

The origins of small business failure : A Taxonomy of Five Explanatory Business Failure Patterns

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Résumé

Whereas it is obvious that the failure process can vary from one firm to another (Argenti, 1976; D'Aveni, 1989; Laitinen, 1991), to date, few researchers have worked on the detection of several explanatory failure patterns. In addition, none of the reviewed research really focuses on small firms while their failure is important and particular (Haswell and Holmes, 1989).

Considering these observations and on the basis of two complementary statistical analyses (Thiéart, 2003), this paper identifies, among a sample of 208 small distressed firms, a taxonomy of five explanatory business failure patterns, i.e. five homogeneous groups of small firms on the basis of the reasons for their failure. These five patterns are the following ones : shocked firms (1), firms serving other interests (2), apathetic firms (3), firms that fail after a punctual managerial error (4) and badly-managed firms (5). The results of this paper are consistent with previous literature but they shed new lights on the understanding of the reasons for small business failure.

As the detection of the fundamental explanatory failure factors is the basis of failure prevention (Argenti, 1976), the identification of these patterns is of crucial importance for a better understanding and for a better prevention of this phenomenon.

Key words : Business failure prevention, small firms, explanatory factors

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Considering these observations and on the basis of two complementary statistical analyses (Thiéart, 2003), this paper identifies, among a sample of 208 small distressed firms, a taxonomy of five explanatory business failure patterns, i.e. five homogeneous groups of small firms on the basis of the reasons for their failure. These five patterns are the following ones : shocked firms (1), firms serving other interests (2), apathetic firms (3), firms that fail after a punctual managerial error (4) and badly-managed firms (5). The results of this paper are consistent with previous literature but they shed new lights on the understanding of the reasons for small business failure.

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INTRODUCTION

Previous researchers demonstrate that all the firms do not fail for the same reasons, that they do not follow the same failure process because there are various possible failure consequences and that they do not exit the failure process through the same exit (Argenti, 1976; Newton, 1985 ; D'Aveni, 1989; Laitinen, 1991).

Considering that the failure process can be different from one firm to another, it would thus be very useful to identify distinctive failure patterns in order to better understand and prevent this phenomenon.

Nevertheless, to date, few researchers have worked on the detection of several patterns. Actually, an extensive review of the literature only isolates thirteen studies which propose this type of results.

After a complete analysis of these preventive studies (Auteur and Van Caillie, 2008; Auteur, 2009), two observations come out.

1. Two main categories of failure patterns have to be discerned.
 - Researchers such as Argenti (1976), Miller (1977), Malecot (1981) or Moulton et al. (1996) present several **explanatory business failure patterns (EBFPs)**. They propose a series of homogeneous sets of characteristics, traits or factors that **explain** the failure of firms.
 - Researchers like D'Aveni (1989), Laitinen (1991) or Van Wymeersch and Wolfs (1996) identify several **subsequent** (or even symptomatic) **business failure patterns**. They underline distinctive homogeneous sets of organizational or financial **failure consequences** that characterize failing firms. For example, D'Aveni (1989) presents three consecutive failure patterns that precede bankruptcy, i.e. sudden decline, gradual decline and lingering, and Laitinen (1991) proposes three distinctive financial (and thus symptomatic)² failure paths.

2. Whereas a particular attention has to be paid to small business failures because they are numerous and particular (see Paper 2), none of the reviewed research really focuses on small firms. The existing studies are thus either general (Malecot, 1981; Masuch, 1985) or they focus on large firms (D'Aveni, 1989; Miller, 1992; Moulton et al., 1996). However, it is

2 See Introduction

obvious that particular EBFPs should be recognized in function of the specific characteristics of small businesses.

After examining previous literature, the present study gathers empirical evidence on distinctive explanatory business failure patterns amongst small firms. Indeed, as the detection of the fundamental explanatory failure factors is the basis of failure prevention (Argenti, 1976), the identification of distinctive explanatory business failure patterns, which would differentiate small firms according to the reasons why they fail, is of crucial importance for a better understanding and for a better prevention of this phenomenon.

So, on the basis of two complementary statistical analyses (Thiétart, 2003), this paper identifies, among a sample of 208 small distressed firms, a taxonomy of five EBFPs, i.e. five homogeneous groups of small firms on the basis of the reasons for their failure.

The present paper is organized into four main sections.

The first section briefly summarizes the results of previous research on explanatory business failure patterns. The second section describes the methodology used to elaborate the taxonomy : the sample of distressed firms, the data collection and the data analysis methods used in the present research are presented. In the third section, the results of the statistical analysis are presented. Finally, the fourth section proposes a discussion of the results.

1. LITERATURE REVIEW

An extensive review of the literature on business failure prevention points out thirteen studies that propose a series of distinctive business failure patterns (Auteur, 2009). Eight of these preventive studies focus on the identification of distinctive **explanatory** business failure patterns (EBFPs). Nevertheless, none of them concentrates on small firms : these studies are either general or they focus on large business failures (Miller, 1992; Moulton et al., 1996).

By considering their intrinsic characteristics (Julien et al., 2005), Table 1 summarizes the findings of these previous studies that appear to be transferable to small firms³. On the basis of these studies, this table highlights the five typical patterns which could explain small business failures.

³ For example, as the study of Miller (1992) was only dedicated to large firms it was not included in this summary.

	The five typical patterns emerging from previous literature				
	Poor performing firms that never succeed	Firms that fail after a rapid expansion	Firms that fail after a late(r) expansion	Firms that fail after an external event	Firms that have not adapted (adequately) to their environment
Argenti (1976)	Young firms that never get off the ground (Type 1)	Firms that fail after a rapid over-expansion or precipitous growth (Type 2)			Mature firms which become progressively misaligned with their environment (Type 3)
Miller (1977) ⁴		Impulsive syndrome (1)			Stagnant bureaucracy (2)
Malecot (1981)	Poor performing firms that are outdated (1)	Firms that fail because of the unbalanced growth of their financial structure (4)		Firms which are too dependent on an external partner (2)	Poor performing firms that are outdated (1) AND Firms which have adapted too late or inadequately to their environment (3)
Masuch (1985) ⁵		Firms that have (too) rapidly grown (1)			Firms that fail as the results of the leader's age (2) AND Firms progressively misaligned (3)
Moulton and Thomas (1996)		Fight for market share (3) AND Loss of control (4) pathways			Market deterioration (1) AND Market maladaptation (2) pathways
Thornhill and Amit (2003)	Young firms with an inadequate management (1)				Old(er) firms that fail because of an inability to adapt to environmental change(s) (2)
Ooghe and De Prijcker (2008)	Unsuccessful starters (1)	Failing growth of ambitious early-stage firms (2)	Failing growth of dazzled established firms (3)		Apathetic established firms (4)

Table 1 : Summary of the patterns emerging from previous literature

To conclude this first section, on the basis of previous literature, we have identified five patterns

4 As they are dedicated to large firms or to the consequences of failure, the other two patterns presented by Miller (1977) can not be used to explain small firms' failure

5 Idem

which could explain small business failures. These are :

1. Poor performing firms that never succeed
2. (Young) firms that fail after a rapid expansion
3. (Older) firms that fail after expansion
4. Firms that fail after an external event
5. Firms that have not adapted (adequately) to their (changing) environment

With reference to the principles of the abductive reasoning (Thiétart, 2003), we are now going to induce EBFPs from the ground. We will then compare our empirical results to these five typical patterns, which emerge from previous literature. Finally, we will have the opportunity to determine if our empirical findings are consistent with previous research and if they provide some new interesting insights regarding EBFPs amongst small firms.

2. METHODOLOGY

2.1. Sample of distressed firms

The present research tends to determine the reasons for the failure of a sample of distressed firms and to organize this information into several distinctive EBFPs, dedicated to small businesses. With reference to the model proposed in Paper 2, this study considers a sample of firms situated in the second or in third stage of the failure process, i.e. distressed firms, and it goes back to the origins of their failure, i.e. the first stage of the process.

It is worth noticing that the selection of a (large) sample of distressed firms and the gathering of information about the reasons for their failure are real challenges.

On the one hand, it is difficult to isolate a population (and then a sample) of distressed firms that are different from bankrupt or death firms (Haswell and Holmes, 1989). Indeed, it is possible to observe legal bankruptcies from Court records with reasonable accuracy but it is much more difficult to isolate distressed firms on the basis of less precise criteria such as the default payment criterion (Hambrick and D'Aveni, 1988; Haswell and Holmes, 1989). Nevertheless, we are convinced that restricting the present research to an analysis of death or bankrupt firms would provide a biased or a narrow view of business failure (causes). Indeed, mortality is not necessarily linked with failure (Keasey and Watson, 1991) and bankruptcy is only one potential exit of the failure process (see Paper 1). Some distressed firms do not go bankrupt and it is useful to identify the reasons for their

failure. In addition, even if bankrupt firms are easily identifiable (thanks to official and public data), it is very difficult to contact the entrepreneur of these firms in order to get information about the causes of their failure.

On the other hand, once a population of distressed firms has been identified and delimited, it is difficult to contact their leaders and to get information about the fundamental causes of their failure. Failure is a very sensitive topic (Ooghe and De Prijcker, 2008) and individuals have a natural reticence to discuss failure and its causes (Bruno et al., 1987). In this sense, Bruno et al. (1987) underline two main difficulties : the unwillingness of certain entrepreneurs to discuss failure and the inability of some of them to objectively detect its causes. Furthermore, if the firm is still operating, the leaders usually have little time and no interest to work with scientists : their concern is survival (Weitzel and Jonsson, 1989)

Under these conditions, the partnership between the University⁶ and the Court of Commerce of Liège (Belgium) on which the present study is based has two main advantages⁷.

- The distressed firms are identified beforehand by the Court : a population of distressed firms is thus clearly delimited, i.e. distressed firms placed under investigation by the Court.
- The leaders of the distressed firms are invited by a legal authority to speak about their failure. It is therefore much easier to obtain information about explanatory failure factors than to try to collect these data without any official legitimacy.

In order to ensure the diversity of the data, three types of files from the Court (Commercial Inquiries, Legal Reorganizations and Bankruptcies) are analyzed in the present research.

At first, **106 distressed firms convoked to a Commercial Inquiry by the Commercial Inquiry Department** are considered in the sample. These firms were convoked to a Commercial Inquiry, and were thus included in the sample, on the basis of the following criteria (Bayard and Lonhienne, 2003) :

Firstly, they were detected and then considered as distressed firms by the Commercial Inquiry Department on the basis of predetermined failure signals. These are protests, judgments against the debtor, payment defaults to the social security administration or to the tax administration (VAT, Income tax) for at least 2 trimesters, any decisions of suspension or withdrawal of a procurement

⁶ In particular, the Research Center on Business Performance from HEC-Ecole de Gestion de l'Université de Liège

⁷ Of course, this partnership with the Court of Commerce of Liège provides us with an access to a unique database that opens extensive potential for qualitative and quantitative research.

contractor's certification and any pertinent information from the annual accounts or from a report filled by the controller of the firm's accounts. The combination of criteria retained to consider a firm as a distressed firm varies from one Court to another. Generally, a newly founded firm is considered as distressed as soon as ONE negative signal is collected. Otherwise, it is the combination of several negative signals that leads to the opening of a specific file.

Secondly, after the collection of additional information about this firm and after a first analysis realized by the administrative department, it comes out that the signals are relevant and significant, so that the Chamber of Commercial Inquiry⁸ can analyze it.

Finally, the judges from the Chamber of Commercial Inquiry estimate it is necessary to convoke the leader(s) of the distressed firm to a Commercial Inquiry, i.e. a meeting between a (consular) judge and the leader(s) of the detected distressed firms, in order to investigate the problems of the firm further. During this meeting, questions about the "perceived" causes of the distress of the firm, the current situation of the firm and the measures intended to remedy the situation are asked.

In order to limit the bias linked to the selection procedure explained just before and, thus, in order to make sure that the present research does not focus on particular distressed firms⁹, the sample includes two other kinds of distressed firms : **51 bankrupt firms** and **51 firms that entered a legal reorganization procedure**.¹⁰

Nevertheless, as business failure is a downward spiral, a distressed firm convoked to a commercial inquiry can become a reorganizing firm and even, then, a bankrupt firm in the later stages of the failure process if no corrective actions are implemented in order to recover (Auteur and Van Caillie, 2008). It is thus important to distinguish between the type of files the sampled firms come from, i.e. the source (Commercial Inquiry, Bankruptcy or Legal Reorganization files) they come from at the time they are analyzed by the researcher, and the exit of their failure process. As Figure 1 shows, the

8 This official meeting between judges from the Court of Commerce is presided by a professional judge who is assisted by 2 consular judges. : they analyze the situation of the detected distressed firms and they can make three distinctive decisions : to close the file if they consider that the firm's continuity is not in peril, to organize a Commercial Inquiry if further investigation is necessary or to engaged into a bankruptcy procedure if the conditions for it are fulfilled.

9 For example, a selection bias could derive from the fact that the (consular) judges may have a natural tendency to select (for a Commercial Inquiry) firms that are particularly important for the development of their Region (firms from specific sectors for example).

10 It is worth mentioning that, as the Commercial Inquiry Department has a preventive mission, firms detected by this Department should be earlier in the failure process (as described in Papers 1 and 2), and their situation should thus be less deteriorated, than other kinds of distressed firms, i.e. bankrupt firms or legal reorganizations. Therefore, they should have much more opportunities to recover. In the same spirit, the (organizational and financial) situation of firms that entered a legal reorganization procedure should normally be less deteriorated than the one of bankrupt firms. Thus, as it does not only analyze bankrupt firms, this research proposes a relatively broad range of EBFPs that does not solely include "patterns that conduct to bankruptcy".

final exit of a failed process is always characterized either by the recovery of the firm or by its disappearance (through bankruptcy, liquidation, etc.).

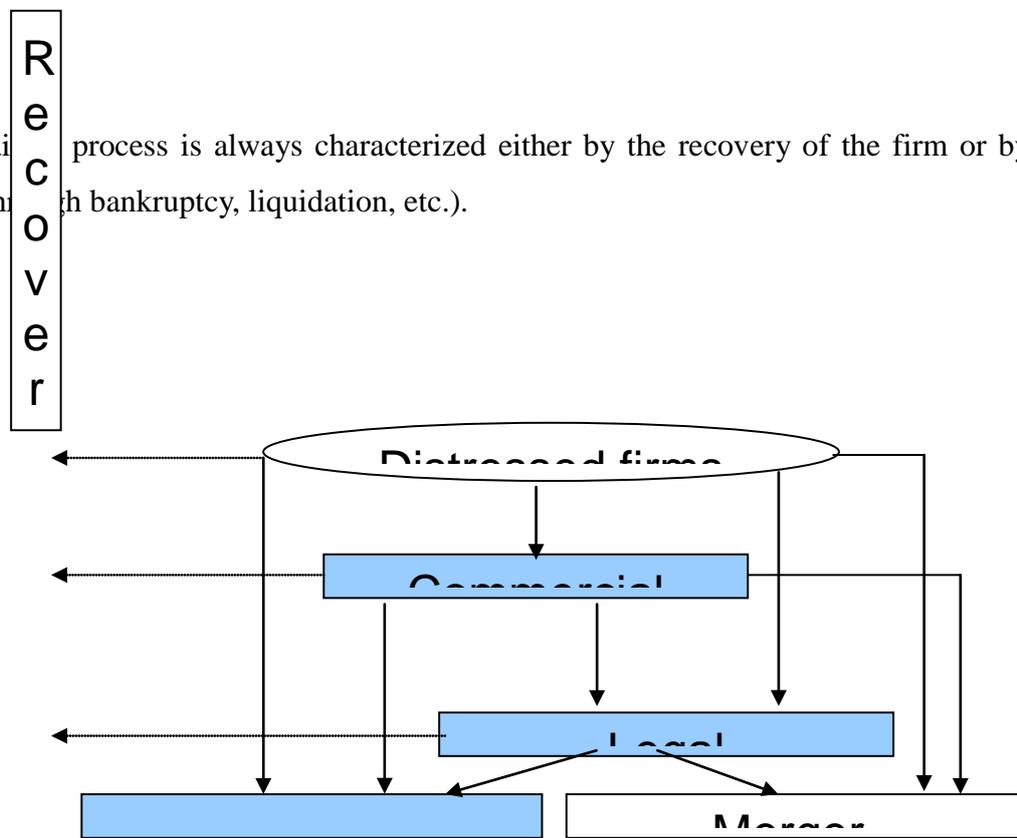


Figure 1 : The distress process and its output

The sample of firms on which this research is based is then composed of 208 incorporated¹¹ small Belgian distressed firms investigated by the Court of Commerce of Liège for a Commercial Inquiry, a Legal Reorganization or a Bankruptcy.

Tables 2 and 3 describe the sample on the basis of some objective characteristics (age, size¹², capital and industry).

Table 2 presents descriptive statistics (mean, median, standard deviation, skewness of variables) about the sampled firms by type of file (Commercial Inquiry, Legal Reorganization and Bankruptcy), in function of their age and size.

11 Firms that have a juridical identity that is different from the owner's.

12 The size of the firms is determined by the number of workers. Regarding the European Commission Definition (2003), small firms are organizations that have less than 50 workers.

Characteristics		Commercial Inquiry	Legal Reorganization	Bankruptcy
AGE	Mean	10,7	8,1	7,53
	Median	7,00	5,00	6,00
	Minimum	0,0000	0,000	1,0000
	Maximum	44	32	19,0
	Standard Deviation	9,6	7,8	5,45
	Skewness	1,036342	1,521007	0,619224
SIZE (Personnel)	Mean	6,4	8,4	3,00
	Median	4,00	4,00	2,00
	Minimum	0,0000	0,000	0,0000
	Maximum	50	48	13,0
	Standard Deviation	7,7	11,0	3,29
	Skewness	3,130028	2,236837	1,428634
EQUITY (in euros)	Mean	119606,7	140986,0	31498,02
	Median	20000,00	25000,00	18600,00
	Minimum	250,0000	2500,000	250,0000
	Maximum	4713835	1240000	308000,0
	Standard Deviation	488428,7	263005,8	45635,97
	Skewness	8,712899	2,689161	5,002780

Table 2 : Characteristics of the sample by type of file

In addition, Table 3 shows the distribution of the Sample by Type of files and by Industry¹³.

	Commercial Inquiry	Legal Reorganization	Bankruptcy	TOTAL
Manufacture	16	8	3	27
	7,69%	3,85%	1,44%	12,98%
Construction	17	11	10	38
	8,17%	5,29%	4,81%	18,27%
Services	24	11	10	45
	11,54%	5,29%	4,81%	21,63%
Commerce	33	15	17	65
	15,87%	7,21%	8,17%	31,25%
HORECA	16	6	11	33
	7,69%	2,88%	5,29%	15,87%
TOTAL	106	51	51	208
	50,96%	24,52%	24,52%	

Table 3 : Distribution of the Sample by Type of files and by Industry

2.2. Data collection

For each of the three types of distressed firms mentioned above, information about the intrinsic characteristics of these firms (age, size, life cycle) and of their leaders as well as about the

¹³ HORECA is the French abbreviation for the Industry grouping Hotels, Restaurants and Cafés

fundamental reasons for their failure was gathered. In order to ensure the reliability and the homogeneity of the data collection, systematic collection grids were elaborated for each kind of files (Commercial Inquiry, Bankruptcy and Legal Reorganization), on the basis of the model proposed by Auteur and Van Caillie (2008).

Different data collection methods were used in function of the type of distressed firms.

Concerning the firms convoked to a Commercial Inquiry, the data collection process consists in the observation of the meeting between the judge and the leader(s) of the distressed firms.

- Before each meeting, the file was analyzed by the scientific researcher and by the consular judge : pertinent information was already drawn from the diverse documents which the Department disposed of (financial annual accounts, possible answer of the entrepreneur to a questionnaire, failure symptoms identified, etc.).
- Then, the meeting took place and the judge asked questions to the entrepreneur regarding the failure of his firm and the reasons for this situation. Sometimes, depending on the personality of the judge, the researcher had the opportunity to ask some questions.
- Finally, after the meeting, the information collected was discussed with the judge (feedback).

Concerning the other two kinds of distressed firms, the data collection process consists in a documentary analysis : the analysis of bankruptcy and legal reorganization (court) records. These documents have to be written by the (bankruptcy or legal reorganization) administrators and they contain crucial information about the firm's characteristics and about the fundamental factors that explain its failure.

Beside this collection of data at the Court of Commerce, the annual financial statements of each of the sampled firms were collected, when they were available, via a software called "Belfirst". This latter is a database that gathers together the published financial statements of incorporated firms located in Belgium and in Luxembourg.¹⁴

In order to make sure that the failure of the studied firms is not related to particular environmental

14 Actually, the data collected at the Court can be affected by the subjectivity of the interviewed leaders, of the (consular) judges or administrators in charge of the file and of the researcher who gathers the data. A supplementary examination of each firm's financial statements in order to confront and confirm the data collected seems us particularly judicious. This is what Yin (1988) refers to when he speaks about the triangulation of the data, i.e. comparison of data obtained from different sources.

conditions¹⁵, the data include distressed firms investigated by the Court at different periods of time. Firstly, data about distressed firms convoked to a Commercial Inquiry were collected during two distinctive time periods :

- Data about the first 50 cases were collected between September and December 2006. An exploratory analysis of this first 50 firms was then rapidly carried out in order to obtain some exploratory results.
- Information about the remaining 56 cases were collected between January and June 2008.

Secondly, data about bankrupt firms refer to firms that were declared bankrupt between September 2007 and January 2008¹⁶ : the first ten¹⁷ incorporated firms that were declared bankrupt in September, October, November, December 2007 and January 2008 are included in the sample.

Finally, information was gathered about firms that entered a legal reorganization procedure between 1998 and 2004.

As a lot of qualitative variables compose the database, a code (a number) was assigned to the answers so that the responses could be grouped into a limited number of classes¹⁸. When the modalities of the qualitative variables could be sorted, discrete ordinal data were assigned to these variables. In many other cases, discrete nominal data were assigned to the variables. The classifying of the qualitative data into limited categories sacrificed some data details but it was necessary for an efficient statistical analysis (Cooper and Schindler, 2000).

1.3. Statistical methods

Firstly, a cluster analysis of cases (Everitt, 1974; Statsoft, 1995b, Bouroche and Saporta, 2005) was carried out in order to determine homogeneous groups of small firms according to the collected characteristics that explain their failure¹⁹. In the present study, this non parametric statistical analysis aims at grouping together cases (i.e. small distressed firms) that are the most similar to

15 What would lead to bias in the identification of distinctive EBFPs

16 The juridical year is similar to the academic year in Belgium (from September until June)

17 The President of the Court confirms us that the first ten bankruptcies of each month are not selected according to a procedure which differs from the one used to select the other bankruptcies of the month. The chronological sequence of bankruptcies which are pronounced by the Court of Commerce of Liège only depends on the date on which the entrepreneur makes a confession of bankruptcy or on the date on which the creditors officially ask the Court of Commerce to pronounce the firm bankrupt. The chronological sequence of bankruptcies which are pronounced each month is thus completely random.

18 Of course, a code was only attributed to variables which were directly included in the following statistical analyses

19 Remember that the term cluster analysis (first used by Tryon, 1939) encompasses a number of different algorithms and methods allowing to group objects into categories. This data analysis technique aims at sorting different objects into groups in a way that the degree of association between two objects is maximal if they belong to the same group and minimal otherwise. So, a cluster analysis discovers structures in data but does not explain why they exist.

each others when a series of variables are considered (i.e. characteristics that fundamentally explain their failure).

The cluster analysis we carried out had the following characteristics :

- The distance measure used to amalgamate cases is $(1 - \text{Pearson } r)$ or $(1 - \text{correlation})$: the more important the correlation between two cases, the more reduced the distance between these two cases.
- The amalgamation rule chosen to amalgamate clusters is the Ward's (1963) criterion (the nearest clusters are associated at each step). This method uses an analysis of variance approach to evaluate the distances between clusters. In short, this method attempts to minimize the Sum of Squares (SS) of any two (hypothetical) clusters that can be formed at each step (Statsoft, 1995b).
- On the basis of the choice of a relevant linkage distance, several clusters, i.e. homogeneous groups of firms, in function of the conditions which fundamentally explain their failure, are finally retained .

Secondly, a correspondence analysis (Benzécri, 1973; Lebart et al., 1977; Lebart et al., 1984; Greenacre, 1984; Bouroche and Saporta, 2005) was carried out in order to determine which modalities of the active variables (considered as dependent variables, i.e. characteristics that explain the failure) are related to each cluster, the taxonomy being considered as a passive variable in the analysis (i.e. a variable that has to be explained by the different modalities of the active variables, without any interference with them). This statistical analysis is traditionally considered as complementary to the cluster analysis and as the privileged method to describe qualitative variables (Bouroche and Saporta, 2005) : it helps thus to explain the nature and the determinants of each cluster (or EBFs) ²⁰.

3. RESULTS

²⁰ This non-parametric multivariate data analysis technique allows to highlight the proximities between the modalities of discrete variables considered as active (i.e. explaining a phenomenon) and the modalities of discrete variables considered as passive (i.e. explained and dependent from the active variables). The results of this analysis are multi-dimensional graphs, allowing to understand the proximities between modalities of some variables and allowing to reduce the information contained in a database into some synthetic dimensions. The results provide information which is similar in nature to those produced by a Factor Analysis (Statsoft, 1995b). The mathematical model underlying to this technique is similar in its principles to the one used in a principal components analysis but is adapted to the very nature of the data which are transformed (these data being ordinal and not continuous).

3.1. Preliminary observation

Exploratory statistical analyses (see Auteur, 2009) showed that the five (emerging) innovative firms that compose the sample are really different from other ones when analyzing the reasons for their failure.

According to previous analysis made by Auteur (2009), these innovative²¹ firms are lead by passionate entrepreneurs who concentrate on the development of their technology and of their product rather than on their commercialization and, to a larger extend, on the management of the business. As they are less interested in the commercial aspects of business, they have difficulties to find customers and to sell their product. Furthermore, they lack skills in finance, in accounting and in business administration. As Bruno et al. (1987) argue, they are “technology- or product-oriented” rather than “business-oriented”.

Under these conditions, these particular firms should be considered separately and analyzed in-depth.

So, the present study concentrates intentionally on the other firms and on the reasons for their failure. In a second step, the statistical analyses presented in the methodology section were thus applied to a final sample of 203 distressed firms, once outliers were identified and deleted (208 minus 5 innovative firms).

3.2. Five main EBFs

3.2.1. Cluster Analysis

After a Cluster Analysis of the 203 remaining cases, five clusters (or homogeneous groups of small firms in function of the characteristics that fundamentally explain their failure, or EBFs) were retained at a linkage distance of 5.5 (see Figure 2 and 3)²².

21 Often High Technology firms

22 We could have chosen for 6 clusters at a linkage distance of 5.08. Nevertheless, a deep analysis of Figure 2, completed by a correspondence analysis, shows that, at this distance, the cluster analysis splits the shocked firms between firms that are shocked by pure external factors and firms that are shocked by human-related problems (in direct relationship with the firm's life or not). We consider thus that this choice would have had as a consequence the identification of over-specific groups : two sub-patterns.

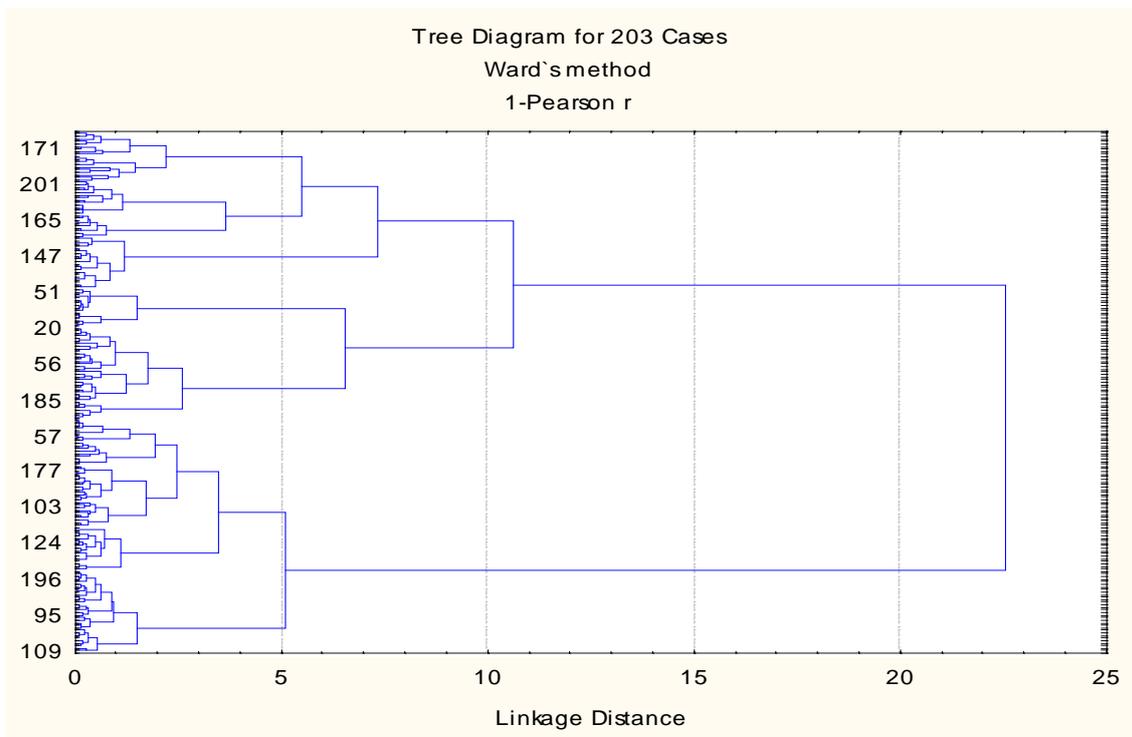


Figure 2 : The amalgamation tree resulting from the cluster analysis – 203 firms

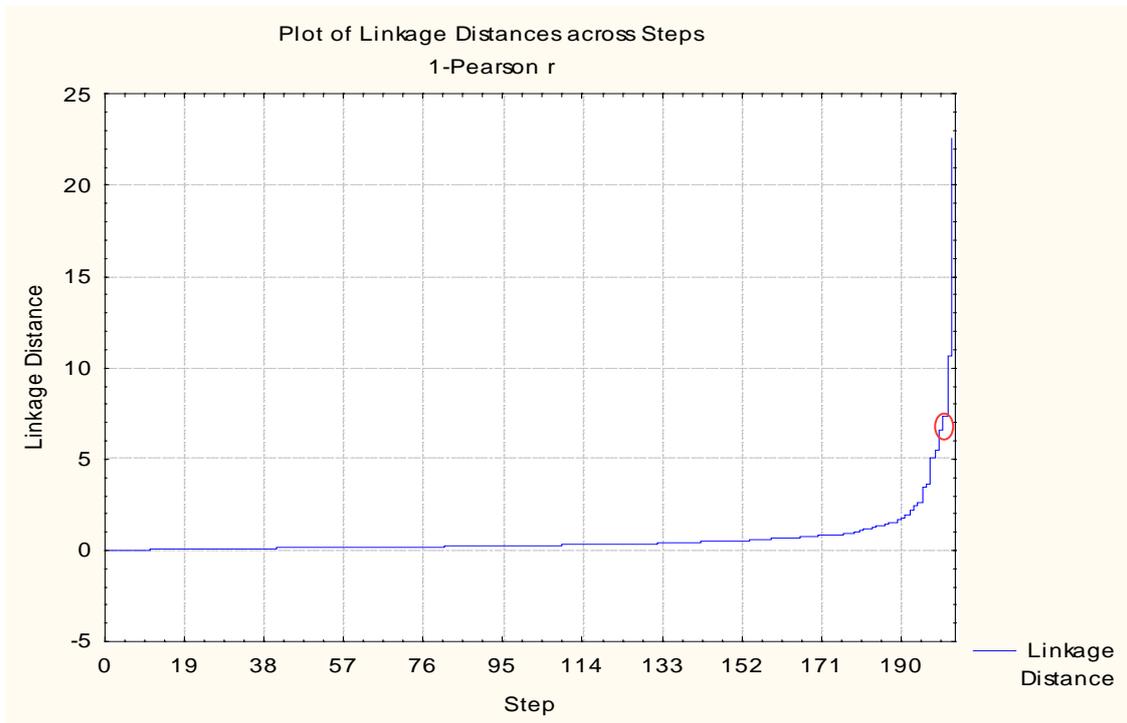


Figure 3 : Plot of linkage distances across steps – 203 firms

3.2.2. Correspondence Analysis

Regarding the plot of eigenvalues (Figure 4), the number of dimensions under consideration in the present study was restricted to 2 because the third dimension did not have any significant additional explanatory power.

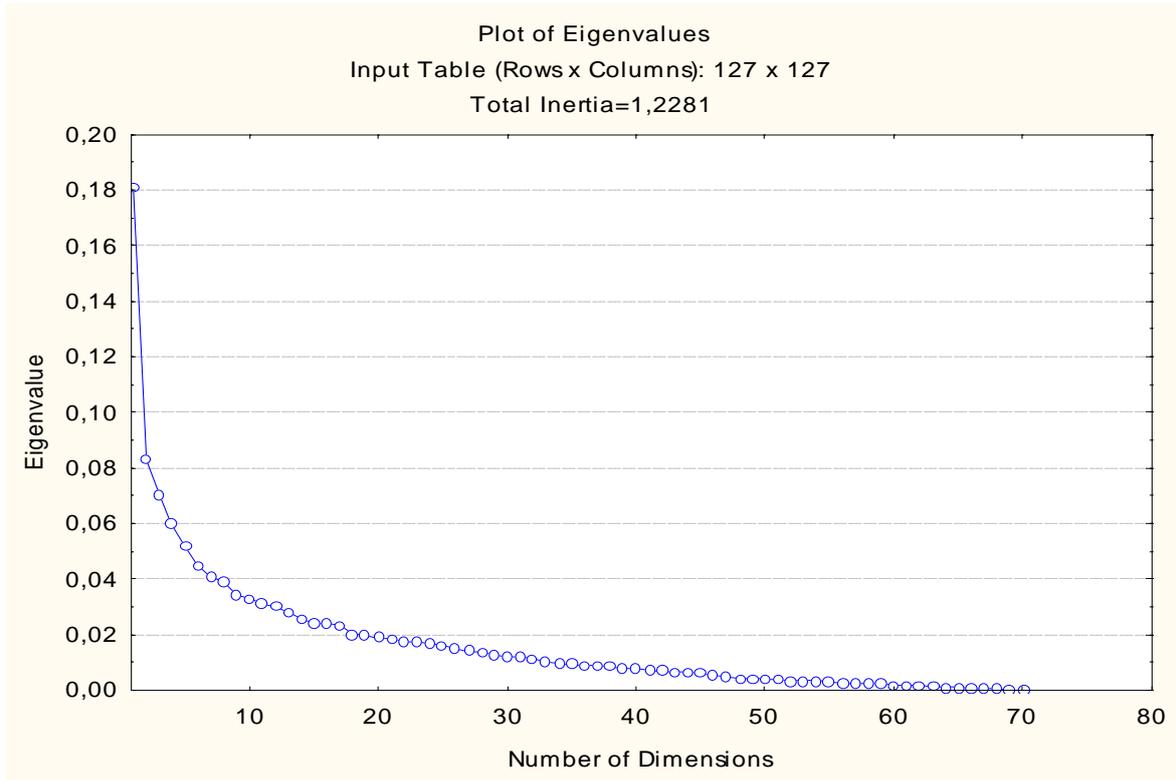


Figure 4 : Plot of eigenvalues associated with the dimensions considered by the correspondence analysis – 203 firms

Figure 5 represents on a 2D graph the results of the correspondence analysis.

In order to interpret these results, Appendix 1 presents the variables which are the most correlated to each of the two dimensions considered and the column coordinates of the different modalities of the variables (all neutral coordinates being discarded due to the fact they do not bring any additional information) on Dimension 1 and on Dimension 2.

From Appendix 1, it comes out that :

- Dimension 1 opposes **endogenous (or internal²³) and exogenous (or external²⁴) explanatory failure factors²⁵**.

On the left side, this first dimension is strongly associated to pure internal explanatory failure factors, which are related to an internal deficient management of the firm's resources and of their deployment, such as a deficient business organization, administration or finance.

On the right side, Dimension 1 is strongly associated to pure external explanatory failure factors, which are independent from deficiencies in the resources of the firm and in their deployment, such as pressures or shocks coming from the competitive environment of the firm.

- Dimension 2 refers to the **firm's ability to adapt to its environment** : it relates to the ability of the firm to anticipate changes in its environment and, then, to adapt to these changes. Indeed, the variables which are the most correlated to this second dimension are the firm's ability to invest, to innovate, to anticipate changes and to adapt to them as well as the firm's strategy.

Appendix 1 shows that, from the top until the bottom, Dimension 2 successively relates to

- An inability to innovate (MR-Inno:2) and to adapt to the environment (CG-Adapt:2) because of a lack of motivation and of commitment to the firm (EE-Eng:2).
- An inadequate anticipation of the future (CG-Ant:2) that leads to problems of adaptation to the environment such as to an inadequate business plan (CG-BP:2) or to a wrong investment (MR-Inv:2).
- An ability to anticipate and to adapt to the environment, which is not significant when considering the origins of the business failure.
- An adequate anticipation of events (CG-Ant:0) that leads to an adequate adaptation to

23 Coming from within the firm

24 Originated from outside the firm

25 As differentiated by Ooghe and Waeyaert (2004) for example

the environment : adequate strategy and investment policy (MR-Inv:0; MR-Strat:0)

- A perfect adaptation (alignment) between the firm and its environment thanks to a ability to innovate (CG-R&D:-2; CG-Inno:2), to the motivation (EE-Motiv:-2) and to the commitment of the leaders to their firm (EE-Eng:-2).

It is worth noticing that Figure 5 exhibits what is called a horseshoe-shaped curve or a Guttman effect (1968) : the modalities of the variables under consideration exhibit an inversed U-Shape. This means that most of the information is contained in Dimension 1 and that there are some redundancies between the two dimensions under consideration²⁶.

On the one hand, the plot of eigenvalue (Figure 4) confirms that dimension 1 has a very high explanatory power (eigenvalue = 0.18) compared to dimension 2 (eigenvalue = 0.08).

On the other hand, as mentioned before, the first dimension opposes firms with extreme behaviors in terms of reasons for failure : firms that fail because of **endogenous factors** and firm that fail because of **exogenous factors**. The second dimension relates to the **firm's ability to adapt to its environment**, depending on its resources and on their deployment (see Paper 1 and 2). With reference to the Guttman effect (1968) presented above, this second dimension is not independent from Dimension 1 and it can even be related to it. Indeed, the firm's ability to adapt to its environment is the result of a mix of endogenous and exogenous factors : it relates to the internal management of external factors. In other words, it determines the connection between internal resources and capabilities and external strategic factors (Thornhill and Amit, 2003).

This second dimension opposes thus firms with an intermediary behavior (firms which fail because of a mix of endogenous and exogenous factors and which are thus unable to adapt to their environment) to firms with an extreme behavior (firms which are able to adapt (adequately) to their environment). We make thus the assumption that this second dimension opposes apathetic small firms (EBFP 3) to non-failing (sound) firms that are aligned with their environment. As the present study only concentrates on failing firms, it is then logical that the section of the graph that refers to sound firms is empty.

A precise analysis of the 2D graph (Figure 5) and an examination of the various points dispatched on it (Appendix 1) lead to a better understanding of each EBFP.

Firstly, **EBFP 1 (41 firms)** refers to **shocked firms**, i.e. small firms that fail after one or several

²⁶ Even if it does not add as much explanatory power as dimension 1, we consider that dimension 2 has nevertheless to be retained because it provides some interesting precisions about the various clusters (or EBFPs).

shocks. Indeed, the correspondence analysis associates the following problems with EBFP 1 : private problems, external shocks from the macroeconomic or from the competitive environment, problems related with the takeover of the firm and disagreements between key actors. Two main categories of shocked firms may thus be distinguished (see footnote 80).

- Small firms that are shocked by (pure) external shocks such as pressures from their macroeconomic or competitive environments and accidental shocks.
- Small firms that are knocked by human-related shocks, which are in relationship with the firm's life or not. Succession problems, disagreement(s) between key actors or private problems are examples of human-related shocks.

Secondly, **EBFP 2 (20 firms)** relates to **firms that serve other interests**, i.e. small firms whose operations mainly serve other interests than their own ones. In these firms, the (personal or professional) objectives of the entrepreneurs are, consciously or unconsciously, not aligned with the corporate goals. The predominance of the entrepreneur's personal interests over the firm's ones (such as a disproportionate amount of shareholders' receivables) and fraudulent activities are strongly associated with EBFP 2.

Referring to the first two clusters, unsurprisingly, the correspondence analysis shows that they are neither related to a particular life cycle nor to particular deficiencies in managerial competences, which are considered as endogenous failure factors.

Thirdly, **EBFP 3 (15 firms)** concerns **apathetic, nonreactive small firms** (often in the phase of maturity/decline) which become progressively misaligned with their environment because their leaders lack the ability to anticipate events and to adapt to (progressive) changes. The main fundamental reasons for their progressive misalignment with their external environment is the lack of dynamism and the loss of motivation of their leaders. Indeed, the correspondence analysis relates this cluster to the maturity/decline phase of the life cycle, to a poor level of innovation, to a poor ability to anticipate and to adapt to changes, to a poor commitment and to a poor motivation of the leaders.

Fourthly, **EBFP 4 (36 firms)** is not clearly explained by the results of the correspondence analysis. Actually, any significant relationship between the modalities of the active variables and this

modality of the passive variable (EBFP = 4) comes clearly out of the correspondence analysis²⁷. However, it comes out that, a priori, EBFP 4 refers to **firms that fail because of a punctual managerial error**. This latter is related to the (in)ability of the entrepreneur to correctly analyze the firm's environment, to anticipate changes and to adapt the firm to it. Indeed, this fourth EBFP is strongly associated with firms that fail because of an inadequate business plan or because of a managerial decision that does not have the expected consequences.

Fifthly, **EBFP 5 (91 firms)** relates to **badly-managed firms**. This failure pattern gathers together firms that are generally situated in the first stages of their life cycle and that are run by entrepreneurs with insufficient managerial competences. This fifth EBFP is very large because it includes firms that suffer from all kinds of problematic managerial competences : the correspondence analysis associates it with poor competences in marketing, in operations, in finance, in business administration, etc.

Nevertheless, this failure pattern should be investigated further for the following reasons.

- It includes 91 firms of the sample and it is thus, by far, the most common failure pattern identified by the present analysis.
- The explanation provided thanks to the results of the correspondence analysis is vague and it requires much more precision. Indeed, this fifth EBFP gathers together a wide array of badly-managed firms : it includes motivated as well as unmotivated entrepreneurs, it refers to firm in which problems of control are detected or to firms confronted to commercial deficiencies, etc.

²⁷ Under these conditions, a further investigation of this EBFP (in a future research) is necessary for its complete understanding

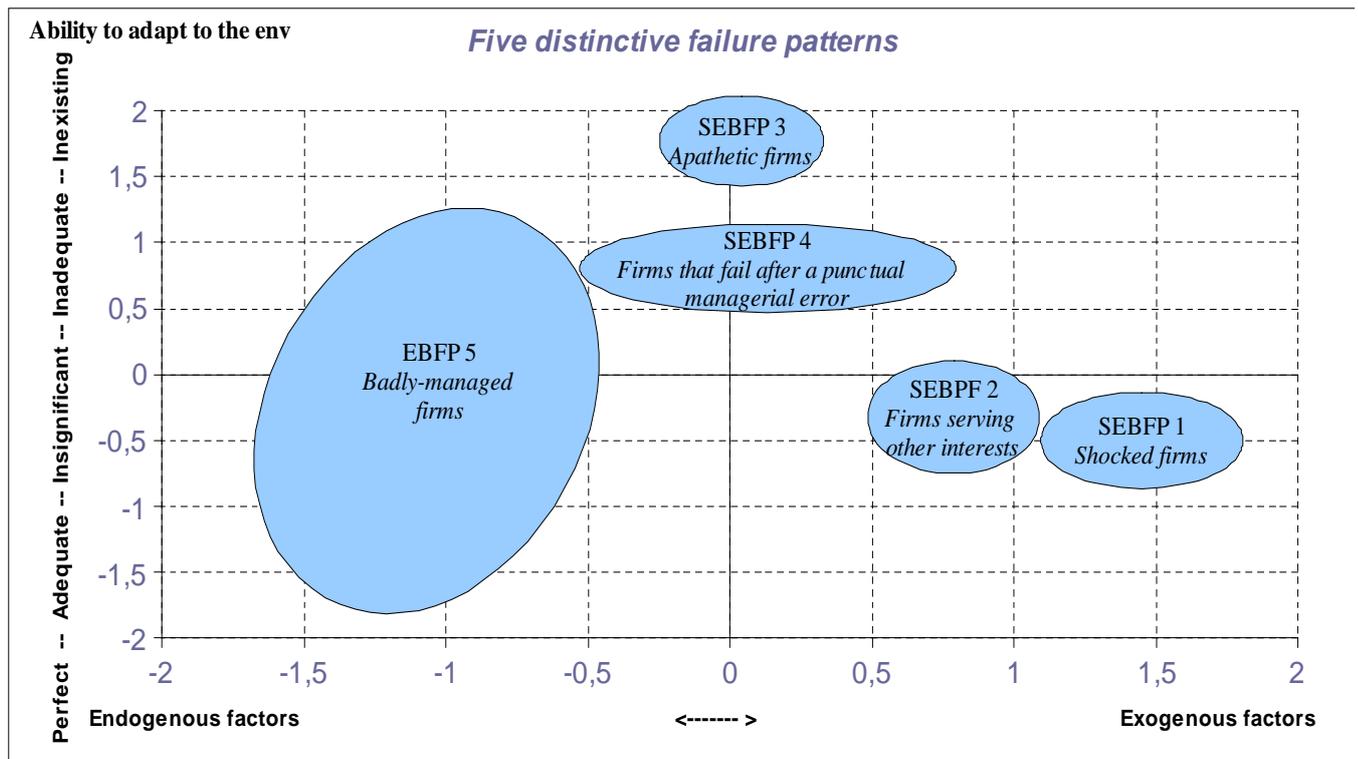


Figure 6: Five major EBFPs

As explained before, two fundamental dimensions explain the failure of small firms. Firstly, the endogenous versus exogenous nature of the explanatory failure factors. Secondly, the firm's ability to adapt to its environment. Considering these two fundamental dimensions, five main EBFPs are identified by the present analysis and they are positioned on the layout.

Firstly, the reasons for the failure of **shocked firms** (EBFP 1) and of **firms that serve other interests** (EBFP 2) are exogenous to the firm's set of resources and are not particularly linked with the firm's ability to adapt to its environment (a shock = a sudden event)²⁸.

Secondly, the failure of **apathetic firms** (EBFP 3) is explained by a mix of endogenous and exogenous factors. In these firms, the entrepreneurs cannot sustain the connection between internal resources and capabilities and external strategic factors (Thornhill and Amit, 2003). Subsequently,

²⁸ Nevertheless, it is worth remembering that, as mentioned in Paper 3, the pattern which refers to shocked firms has to be relativized. As Ooghe and Waeyaert (2004) argue, even if one (or several) shock was presented as the fundamental reason for the failure of his firms by the entrepreneur, the failure of "shocked firms" can often be attributed to other more fundamental explanatory factors such as an insufficient preparation of the founder's succession, for example. In other words, in some cases, some unfavorable (internal) conditions are already developing within the firm before the occurrence of the shock.

they fail because there is no internal management of external factors (such as changes in the environment). The position of this third EBFP on the second dimension shows that this situation results from the firm's lack of ability to adapt to its environment, i.e. its inertia.

Thirdly, the failure of firms belonging to EBFP 4 is also related to a mix of external and internal factors and, in particular, to an (punctual) inadequate internal management of external factors which conducts the entrepreneur to make a **punctual managerial error**. This fourth EBFP is positioned lower on the second dimension than EBFP 3. This means that, while EBFP 3 relates to firms that are (completely) unable to adapt to their environment, firms belonging to EBFP 4 refers to firms that have inadequately adapted to their environment.

Finally, the reasons for the failure of **badly-managed firms** (EBFP 5) are mainly endogenous to the firm : they are related to (internal) deficiencies in managerial competences. Nevertheless, EBFP 5 is very large and it needs to be refined in a future research.

4. DISCUSSION

4.1. Two fundamental dimensions explaining small business failure

The present quantitative study stresses two other dimensions that fundamentally explain the failure of small firms : the **endogenous versus exogenous nature of the explanatory failure factors** and the **firm's ability to adapt to its environment**.

Firstly, firms may fail because of endogenous factors such as insufficient competences within the firms or because of exogenous factors such as a private problem. This distinction between endogenous and exogenous failure factors is consistent with previous literature. Actually, a discrimination between these two kinds of failure factors is traditionally presented in the literature (Newton, 1985; Hall and Young, 1991; Sheldon, 1994; Liefoghe, 1997; Ooghe and Waeyaert, 2004)

Secondly, the firm's ability to adapt to its environment is strongly associated with small business failure. The ability of the entrepreneurs to analyze their environment, to anticipate events and to adapt firms to them (adequately) are thus essential factors for their success and their firm's survival because they guarantee a better fit between the organization and its environment (O'Connor, 1994; Stoeberl et al., 1994).

Consistent with previous literature, two main kinds of problems related to the firm's ability to adapt to its environment are pointed out by the present study.

- At first, the absence of flexibility of the firm such as presented in “apathetic firms” (EBFP 3) may explain its failure. Indeed, the survival and continuing prosperity of an organization depends on its ability to remain flexible and responsive to changes in its own performance levels as well as in its environment (Kisfalvi, 2000). If the entrepreneurs loose their dynamism and do not anticipate and adapt to (progressive) change in their environment, the firm will progressively loose touch with the external world and it will no more be able to maintain a viable strategic position.
- In contrast, even if it may sometimes have a positive impact on the firm (Delacroix and Swaminathan, 1991), the implementation of an strategic or organizational change, such as presented in EBFP 4, may also explain business failure. Indeed, the implementation of a decision, or change, that is founded on an inadequate analysis of the environment leads to

problems of fitness between the firm and its environment and, in a deterministic perspective, to failure.

4.2. Consistency with previous literature

Even if none of the previous studies focuses on small businesses, Table 4 shows that a large part of the results of this study are consistent with the explanatory failure patterns emerging from previous literature (see Section 1).

Patterns emerging from previous literature	Poor performing firms that never succeed	Firms that fail after a rapid (over) expansion	Firms that fail after a late(r) (over) expansion	Firms that fail after an external event	Firms that have not adapted (adequately) to their environment
Patterns induced from the ground					
1. Shocked firms				X	
2. Firms serving other interests	?	?	?	?	?
3. Non reactive, apathetic firms					X
4. Firms that fail after a punctual error	?	?	?	?	?
5. Badly-managed firms	X	X	X		

Table 4 : Relationship between the results of this study and previous literature

Indeed, EBFPs 1 3 and 5 have been discussed by previous researchers. So, these patterns do not seem to be specific to small business failures.

Nevertheless, the present research provides some interesting new insights.

Firstly, two original EBFPs are highlighted by the current analysis. On the one hand, EBFP 2 is dedicated to firms which serve other interests while none of the previous nine studies on EBFPs deals with this frequent business problem (Newton, 1985). On the other hand, an original pattern is underlined by the statistical analyses : “firms that fail after a punctual managerial error” (EBFP 4).

Even if it does not provide a complete and definitive explanation of this new failure pattern, the present analysis proposes some first insights about it. A priori, it seems that this EBFP relates to firms that fail because of a punctual managerial error which is related to the (in)ability of the entrepreneur to correctly analyze the firm's environment, to anticipate changes and to adapt the firm to them. A punctual managerial decision (such as a strategic reorientation or a big investment) that does not have the expected consequences or an inadequate business plan are the punctual managerial errors that are stressed by the present study.

Secondly, the taxonomy induced by the present analysis focuses on small firms and on their specific characteristics. As a consequence, some failure (sub)patterns are particularly related to small business failures. For example, shocked firms should be much more common among a sample of small distressed firms than among a sample of larger ones because their resource set is smaller and it should thus much more rapidly be affected by a shock. Similarly, a private disorder or problems related to founder's succession can explain the failure of a small firm but they will rarely cause the failure of a large firm.

The results of this analysis are not only consistent with the eight previous studies about explanatory business failure patterns presented in Section 1 but they are also coherent, to a larger extent, with other studies from the literature on business failure. So, the basic ideas underlying each pattern were already tackled in previous research about business failure.

- Referring to EBFP 1, Hall (1992) or Everett and Watson (1997) emphasize the danger of external shocks, which come from the macroeconomic or from the competitive environment of the firm. Grusky (1962), Brown (1982), Haveman (1993), Pailot (1999) or Haveman and Khaire (2004) present a series of potential failure factors related to the takeover of a firm. Finally, Smallbone (1990) mentions that private problems may originate business failure.
- Concerning EBFP 2, Hall and Young (1991), Newton (1985) or Jaminon (1986) remind conflicting interests may explain a business failure. In addition, Kellens (1993) and Ooghe and Waeyaert (2004) underline that entrepreneurs who only serve their personal enrichment or who have fraudulent activities inevitably provoke the failure of their firm.
- Referring to EBFP 3, a lot of previous researchers stress the problems faced by nonreactive old firms. O'Connor (1994), Ranger-Moore (1997), Henderson (1999), Sull (1999) or Kisfalvi (2000) are examples of researchers who underline the importance to remain flexible and responsive to changes.
- Concerning EBFP 4, previous researchers already underline that the inability of the

entrepreneur to correctly analyze the firm's environment, to anticipate changes and to adapt the firm to them can be at the origins of its failure (Hambrick and D'Aveni, 1988, Thornhill and Amit, 2003). In particular, a lot of them, such as Castrogiovanni (1996) or Perry (2001), stress the importance of making an adequate business plan before launching a firm and the high risk of failure if this latter is not carefully elaborated. Furthermore, a punctual managerial error (such as a missed strategic reorientation or a big risky investment) has also been presented as a potential cause of failure by Argenti (1976) or Ooghe and Waeyaert (2004)

- Finally, referring to EBFP 5, “poor management competences”, such as managerial incompetence or insufficiencies (Larson and Clute, 1979), are by far the most commonly cited reasons for small business failure in the literature (Peterson et al., 1983; Wichman, 1983; O'Neill and Duker, 1986; Haswell and Holmes, 1989).

Nevertheless, this popular statement made in the literature is very vague and can include a lot of diverse problems in the management of the small firm. That is why, as mentioned early, this last EBFP needs to be refined in a future research.

CONCLUSION

The present paper induces, from statistical analyses, five EBFPs amongst a sample of small distressed firms.

EBFP 1	Shocked firms
EBFP 2	Firms serving other interests
EBFP 3	Apathetic firms
EBFP 4	Firms that fail because of a punctual managerial error
EBFP 5	Badly-managed firms

Table 5 : : Five main EBFPs

The present research has the following interests.

At first, it reinforces previous literature in inducing an original taxonomy of five EBFPs which are focused on small businesses. Indeed, the induced results are consistent with previous literature.

Secondly, it brings new insights regarding the reasons for small business failures and it proposes several EBFPs that are related to the particular characteristics of small firms.

Thirdly, as the detection of the fundamental explanatory failure factors is the basis of failure

prevention (Argenti, 1976), it is obvious that the identification of distinctive explanatory business failure patterns is of crucial importance for a better understanding and for a better prevention of business failure. This study provides thus entrepreneurs, managers or external advisers with crucial information about the reasons for the failure of small firms. With reference to this information, they have thus it easier to detect the fundamental causes of failure and, then, to find adequate corrective strategies that would lead to a durable recovery (Argenti, 1976).

While these results shed new lights on why small firms fail, information remains to be learned about business failure. Thus, the present study provides suggestions for future studies about this phenomenon.

Firstly, as the failure of (young) innovative firms seems to be particular, it would be interesting to investigate further this kind of firms and, in particular, to concentrate on a better understanding of the reasons for their failure.

Secondly, a further investigation of EBFP 4, dedicated to small firms that fail after a punctual managerial error, and of EBFP 5, dedicated to badly-managed firms, would be necessary. Indeed, the present study does not provide a complete and definitive explanation of this pattern.

Thirdly, the present paper still does not integrate the organizational and financial approaches of business failure. Especially, it would be interesting to determine if firms belonging to the same EBFP have a similar behavior in terms of financial ratios and, thus, to check if firms can be associated to one specific EBFP on the basis of publicly available data, i.e. financial information published in the annual accounts. If each EBFP leads to specific financial symptoms, it would thus be possible to have an idea about the fundamental problems of failure without having any access to internal information. In a preventive perspective to failure, this would be very useful because it would notably facilitate the work of the Court as well as the identification of key problems before the elaboration of a recovery plan.

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