an effort in this area.

2) The requests for aid:

a) We have already indicated that 63% of the businesses requested aid, the great maajority from the federal government. APPENDIX XI shows that only 10.2% of the businesses requesting aid addressed themselves only to the Quebec provincial government, as against 82.3% who only made their requests to Ottawa; and last, 7.5% of the applicants approached both governments. Among the federal programmes, one category stands out sharply: those of the Department of Regional and Economic Expansion (D.R.E.E.), mentioned by 9.2% of all the businesses which had made requests. The other programmes quoted varied: I.R.D.I.A., aid to exports, etc...

b) APPENDIX XI reveals that important differences exist according to the industry, in the percentage of businesses making requests. Three groups can be distinguished:

Group I includes industries at least 75% of whose members made requests: the primary metals industry (84%) and aeronautics (90%).

Group II is the intermediate, with 50% to 75% making requests: they include petroleum and coal (67%), non-electrical machinery (69%), and electrical appliances (71%).

Finally, Group III, with a low request-rate (less than 50%): pharmaceutical products (44%), other chemical products (44%) and rubber (40%).

What explains these differences? Immediately, we see that group III consists of industries that can be described as chemical. It is possible that these industries would hesitate to ask for aid from the government because they might then be obliged to supply certain details on their products or on the processes of manufacture, information which they do not wish to divulge. In contrast, the industries in Group I made great application to the government, probably this group needs considerable investment. They are mainly industries exploiting natural resources, like the non-ferrous metals; it is also possible that if we had more businesses from the petroleum industry in our sample, we might also be able to classify this industry in Group I rather than Group II. Group I also includes the aeronautics industry; working in a very limited market and requiring very heavy funding, this industry is one whose principal customer and financial backer is the government.

c) Can differences be noted according to the size of the businesses? APPENDIX XII allows us to answer this question, but let us first point out that the businesses of our sample are mainly concentrated at the two extremes of the size range: 37% had a turnover of less than $1 million(1971); 16% had more than $5 million. There is another concentration in the middle of the range: 25.5% of the businesses had sales of between $1.5 and $3 million. In order to determine if some categories of businesses make more requests than their numerical importance justifies, we need only compare the figures giving the distribution (as percentage) of requests by size category, to those of the distribution of businesses across the total population. We see that the large businesses make proportionately more requests than the small ones. This is why those businesses with a turnover of more than $5 million make 20.3% of the requests for aid, when they only represent 16.1% of the population; it is the same for the businesses in the two following categories: those whose turnover lies between $3.5 and $4 million, and those between $4 and $4.5 million, each represent 4.3% of requests but only 2.8% of the population. The small businesses, on the other hand, make relatively few requests for aid, probably because they are less well informed about the possibilities of government aid, because they do not

have the personnel competent to fill in the requests and because they are afraid of the costs involved in a request for subsidy.

d) Differences between independent businesses and subsidiaries

In previous chapters we have pointed out the differences between independent businesses and subsidiaries. Do these differences reflect in the percentage of businesses in each category which request government aid? APPENDIX XIII, containing the results from 162 businesses, of which 65 were subsidiaries (40% of the sample) and 97 independents, shows that the subsidiaries make a slightly higher proportion (63%) of requests than the independents (59%); but the difference is hardly noticeable. We should point out that the independents tend more to limit their requests to the Quebec government, while the subsidiaries are more likely to make simultaneous requests to the federal and provincial governments. For the rest, their behaviour is practically identical. Among the subsidiaries, the location of the parent company in Quebec, other provinces of Canada, the U.S.A. or another foreign country leads to no significant differences.

3) Acceptance or refusal of requests:

We have seen previously that the acceptance or refusal of a request does not seem to be based on the

long-term growth of the business. It is difficult to tell, with only the data at our disposal, what elements the civil servants responsible for the examination have used as a basis for their decisions. The only thing clear from APPENDIX XIV (A and B) is that, on the average, the rate of acceptance is very high, reaching as it does 88% for the whole of our sample. Of the 110 businesses making request, only 13 were refused the aid asked for. The study by industries of the requests accepted confirms the overall resul: the percentage of acceptance is very high, varying between 80% and 100%. Two industries show 25% and 29% of refusals, but this is simply due to the effect of averaging, since the number of businesses in these industries is very low. There do not seem to be any very sharp differences between industries. The aid provided has been mostly in the form of direct subsidy: this was the case in 68% of the requests accepted. Only in the chemical products industry was there a noticeable percentage of other forms of aid, often combined, moreover, with direct subsidies. In the final analysis, it does not seem that the health of the industry affected the acceptance or refusal of business' requests: for example, the chemical industry, which had the low growth-rate of 7.3% during the period 1961 to 1971 (see APPENDIX VIII), has exactly the sa

same proportion of acceptances as the aeronautics industry, whose development was much more swift. Government does not seem to use this weapon of aid to businesses systematically, either to stimulate the weak-development sectors, or to assist in the further growth of those in full expansion. This weapon would certainly very effective in the armoury of industrial policy.

Finally, we wished to see if there were any differences in the percentage of acceptances and refusals between subsidiaries and independents. APPENDIX XV shows there is none: 85% of the requests made by subsidiaries were successful, as against 86% for the independents. The only difference we could see was that a much higher proportion of subsidiaries received their aid in the form of direct subsidies (74% of those receiving aid) than of independents (63%).

4) Comments of businesses questioned about the usefulness and efficiency of the programmes:

To have the true opinion of the heads of businesses on government programmes of aid to business, and to determine to what extent they apply to small businesses, we compared the information obtained in the questionnaire to the comments collected on this subject in interviews. To measure the satisfaction of the managers,

we used a five-point scale: very satisfied, 5: more or less satisfied, 4: indifferent, 3: more or less dissatisfied, 2: very dissatisfied, 1.

On the whole, managers declared themselves to be satisfied with these government programmes, since the mean score was 4.2 (the mean for the scale being 3) for a sample of 51 respondents. The scores vary between a minimum of 3.7 for non-electrical machinery and a maximum of 4.60 for the chemical products industry(the petroleum industry, with a score of 5, representing only one reply, was left out). Among the less satisfied industries were the non-electrical machinery (3.80) and rubber (4.0); among the most satisfied, airplanes and parts (4.25), pharmaceutical products (4.33) and primary metals (4.50).

As far as the remarks are concerned, they can be divided into 3 categories: criticisms, declarations of satisfaction, and suggestions. We should note that there are sometimes contradictory replies from one business to another.

a) Criticisms:

These criticisms were directed mostly at the heaviness of the administration of the programmes, and at the bureaucracy which governed their application. Several companies complained about what they called "red

tape". They complained about the difficulty of filling in the application forms and the considerable time this consumed. Many complained about the high costs involved in making a request for aid. In the same realm of ideas, businesses criticised the slowness and arbitrary nature of the decisions; some claimed that the directions they recived were sometimes contradictory.

Other criticisms expressed the opinion that the funds should be given in preference to new businesses which run a higher risk of failure, while businesses which had already proved themselves should rather be given second preference.

b) Declarations of satisfaction:

Several businesses declared that the aid programmes are effective and allow the rapid realisation of proposed projects. They were impressed by the speed of the government services, appreciated the availability and discretion of the civil servants and enjoyed working in close collaboration with these government services.

They recognized that the aid given was a precious stimulant to research and had allowed the creation of new jobs.

c) Suggestions:

These all revolved around the idea that it would be preferable to give long-term loans, at low interest rates, than direct subsidies. Without expressing

this directly, many businesses indicated a desire for less direct government intervention; to this end, they suggested that the Banking Act be amended to allow the financial intermediaries much greater participation in the financing of small businesses.

Finally, the comments were clearly positive and satisfied.

VII - CONCLUSION:

What conclusions can be drawn from this considerable quantity of imformation? Without wishing to fall back into the details, it seems to us that the essential fact to emerge from this study is that there definitely exists, and conforming to the hypothesis we took as our point of departure, certain factors closely associated with the success of businesses, and this no matter what the businesses considered, or the industry in which they work. It is certain that the importance of each of these factors varies according to the industry and to the characteristics of the business. It is also certain that there are other success factors over which the businesses have no control. It is no less true that there are certain factors which can be influenced, and that it is consequently possible, in a reasonable measure, to control the destiny of businesses. By improving methods of manage-

ment, particularly in the area of planning, by developing the technical and administrative knowledge of managers and, in extremis, by choosing these last with care, the number of bankruptcies among small and medium-sized businesses should be able to be considerably diminished; in this way, it should be possible to contribute to the greater well-being of the people of Quebec, and, by extension, of the people of Canada as a whole.

UNIVERSITY GRANT PROGRAM RESEARCH REPORTS

RAPPORT DE RECHERCHE SUR LE PROGRAMME DE SUBVENTIONS AUX UNIVERSITES

	AUTHOR(S)/AUTEUR(S)	UNIVERSITY/UNIVERSITÉ	REPORT TITLE/TITRE DE L'OUVRAGE
1.	I.A. Litvak C.J. Maule	Department of Economics, Carleton University.	Canadian Entrepreneurship: A Study of Small Newly Established Firms, October, 1971.
2.	Harold Crookell	School of Business Administration, University of Western Ontario.	The Transmission of Technology Across National Boundaries, February, 1973.
3.	M.H.E. Atkinson	Faculty of Graduate Studies, University of Western Ontario.	Factors Discriminating Between Technological Spin-Offs and Research and-Development Personnel, August, 1972.
4.	R.M. Knight	School of Business Administration, University of Western Ontario.	A Study of Venture Capital Financing in Canada, June, 1973.
5.	Blair Little R.G. Cooper R.A. More	School of Business Administration, University of Western Ontario.	The Assessment of Markets for the Development of New Industrial Products in Canada, December, 1971.
6.	F. Zabransky J. Legg	School of Business Administration, University of Western Ontario.	Information and Decision Systems Model for PAIT Program, October, 1971.
7.	K.R. MacCrimmon W.T. Stanbury J. Bassler	Faculty of Commerce and Business Administration, University of British Columbia.	Risk Attitudes of U.S. and Canadian Top Managers, September, 1973.
8.	James C.T. Mao	Faculty of Commerce and Business Administration, University of British Columbia.	Computer Assisted Cash Management in a Technology-Oriented Firm, March, 1973.
9.	J.W.C. Tomlinson	Faculty of Commerce and Business Administration, University of British Columbia.	Foreign Trade and Investment Decisions of Canadian Companies, March, 1973.
10.	G. Kardos	Faculty of Engineering, Carleton University.	Case History of Three Innovations: Webster Mfg. (London) Ltd; Spectrac Limited, and The Snotruk, 1973.
11.	I.A. Litvak C.J. Maule	Department of Economics, Carleton University.	A Study of Successful Technical Entrepreneurs in Canada, September, 1972.
12.	Y. Allaire, J.M. Toulouse	Faculty of Management Sciences, University of Ottawa.	Psychological Profile of French-Canadian M.B.A. Students: Consequences for a Selection Policy, December, 1972.
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14.	M.R. Hecht J.P. Siegel	Faculty of Management Studies, University of Toronto.	A Study of Manufacturing Firms in Canada: With Special Emphasis on Small and Medium Sized Firms, December, 1973.
15.	Blair Little	School of Business Administration, University of Western Ontario.	The Development of New Industrial Products in Canada. (A Summary Report of Preliminary Results, Phase I) April, 1972.
16.	A.R. Wood J.R.M. Gordon R.P. Gillin	School of Business Administration, University of Western Ontario.	Comparative Managerial Problems in Early Versus Later Adoption of Innovative Manufacturing Technologies, (Six Case Studies), February, 1973.
17.	S. Globerman	Faculty of Administrative Studies, York University.	Technological Diffusion in Canadian Manufacturing Industries, April, 1974.
18.	M. James Dunn Boyd M. Harnden P. Michael Maher	Faculty of Business Administration and Commerce, University of Alberta.	An Investigation into the Climate for Technological Innovation in Canada, May, 1974.
19.	K.R. MacCrimmon A. Kwong	Faculty of Commerce and Business Administration, University of British Columbia.	Measures of Risk Taking Propensity, July, 1972.
20.	I.A. Litvak C.J. Maule	Department of Economics, Carleton University.	Climate for Entrepreneurs: A Comparative Study, January, 1974.

	AUTHOR(S)/AUTEUR(S)	UNIVERSITY/UNIVERSITE	REPORT TITLE/TITRE DE L'OUVRAGE
21.	J. Robidoux Gerard Garnier	Faculte d'administration, Université de Sherbrooke.	Factors of Success and Weakness Affecting Small and Medium-Sized Manufacturing Businesses In Quebec, Particularly those Businesses using Advanced Production Techniques, December, 1973. Facteurs de Succes et Faiblesses des Petites et Moyennes Entreprises Manufacturieres au Québec, Specialement des Entreprises Utilisant des Techniques de Production Avancees, decembre, 1973.
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