MANAGERS AND MANAGEMENT ON INDUSTRY AND CONSTRUCTION BUSINESSES IN THE REGION OF VALE DO SOUSA

Francisco Diniz

fdiniz@utad.pt
ECHS/DESG/CETRAD/UTAD
Av. Almeida Lucena, 1,5000-660 Vila Real, Portugal

Nelson Duarte

duarte.nelson@gmail.com
ESTGF/Politécnico do Porto/CETRAD/CIICESI,
Casa do Curral, Margaride, Felgueiras, Portugal

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ABSTRACT

This article goal is to analyse firms and manages behaviour on a Portuguese region on construction and industry businesses. The results are based on 251 questionnaires. Usually managers present a low level of school education (changing recently). On what regards management issues it was realized that the main reason for business choice is the past experience of firm owners, and they started their businesses at their own homes (embeddedness?). The strategies followed by these firms reveal a risk adversity attitude and a lack of cooperation, considering their neighbours competitors instead of potential business partners. As a general conclusion it can be realized that in general these firms are not fostering local development.

INTRODUCTION - THEORETICAL OVERVIEW

Nowadays is widely accepted firms' importance, in particular the small ones, on economic development. However the role of these firms is not restricted to the economic perspective, social and sometimes environmental issues are also depending on them.

Small and/or Micro firms play an important role on today's economy. These firms even without the economic and sometimes political power that their larger incumbents have are important because together they represent the largest number of firms on economic fabric as we can see on Table 1.

Table 1. UE-25 firm indicators by class, except financial sector (%)

	Firms	**Employment**	**Turnover**	**Added Value**
Micro (0-9)	91,5	29,8	19,4	20,5
Small (10-49)	7,3	20,8	19,3	19,1
Medium (50-249)	1,1	16,5	19,2	17,8
Large (250+)	0,2	32,9	41,9	42,7

Source: (Schmiemann, 2006) pp.2 & (EUROSTAT, 2006)

According to a IAPMEI (*Instituto de Apoio às Pequenas e Médias Empresas e à Inovação – SMEs and Innovation Support Institute)* study, [IAPMEI, (2007)], micro and SMEs represent 99,6% of total firms in Portugal, 78,2% of total employment and 55,6% of turnover on the Portuguese economy. These figures show the role played by small firms in Portugal.

From these firms is expected a contribution for development, their own development in first place and through them a contribution for local development. Today's large firms where, sometime in the past, small ones. According to Magretta (2004) they became large by being the best small ones. The question is: What did they do in order to become the best ones? There is not only an answer to this question, however one of the factors that certainly influenced it was their decisions, goals, and plans, in other words, their management. Both micro and small firms offer an interesting potential to transform local economies. Considering this potential most governments and other institutions share the feeling and try to support

small businesses creation and growth. The main issue is how to help these firms. Many authors identify as their major problem financial issues [GEM (2001); Eversole (2003); OECD (2003); Apolinário (2005); Green, Kirkpatrick, & Murinde (2006); Mueller (2006)] however sometimes helping these firms by financial support only, may not be the best solution as refers for instance Eversole (2003) about microcredit support. Some other problems as outsourcing analysis [Baxendal (2004)], management styles and structures [Bruce, Cooper, & Vazquez (1999)], lack of competence or experience that leads to wrong decisions [Malone (2004); Man, Lau, & Chan (2001)] and many other problems related to internal factors such as innovation, marketing, human resources, or external factors such as networks or external environment are presented by different authors [Arend (2006); Perks (2006); Acquaah (2007); Kim, Knotts, & Jones (2008)].

Most of these problems including financial questions are related and will affect firms' management and require flexibility and adaptation capacity from firms in order to overcome those problems. Cooperation by networks or other kind of cooperation may present an interesting solution for small firms. For instance Hasegawa (2003) presents the *sanchi* as a network of small firms in Japan as a way to become more competitive, but there are many authors defending the importance of networks for firms' development [Ahern (1993); Dijk, Hertog, Menkveld, & Thurik (1997); Arend (2006); Mella (2006); Acquaah (2007)].

The main idea seems to be that small firms are really an important player on the economy and on local development. In order to get the best results they must be managed on the best possible way. To reinforce their importance, we will finish this section quoting another author that describes small firms as follows: *"The well-known futurist, John Naisbit long predicted the growing importance of the concept: 'small is beautiful'. Acs as an economist observes small business in the US and Europe and finds an increasing trend in their importance since the nineteen-eighties. Liargovas suggests that small firms are considered the 'back-bone' of local economies in Europe. In the Asian financial crisis, small and medium scaled enterprises were depicted as 'an army of ants' for Taiwan to fight the crisis. As Acs, Carlsson and Karlsson put it: As we move toward the 21st century, the emerging conventional wisdom seems to suggest that small firms and entrepreneurship are both necessary for long-run macroeconomic prosperity"* (Hu 2003).

THE REGION AND THE QUESTIONNAIRE

The region where this study took place is a region composed by 6 municipalities that

form the *Vale do Sousa Urban Community*. This region is located in the North of Portugal, and for statistical purposes is a region within NUTE III – *Tâmega*. According to INE (2007) this region has 337.380 inhabitants with a relatively high percentage of young people.

Economically as most of the country, the primary sector was in the past the main activity. Other activities such as manufacturing or services have been assuming a more relevant role. Nowadays the main activities in this region are: shoes making, textile, wood furniture and construction. In four of these municipalities it is even possible to identify some industrial clusters as referred by Bessa (2004) and DHVMC (2004): *Felgueiras*: Shoes production; *Lousada*: Textile; *Paços de Ferreira* and *Paredes*: Wood furniture.

To describe the entrepreneurial fabric of this region, it was necessary to collect information from different institutions, since the available information is not the same from every source. By using data from Statistics National Institute in 2005 were registered 34.049 firms, from all sectors. However information from CofaceMOPE reveal 11.973 firms, and according to the Work Ministry there are 10.231 firms. After analysing these differences, and some conversations with local authorities, it was realized that there is no valid information about the exact number of firms, and it was assumed, that a value of 12.000 firms should be very close to the reality.

After a decision about the number of firms to consider for the present study was done an analysis of firm distribution according to the activity sectors. This distribution, considering the data from the three institutions is more or less similar pointing as main activities the retailing, manufacturing, and construction sectors. Together these sectors represent around 75% of total firms in this region. However to analyse management strategies, and entrepreneurial and innovative actions from these type of firms is difficult to do using a single approach to all of them. In order to find more significant results it was decided to limit this study to industrial and construction businesses. In order to consider the industrial sector as a whole, the study analysed both the manufacturing and extractive firms.

This choice was done, since structurally there is not such a big difference among these three sectors. By their nature they are much closer to each other than anyone of them to the retailing sector. By that reason, and since these two sectors (industrial and construction) represents around 50% of total firms, the study was taken on these sectors. According to the data provided from the three institutions it was verified that the number of firms in industrial and construction sectors are around 5.000, and since this value is close to the exact number of firms, this will be used as the total population in study on this work.

On what regards firms' dimension, according to the data provided by CofaceMOPE, it

is possible to say that this region does not present the usual distribution, where micro firms present an overwhelming percentage. In this region they are still the largest class of firms with 62% (in Portugal this figure is around 80%) and small firms represent 35%. Together they account for 97% of total firms which is within the class distribution found in Portugal. The remaining 3% are classified as medium-sized firms. This distribution is typical for a region that presents a relevant manufacturing sector, which, by its nature, presents a large amount of firms counting with 10 or more employees.

The questionnaire was elaborated in order to collect information not only for the subjects here discussed, but for a wider research on strategic entrepreneurship and sustainability. Since there was no viability to question the total population (5.000 firms) the study was taken by using a valid sample. In order to calculate the sample size Saunders, Lewis, & Thornhill (2003) present a formula that considers the variability of the factors to be studied, the confidence interval required, and the error margin. The formula is:

$n=p\%*q\%*[z/e\%]^2$

where:
n: minimum sample size required;
p%: proportion belonging to the specified category;
q%: proportion not belonging to the specified category;
z: z value corresponding to the level of confidence required:
e: margin of error required;

According to Saunders, since the population is less than 10.000 a smaller sample can be used without affecting the accuracy.

The adjusted formula is:

$n'=\{n/[1+(n/N)]\}$

Where:
n': adjusted minimum sample size;
n: the minimum sample size (as calculated above);
N: total population;

Considering as the main factor the strategic entrepreneurship, and considering a variability of 80%-20% (which was corroborated later with the results) it was obtained a n = 245,86 and a n' = 235,47. With this minimum required sample it was verified that to study the total population through a reduced number of questionnaires should be done 236 questionnaires.

After this result the questionnaires were distributed according the distribution of firms

by sectors, classes, and municipalities. The questionnaire presented to firms, as referred already included a large number of questions in order to evaluate different aspects of firms' management.

THE FIRMS

After a description of the region where this study took place, some considerations about the firms will be presented. The firms considered are those on construction and industrial sectors, as presented on the previous section. Starting by their distribution across municipalities this study considered the distribution presented on **Erro! A origem da referência não foi encontrada.**.

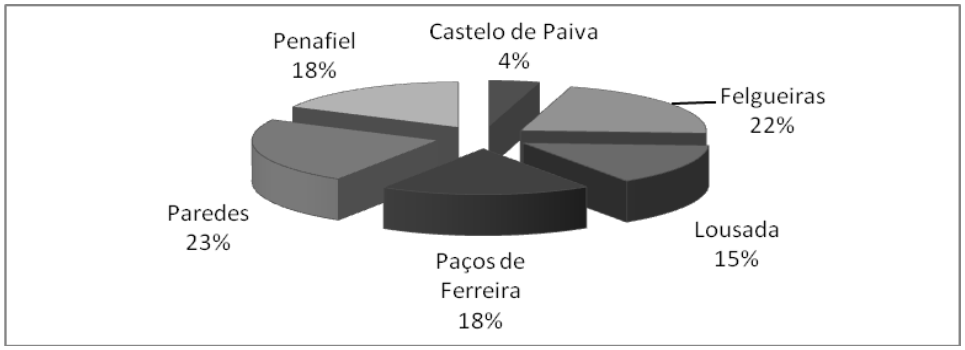

Figure 1. Firms' distribution by municipality

Together with municipalities distribution it was also analyzed the distribution of firms by sector. On Table 2 it is presented the distribution of firms according to the population and the sample size. The manufacturing industry presents a larger percentage on the sample than necessary, since it was very difficult to get the answers from the construction business. In some municipalities it was not possible to get the minimum number of answers from this sector as initially expected. However the final number of questionnaires was enough to fulfill the requirements in order to present a sample with valid results about the population.

Table 2. Total population and sample size used for the study

	Sample		Population (Vale do Sousa)	
Activities	Firms	%	Firms	%
Manufacturing Industry	191	76	7.352	61
Construction	56	22	4.664	38
Mining and quarrying	4	2	108	1
Total	**251**	**100**	**12.124**	**100**

The difficulty found in getting answers from the construction sector, is identified by many institutions or studies and it may be explained by different reasons. One of these reasons may be the non-official works done by this sector that leads to the *Underground Economy*. According to a newspaper article Almeida (2008) the results presented by a team of the Portuguese Ministry of Finances revealed that the *Underground Economy* had a slight variation from 1985 to 2005 representing about 22% of GDP, being the construction sector among the first places on this ranking.

Erro! A origem da referência não foi encontrada.. presents classes' firms distribution. At first it seems that the number of micro firms is very low. Normally these firms (micro) are the largest percentage (see for instance Table 1), but in this case, the studied firms are mainly at construction and manufacturing sectors that typically have a large number of employees. With a number of employees above 10, most of these firms are classified as small firms, even if they present, and that is the case, a turnover under 2 million Euros.

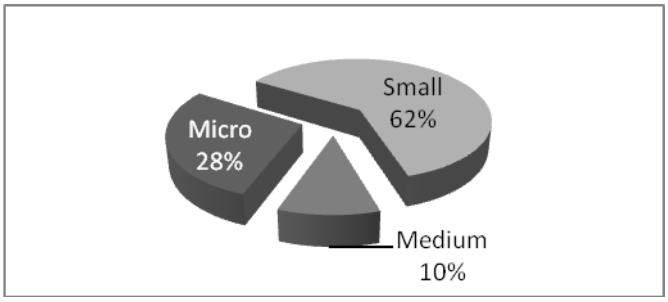

Figure 2. Firms' distribution by class

This distribution would probably be different if the sectors considered were for instance, retailing, restaurants or even other kind of services. Usually these sectors present a lower number of employees which would increase the number of micro firms. However the sectors that are under analyzes in this study are typically dependent on the work force, and the requirement to remain classified as micro firm of a number of employees lower than 10 is easily surpassed.

On **Erro! A origem da referência não foi encontrada.** it is possible to see that most of firms in this region are legally registered as a Partnership, being this distribution very similar among the six municipalities of the region. Only 3% are LLC, the large majority are partnership (two or more owners, frequently the owners are in the same family) or Sole Proprietorship.

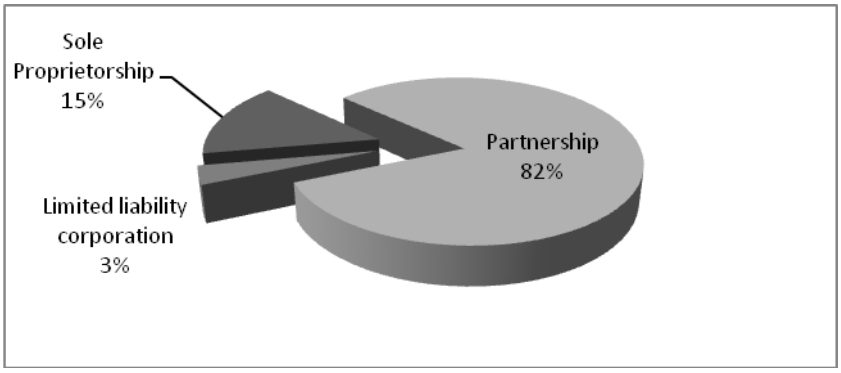

Figure 3. Firms' distribution according to legal forms

A special reference may be done about the identification of clusters, or industrial districts as presented by Bessa (2004). The existence of a concentration of firms in some specific sectors may present two distinct ways: (1) A way to growth and development, since there are some specialized sectors that may promote growth, innovation, entrepreneurship, or (2) A region focused on those sectors, dependent on a small number of customers and suppliers, working as subcontracted firms but without the main know-how. Unfortunately the second option seems to be closer to the reality leading this region to a vicious cycle as presented by Venkataraman (2004). With the external competition coming from Eastern Europe and Asia, a large number of firms were not able to resist, this situation created unemployment and the region seem to be trapped on its specialization.

In order to identify some possible reasons for that we will analyze the role of entrepreneurs and later some aspects about the management on this region.

THE ENTREPRENEURS

In order to get a real picture about firms in this region as well as the management practices followed by them, it was our goal to have an interviewee with knowledge and responsibilities on the firm. This goal was reached because 73% of respondents were firm owners or managers as we can see on **Erro! A origem da referência não foi encontrada.**. It is also interesting to notice that the largest majority of the 16% of "other" were identified as the official accountant of the firm. Most of times, especially in small firms the accountant is not a firm employee but an outsourced service. Since we asked for someone with responsibilities and knowledge of the firm as a whole, some firms asked their external accountants to fulfill our questionnaire. Even being an external member of the firm, the accountant is most of times also a consultant, someone that analyzes and suggests solutions for firm problems or investments. This means that the answers we received from most firms were given by someone that plays an important role on firm management.

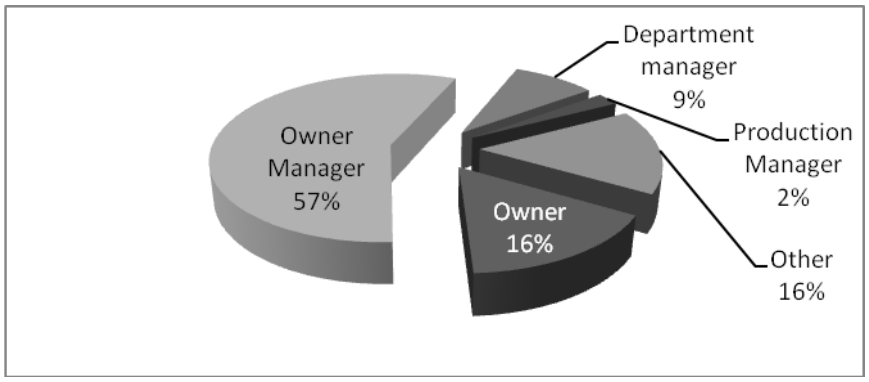

Figure 4. Interviewees functions in firms

Most of our respondents were male, 80%, which means that in the majority firms are manage by men. This is a tendency found in the six municipalities. Only in two of them *Paços de Ferreira* and *Felgueiras* it was found a more significant percentage of women in management tasks (37% in *Paços de Ferreira* and 31% in *Felgueiras*). The predominance of man in management tasks may also be explained by the nature of firms. It is more frequent to find a man as being the face of a manufacturing or construction firm, and this may still be the reason for the large percentage of man.

Considering the age of the interviewees we will have the distribution presented on **Erro! A origem da referência não foi encontrada.**. The middle classes with the ages from 30 to 50 represent 66% of the total sample. The younger and older classes present a similar distribution.

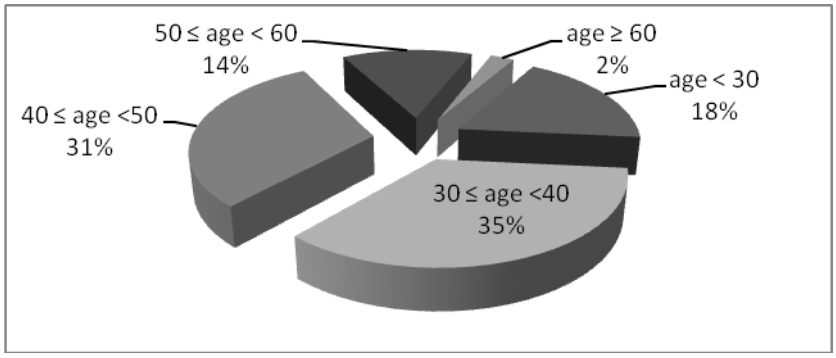

Figure 5. Interviewees age by class

Together with interviewees age is also important to consider the respondents' graduation. On **Erro! A origem da referência não foi encontrada.** it is possible to identify their school degree. Immediately we can realize that the large majority does not present

university graduation, and there are still 28% of respondents that attended just the first four years of school. Considering the two lowest levels of education (primary and secondary school) we will have 63% of the respondents which may lead us to conclude that most of firms' managers or owners (since these were the respondents) present a very low level of education.

It should also be noticed that the questionnaire was presented to the firms by different means. The e-mail was a tool also used to reach some firms to ask their participation in this research. When the e-mail answers were received it was noticed that most of the respondents that were reached by e-mail presented a university or post-graduation degree. Even if we consider the e-mail as a basic tool for nowadays businesses it seems that respondents without university attendance present some resistance to the web, and these might be an indicator for the use of new technologies. Are they ready to implement technology on their businesses if they don't even use a basic tool as the internet (information technology)?

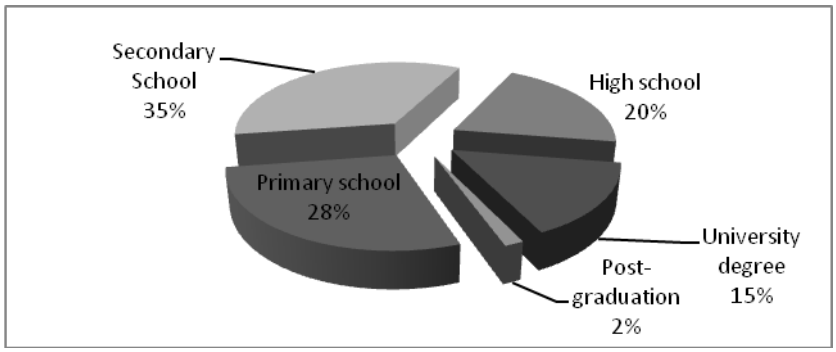

Figure 6. Interviewees graduation

Considering now the information and data about age, functions and interviewees' graduation some tests were realized to verify if it is possible to identify any dependence among them. By using the software *Statistical Package for Social Sciences (SPSS)*, it was firstly created a crosstab between age and interviewees functions. In order to verify the existence of a relation between these two variables it was required the χ^2 test, but it came with 48% of cells with an expected value lower to 5 which do not respect the requirement that allow a conclusion from this test.

The next step consisted on a crosstab between graduation and interviewees' functions. When analyzing the results there are some indicators of association between these variables because there are some differences between expected and observed values. However, once

again the requirements were not fulfilled, but since it was found some evidence of dependence it was tried a reduction of the number of classes as suggested in most statistical manuals.

Each variable was firstly organized in 5 classes, in order to find a relation both of them were reduced to 3 classes. The variable of graduation includes now three classes: 1 – the first two levels (primary and secondary school); 2 – High school; 3 – the two last levels (university and post-graduation degree). The variable of interviewees functions was also reduced for 3 classes: 1 – Owners (include owners and owner managers); 2 – Managers (department and production manager); 3 – Others.

This reorganization allowed a new crosstab and the χ^2 test in order to test the following hypothesis:

H_0: The variables are independent (there is no association) vs
H_1: The variables are dependent (there is association)

According to the χ^2 test result with a value of 111,926 and a $p = 2{,}826\ldots e^{-023}$) it is possible to reject H_0 with 99% of confidence, which means that the hypothesis of independence between these variables is rejected. This result allows us to conclude that owners present a very low level of school education. Within this group (owners) 93,6% attended at most the secondary school. In order to evaluate the intensity of the relation between these variables there are some measures based on the χ^2 statistics. These measures are the Coefficients of Phi, Contingency (or Pearson's C) and Cramer's V. The results obtained varied between 0,475 and 0,672, which means that there is a moderate association between these variables.

In order to have a better idea about the existent relations among these variables it was also analyzed the relation between the level of graduation and owners/owners-managers' age, in order to evaluate if the low levels of graduation are equally distributed or if there are some dependence between them (do the younger present higher levels of graduation?).

Once again the tool used to analyze this relation was a crosstab. Even though it was possible to identify a difference between expected and observed values which reveals dependence between variables, once again the requirements were not fulfilled. After some attempts to analyze this possible dependence through statistical techniques it was realized that it was not possible. Considering this difficulty and since we identified a real possibility for this dependence it was decided to do a simpler analyzes but that can give a general idea about this possible relation. On **Erro! A origem da referência não foi encontrada.** we have a graphic that shows the levels of education by classes of age.

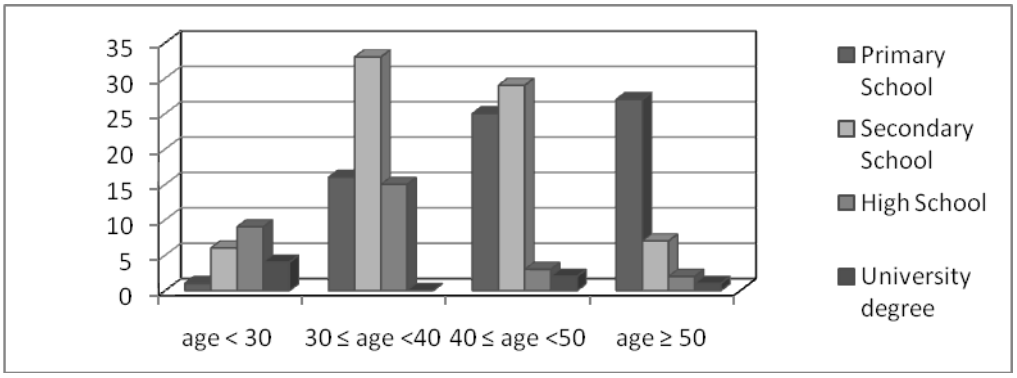

Figure 7. Relation between age and owners/managers graduation

From **Erro! A origem da referência não foi encontrada.** it is possible to realize that on the less than 30 years class most of firm owners present a high school educational level. As the age class increase also increases the percentage of owners with a school education at a primary level. The largest percentage of owners that attended only primary school are at the oldest class, on the other hand the largest percentage of university graduates (even being a reduced number) are on the first class (less than 30 years old).

In order to finalize this part of the study it was considered just the interviewees that are on the firm with management responsibilities for 5 years or less. By taking this group it is possible to find on **Erro! A origem da referência não foi encontrada.** the university graduates as the largest group followed by the high school graduates. On this group (people that is assuming management responsibilities more recently) it possible to verify that firms are trying to employ more qualified people.

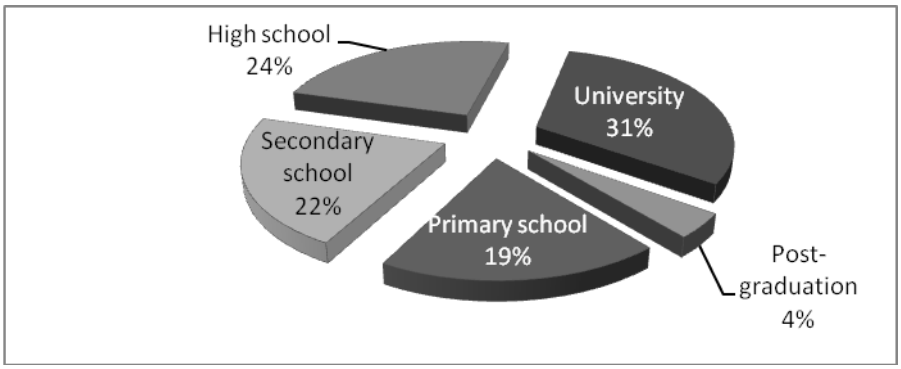

Figure 8. Graduation of managers that are working at the firm for five years or less

Doing the same analyzes for the last year instead of 5 years, the number of university graduates increases to 64%, and those with high school graduation or above represent 93% of

total managers. It seems to be a recent tendency but firms are starting to be managed by graduated and more educated people. It would be interesting to analyze in the future if this change that is being verified nowadays will result in a positive impact for firms and for the region as a whole.

SOME ASPECTS OF FIRMS' MANAGEMENT

After the analyzes and some considerations about firms and entrepreneurs, now is necessary to have a general idea about the result of the combination of both: the management, or at least some considerations about it. Once again, it is reminded that the sectors in analyzes are the construction and manufacturing industry, and with a low percentage also the mining and quarrying industries. Since there are some clusters identified on this region, mainly on manufacturing businesses, it seems to be interesting to analyze some aspects that may have contributed for this reality.

In first place we can have an idea about the reasons that contributed for business sector choice. The questions related to the next aspects (sector and localization) were presented as a question that allowed an open answer. Like that we could really understand the real reasons that leaded to that choice, and after that the answers were organized in different groups. Considering the reasons for sector choice, all the answers could be organized in just three different groups as presented on **Erro! A origem da referência não foi encontrada.**.

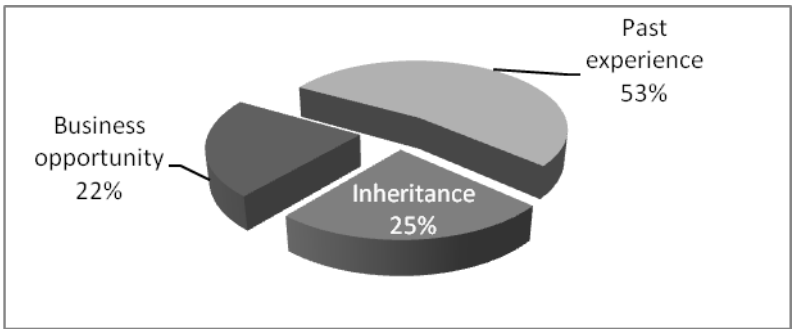

Figure 9. Main reasons for activity sector decision

According to GEM (2005) entrepreneurship may occur by two main reasons opportunity and necessity. Even though we find opportunity on the reasons presented on **Erro! A origem da referência não foi encontrada.**, the main reason is past experience (not referred by GEM). We can suppose that on the past experience reason the necessity may be included however the answers for activity choice did not referred necessity. Following the past experience there is the inheritance, which means that some of the entrepreneurs (25%)

are in these sectors because their families started the businesses years ago. The value obtained on this factor shows the importance of familiar firms and it also is in accordance with some theories as White, Thornhill, & Hampson (2007) present, that entrepreneurship may also occur by biological factors.

The last reason is the business opportunity that can be justified by two different ways. (1) The business agents really identified an opportunity and decided to exploit it; (2) Since it was identified a cluster or industrial district in some municipalities, some entrepreneurs created a new business in a *Common Tragedy* idea as presented by Hardin in 1965.

Another important factor to be considered is firms' localization factors. Why did the entrepreneurs choose this region to establish their businesses? On **Erro! A origem da referência não foi encontrada.** is it possible to find the main reasons for this choice.

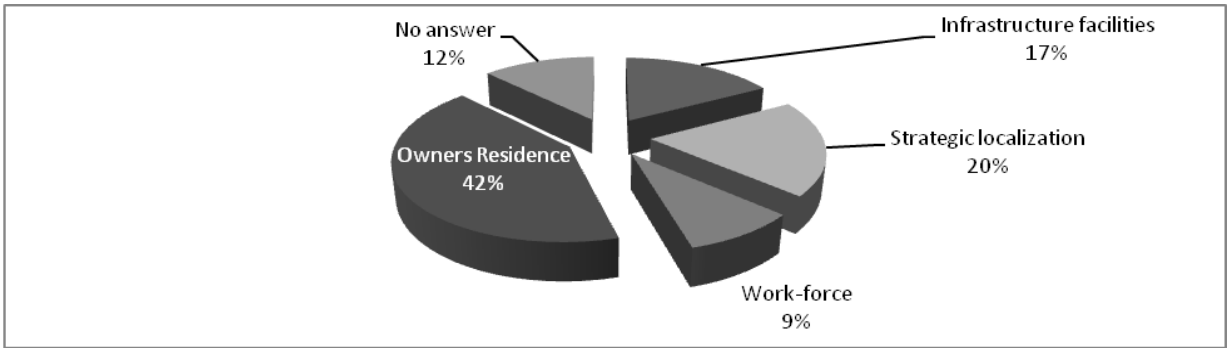

Figure 10. Firms' localization decision factors

In first place with 42% we find the owners residence, which justifies the picture on this region of a geographical dispersion of firms. The owners' residence as the main factor for firm establishment may be explained both for the lack of infrastructures at a municipal level, or by a reason presented by OECD (2003) that presents the residence factor as a main reason in some regions to promote entrepreneurship. This happens because in some regions the potential entrepreneurs live in rented houses, and most of times the residence is a support to start a new business. On this factor it is possible to identify once again the financial factors as a problem to firms, in particular, for small firms.

After owners' residence, the strategic localization factor takes de second place. Most of these firms consider a strategic localization the fact of establish their firms on a region where already exists a considerable number of firms in the same activity sector (the clusters or industrial districts). This choice may lead to a stronger cluster if the idea is cooperation either at horizontal or vertical level. Horizontal cooperation may promote an industrial district;

vertical cooperation may contribute for the establishment of a real cluster in the region. In both situations the output and the synergies obtained may benefit all the participants and the region if they work on a network basis that is important not only for firms but also for the region. However if the main goal of a new firm establishment is just to compete with the established ones, the result may not be the best one.

With 17% of results we find infrastructure facilities, which means that only a few firms chose the region because of this infrastructure (some answers were not totally clear, and they could be classified on this category or in owners residence category, however since the answers did not referred specifically the owners' residence, we decided to classify these ones as infrastructures facilities). Since this is not a large percentage it may reinforce the idea, already presented that there is a lack of entrepreneurial infrastructures on this region.

The remaining 9% are related with work-force recruitment that can easily be explained by the existence of clusters. Since there are many firms on the same sectors the workers are specialized in performing some tasks, which may decrease the work force formation costs.

It was also verified that after the first establishment only 4% of firms (in our study means 10 firms) have changed their localization. From those firms 60% have moved into the same municipality and the remaining for a neighbor municipality. The main reason for this change was the infrastructure facilities. Probably they started their businesses at home, and after same time they realized that with business expansion they needed some other facilities. Another reason was just as on the firm establishment factors a "strategic localization" with 20% of answers. Some established firms, after some time moved their business to a region where they could find more firms on the same business.

Considering now some aspects closest to firm management the next Figure presents the distribution of the main turnaround strategies that firms followed on the last 5 years.

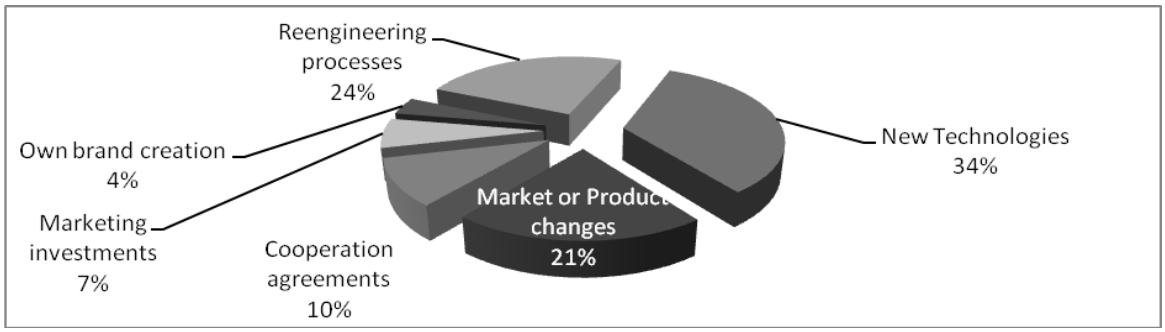

Figure 11. Main turnaround strategies identified by managers

Before further discussion about this subject it is important to notice that from 251 questionnaires 38,2% did not reply to this question. Even being risky try to guess the meaning of these non-replies, it can be suggested that those who did not reply did not identify any strategy associated to a turning point.

The answer to this question allowed multiple answers, but from all the answers obtained no one identified more than two turnaround strategies or turnaround points. Considering the 251 interviewed firms 50,2% identified one turning point, 38,2% did not identify any turning point, and only 11,6% presented two turning points.

Taking into consideration the results from **Erro! A origem da referência não foi encontrada.** it is possible to verify that the most frequent strategy is the investment in new technologies followed by reengineering processes. This is a normal result since most of times the acquisition of new technologies implies production reorganization through reengineering processes. From those that invested in new technologies 64,3% also reorganized their production process.

The next strategy is market or product changes with 21%. From the firms that presented two main strategies being this one of them, 50% also identified production process reorganization. Those firms who identified cooperation agreements as a turnaround strategy (10%) identified only this strategy.

The two last strategies identified were marketing investments (7%) and own brand creation (4%). 80% of the firms that identified marketing investments together with another strategy also identified market or product changes, which means that firms were trying to promote themselves with some characteristics of differentiation from their competitors.

Since some firms are trying to differentiate from their competitors it might be interesting to analyze the competition in this region. In order to get some information about the competition it was asked in the questionnaire to identify the number of main competitors and their class. Considering the results on the number of competitors 35% of the questionnaires did not present an answer to this question. From those who replied the average number of competitors revealed a high value 28,55, which means that on average each firm presents 28 competitors as their main competitors. This value could present two different explanations, on one hand it could be that the question was misunderstood and the respondents were answering an average number of competitors instead of the number of main competitors, on the other hand this might mean that in the reality there are a large number of competitors. Since these firms are within a cluster they might see each other as competitors. If this is what is really happening it means that cooperation is not a common practice.

The results about competitors classes are presented on **Erro! A origem da referência não foi encontrada.**, and it was allowed more than one answer, because firms may, and usually have more than one competitor, as we have seen from previous results. Like that the analyzes is based on a inflated N.

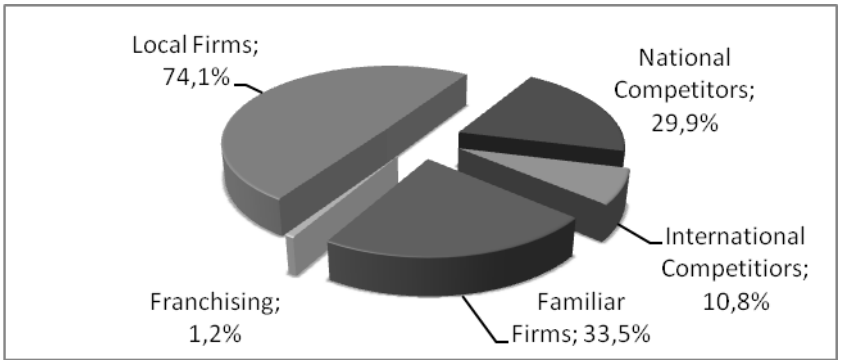

Figure 12. Identified competitors

The percentage of local firms as competitors assume the highest value 74,1% almost ¾ of firms identify their main competitors in their region, followed by familiar competitors, which are mainly local and small firms. Some firms (29,9%) identify national competitors as their main competitors and 10,8% international competitors. Nowadays firms are operating in a global scale and it is possible to find markets all over the world but it also means that competition may come from everywhere. Some firms in this region already identify national and international competitors, however most of them still looking just around in order to know where competitors are. This behavior may be dangerous for firms because they may not notice competition from outside the region, and at the same time it means that they see their neighbors as competitors. When firms are seeing each others as competitors it becomes more difficult to cooperate, and like that it makes sense the result about the average number of competitors identified by the interviewees.

During this research it was analyzed the strategies followed by these firms in order to evaluate the degree of innovation on firms' management. One of the strategies considered for this analyzes was the cooperation at horizontal and vertical levels. Considering the answers given and all the possible strategies, cooperation strategies assume a very low level: Backward cooperation 1%; Forward cooperation 2%, horizontal cooperation 0%. If we consider the same answers but as a percentage of 251 possible answers for each strategy the values for cooperation strategies are the lowest among all the strategies.

These results, together with the results from previous analyzes show that there a huge lack of cooperation among firms in this region. Being small firms, cooperation is even more important among them. If they were able to cooperate more likely they could compete with their larger incumbents from Portugal and from other regions of the world. For instance, in Felgueiras, it was identified a shoes cluster composed mainly by micro and small firms, if these firms were able to cooperate weren't they more competitive against other regions? Why the concept of networks, defended by many authors is not working? Is it due to the low level of education of managers? Or could it be related with the geographical dispersion of firms along the region? If most of the firms were based on the same place (industrial zone) would they be more able to cooperate?

There are many questions that can be asked, however it was not possible to answer them with the present research. These are some guidelines for future research that may also analyze the familiar relations within the firms. Most of firm owners are also working at the firm, as well as their relatives. On firms' management the familiar relations are also present in most of the firms, are the relatives the best choice for firm management? Are they deciding on a rational or emotional basis? These questions and some others seem to present an interesting research field to proceed with further analyzes on this region.

CONCLUSIONS

Considering the results from the present research it is possible now to present some conclusions about firms, entrepreneurs and management on this region

Even without evidences, the difficulty found in getting results from the construction sector may suggest the existence of some *Underground Activities* (instead of underground economy, because it does not represent the whole sector) on this region, as it happens all over the country as presented by Almeida (2008).

Most managers or firm owners on this region are male (80%), with an average age well distributed being however the majority (66%) on the ages between 30 and 50 years old. On what concerns school education the levels are very low 63% of the interviewees attended at most the secondary school. Among owners and owners-managers this figure reaches the 93%. However, younger managers present a higher level of qualifications including university graduation. This may be an interesting subject for future research and to follow the growth of these firms and the school levels of their managers.

Owners' residence is the most important reason for a firm establishment (42%) which means that exist the embeddedness effect [Dacin, Ventresca, & Beal (1999); Jack & Anderson

(2002)]. However together with this positive aspect also appears a negative one that is the lack of entrepreneurial infrastructures in this region. The geographical dispersion of the firms may also lead to almost inexistent cooperation degree among firms in this region. It was possible to identify a strong level of competition and lack of cooperation both at vertical and horizontal level (even being small firms).

As a result of many factors, including the lack of cooperation it is possible to say that the region may be facing some problems due to external competition and the financial crisis nowadays occurring but it may also be occurring due to internal questions. If entrepreneurs/managers are not taking the best decisions their firms will have consequences at the first level but after the firms also the region may suffer consequences, for instance at social levels by an increase on unemployment rates.

All the ideas and results presented on this study may contribute for a better knowledge of this region and the firms within it. In the future some deeper researches must be developed on the subjects now analyzed and on some other subjects as suggested along this work.

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