

**ENTREPRENEURSHIP EXPORT COMPETENCES: A SURVEY TO SMALL AND
MEDIUM-SIZED COMPANIES (SME'S)**

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Abstract

This study seeks to assess and analyze the entrepreneurial competences of small and medium-sized enterprises (SMEs) that have decided to export. In order to develop and validate a measurement scale of exporting competencies, we considered the concepts of psychic distance and entrepreneurial competences. Questionnaire was applied to 193 entrepreneurs from small and medium-sized exporting companies of Minas Gerais – the second developed state of Brazil. 132 questionnaires were answered by exporters and 61 by non-exporters. The results showed that about half of the SMEs' exportation is concentrated in South America, which reveals the entrepreneurs' strategy to invest in nearby markets. The research analysis also pointed out that both brand value and increased profits were perceived as the most relevant indicators regarding the perception of success in exports.

Entrepreneurship Export Competences: a survey to Small and Medium-Sized Companies (SME's)

Internationalization can be described as the various forms of relations with foreign markets. It also may be evaluated from two different perspectives: economic and behavioral. In the economic context, the relationships between companies and market permeate entrepreneurial practices through a complex manner, involving knowing about geographic, cultural and management aspects of the various systems that form the international environment (Buckley & Casson, 2003).

The behavioral models seek to go beyond economic limitations emphasize. Its centered in the decision making process that permeates the activity to achieve external markets (Johanson & Vahlne, 1990). Decision makers here would be ones responsible for the company integration into foreign markets (Reid, 1983). Therefore, a company's engagement in activities internationally would be the results of its manager's attitudes, experiences and expectations.

In the internationalization literature regarding the necessary entrepreneurial competences to exports, its measurement tools are not yet well known. In this sense, the purpose of this study is to construct, validate, verify the reliability and apply a questionnaire to understand the resources and obstacles of internationalization of small and medium-sized enterprises, especially the necessary competences they have to develop to enable their exports.

Our framework combines the entrepreneurship competences theory proposed by McClelland (1987) and the behavior (Johanson & Vahlne, 1990; Knight & Cavusgil, 2004) and decision maker (Reid, 1983) perspectives of the internationalization literature to study the extent to which small and medium-sized companies engage in international exportations.

In recent years there has been a growing interest of small and medium-sized Brazilian entrepreneurs to expand their businesses into the international market. Increasing levels of domestic competition influence the search for new markets. In other words the internal market competition and its narrowing lead entrepreneurs of SME's to pay attention to the world market growth, which could allow them to expand their businesses.

Although it seems an assertive action through a competitive logic, challenges of participating in an international market become greater and more complex when they are evaluated from the small and medium-sized enterprises' perspective. The main obstacles, those small businesses face when trying to export their products/services, involve aspects related to achieving appropriate initial expertise on exports, the identification of the products to be traded overseas, also understanding business protocols from other countries, and the selection of appropriate markets, based on available information (Misha & Dar, 2019).

These perceptions, while approaching some conceptual elements of psychic distance,

associated with perceptions of geographical, cultural and economic distance, demonstrate the relevance of understanding the necessary entrepreneurial competences for the business consolidation in the international market, by the SMEs. However those studies dealing with competencies in export management are still poorly explored. Facing this fact, one of the goals of this research is to add knowledge to the form and obstacles in the SME's internationalization and the necessary competences to ensure exports viability, through establishing an instrument for measuring them.

Therefore this research seeks to identify those competencies which influence the search for foreign markets, through the study of the necessary entrepreneurial competencies related to the exports process at SME's. We intend to answer the following research problem: What are the main business competences of entrepreneurs at small and medium-sized exporting companies? In order to answer that question, we validate a scale of competences for SME's and analyze the results from SME's entrepreneurs, from Minas Gerais State, in Brazil.

Theoretical background: Internationalization, Export, SMEs 'Internationalization, Psychic distance

Enterprise internationalization is a complex phenomenon which comprises since exporting goods and services until its direct production in foreign markets (Buckley & Casson, 2003). In this process there are various modes of integration to international economy, such as: partnerships, cooperation agreements and technology transfer (Vahlne & Nordstrom, 1993; Zaim & Ng, 2006). Exportation activity is the most typical mode of international trade involvement among organizations, and it refers to the main proceedings involving a company and its transactions in foreign markets.

Export involves a strategic decision which deals with identification of the products to be commercialized and their availability in international markets. Its presence abroad may occur gradually and most often begins with indirect exports, direct export, licensing and in a more advanced stages, joint venture with direct investment abroad (Osland, Taylor & Zou, 2001).

When it comes to small and medium enterprises international market operations have large and complex challenge. They face several difficulties such as mobilizing the necessary financial resources, lower technological level and lacking of access channels to international markets (Knight & Cavusgil, 2004; Child & Hsieh, 2014). All these factors contribute to their low competitiveness, and it is closely related to their size and lack of coordination with other organizations that could assist them in their development of exports activities.

Another complex phenomenon in the internalization of companies includes the several decision-making since product and service exports until their direct production in foreign markets. There are various forms of integration in the world economy, such as partnerships, cooperation agreements and technology transfer (Osland, Taylor & Zou, 2001; Child & Hsieh, 2014). When dealing with internationalization decisions, the export activity is the most common international commercial engagement among organizations. It is the main engagement process of a company in transactions with other foreign countries.

Two main streams are identified in the literature of internationalization. The first one focus in a more economic approach and, the second, the studies emphasize a behavioral perspective (Johanson & Vahlne, 1990). In the present study we will focus on the behavioral approach. This justify because our research object is associated with individual perceptions on the necessary entrepreneurial competences for small and medium-sized enterprises export.

The line of research of internationalization processes emphasizing behavioral models, seeks to go beyond some economic limitations. Their fundamentals are centered in the decision making process. Decision makers would be responsible for the insertion of their company in foreign markets (Reid, 1983).

The decision-making model in exporting proposed by Reid (1983) is represented

through five stages. Firstly, there is the recognition of the opportunity to export; secondly, there is the intention to export and, at this stage, the motivational factors, expectations and attitude of the decision maker manifest regarding entry strategies in the international market; thirdly, they start the export efforts. This stage is a consequence of the first two ones or it is also a positive feedback from a spontaneous order from abroad. Spontaneous orders are those which were not ordered as a consequence of a company's sale efforts to create this demand. Even the fact of participating on a trade fair can motivate compliance of the first and second stages; Fourth, the export rating and at this stage the company evaluates its decision already consolidated to export. In other words the export actions become part of its strategy; Finally, Export acceptance: the last stage is the expansion of activities shown by constant export growth as the increase in exports and a percentage of sales; continued entering in new external markets.

The decision made during the export process involves an additional effort: the greater the difference in terms of levels of development, educational content and language between national country and abroad, the greater the manager's level of uncertainty to export. This manifestation approaches the concept of psychic distance which is those noticed differences between the values, educational and managerial practices among nations (Johanson & Wierdersheim-Paul, 1975).

In organizational studies on internationalization, one of the concepts usually found concerns the psychic distance as perceptions which indicate the cultural, managerial and educational differences between the countries of origin of the organizations involved in trade relations (Ghemawat, 2001). This theoretical construct of psychic distance was extracted from features associated with geographic distance, cultural and economic perceptions. The psychic distance could restrict initial investments in countries considered culturally distinct from the exporting company country. There is evidence that companies begin the process of internationalization in countries considered culturally close (Johanson & Wierdersheim-Paul, 1975).

The need for gradual acquisition, integration and use of knowledge about markets and operations abroad and the intensity of commitment to international business generate learning and minimize the psychic distance. Learning resulting from this trial process helps to overcome the psychological distance between a company and its several markets in terms of language, culture, educational level, management practices and legislation. Björkman and Forsgren (2000) highlight the importance for companies to insert in the networks that form global markets to increase learning and expand their businesses internationally.

Also in this direction, Eriksson et. al (1996) proposed several actions in international markets to reduce the impacts of the companies' psychic distance: a) occasional export activities, b) use of representatives and agents in foreign markets, c) structuring a subsidiary sales and d) establish manufacturing plants abroad. These operations may lower the perceived risk and the lack of knowledge concerning the working dynamic in foreign markets. As the company becomes more experienced, it reduces the impacts arised from the psychic distance.

Therefore the selection of markets would be guided by the perceived cultural distance, initiating international action by culturally closer markets. By acquiring experience in these markets, gradually the company would be better prepared to seek culturally distant markets. Four dimensions constitute the psychic distance between two countries (Ghemawat, 2001): a) cultural dimension, which refers to languages, ethnic groups, religion and social rules differences; b) administrative dimension related to the lack of colonial ties and the absence of institutions that share the same monetary and political systems; c) geographic dimension, regarding to possible physical isolation and the size of countries, climate differences and inadequate transport and communications infrastructure; d) economic dimension, which encompasses the differences in consumer incomes, costs and quality of products and services, the models of financial management, human resources, information and knowledge.

Perceptions of the set of economic, cultural, geographic and administrative features (or distances) of the environment in which a company intends to start a process of internationalization, differ also from the degree of knowledge, skills and other features that compose the individual competences, which is next topic theme.

Competence (individual and organizational perspectives), Entrepreneurship and Internalization Competences

The term competence has received several meanings. However, there is still a lack of consensus regarding its concept, as well as philosophical and ideological divergences which may be because of its vast use in different approaches in several areas of knowledge (Spencer & Spencer, 1993). In this study, the concept of competence includes the ongoing and articulated process of formation and development of knowledge, skills and attitudes of individuals (or managers) in their interaction with the others within a working environment. Competence is described as a set of social and communicative learning's nourished by learning and training. It implies knowing how to mobilize, integrate and transfer knowledge, resources and skills in a particular context (Boyatzis, 1982).

The concept of competence in the management context began to be structured by Richard Boyatzis. Boyatzis was the first person to use the term competence in the seminal book called: *The competence manager: a model for effective performance*, which began the debate on the competence topic. Boyatzis' model is based on 21 attributes that guide the development of managerial competences. He focuses his work on observable behaviors, having a behaviorist conception. The model provides the psychological aspects related to three factors: motivation, self-image and social role, and skills (Boyatzis, 1982). However there is an absence of unanimity on the concept of competence.

On the organization perspective, competences should add economic value to the company and social value to the individuals. Thus this concept of competence must be understood as the responsibility that the professional takes on productive situations (Spencer & Spencer, 1993). From this organizational approach Prahalad and Hamel (1997) presents a conception of *core competencies*, or "*essential competencies*", which is a set of skills and technologies that result in a competitive advantage for organizations. These competences are found at the organization strategic level and they could create some differentials among clients. When a company faces a capability that adds value to its business strategy because it is rare, versatile, not easily imitable, and non-replaceable, this company has an organizational competence. Such competences are responsible for better results in the market average, due to its strong alignment with the business strategy, we can highlight that this company has an essential organizational competence (Prahalad & Hamel, 1997).

Organizational skills could be classified at three levels: strategic, functional and management, relating them respectively to the essential, functional and management competencies, as described below:

- Essential competencies: they are structured in a strategic level, encompassing the company as a whole and expressing the concept defined by Prahalad and Hamel (1997);
- Functional skills: they are the skills needed to perform basic business functions and they appear in the form of collective competences;
- Managerial competences: they are those that establish an ideal set of qualifications for the individual to achieve the necessary performance to have better results.

It is at those levels that the relationship between individual and collective competences is created. At the management level, Bartlett and Ghoshal (2000) identify three broad categories of commonly required competences: the characteristics related to personality (attitudes, traits and intrinsic values of an individual's personality), the attributes of knowledge (experience and

insights acquired by training and career development) and the specialized skills (related to specific work requirements).

It is also important for a company to develop some capacities related to its core activities, knowing to reinvent its competences, acquiring other dynamic capabilities, also known as combined capabilities, and applying them in its business processes (Grant, 1996). In this case the organization transforms and recreates its resources, creating strategic and organizational routines fomenting new competences. The company develops a competence to be able to adapt itself to different environmental situations. Grant (1996) notes that this adaptation occurs due to the constant development of acquired competence in order to respond effectively to the external and internal differences and challenges of the business environment.

Notwithstanding the absence of unanimity on competence concept, in the literature two conceptual streams have prevailed regarding this issue. The first one has an Anglo-American origin, and it has as its reference the labor market. It also focuses on the factors or aspects linked to organizational performance. The second one, originally from France, emphasizes the link between work and education, indicating competences as the outcomes of systematic learning processes. We use the McClelland & Dailey (1972) competence concept - a set of observable individual characteristics - knowledge, skills, goals, values - able to predict and/or cause an effective or superior performance at work or at other everyday situations.

David McClelland worked on a global survey to find out what successful business entrepreneurs had in common. He sought to detect the most reciprocal features business had among the different investigated countries. McClelland (1987) identified ten core competencies and divided them into three sets:

- 1 - achievement competences,
- 2 – planning competences and
- 3 – power competences.

About the set of achievement competences, five variables were identified: a) seeking opportunities and having initiative; b) taking calculated risks; c) demanding quality and efficiency; d) having persistence and e) having commitment. Concerning the planning competences set, three variables are indicated: a) seeking information; b) setting goals; c) carrying out systematic planning and monitoring. Related to the power competences set, two variables were found: a) making use of persuasion and networks of contacts and b) independence and self-confidence.

The entrepreneurs competences are following described (McClelland, 1987):

a) Competences related to achievement:

- Seek opportunities and take initiative: takes unusual opportunities when making a decision to start a business; does things before being asked or forced by circumstances; acts for expanding the business into new areas, products, services or and work as well as expanding one's knowledge.
- Take calculated risks: acts to reduce the risk or control the results; evaluates the alternatives and calculate the risks; place themselves in situations involving moderate challenges and risks.
- Demanding quality and efficiency: find ways to do things better, faster or cheaper; acts in order to meet or exceed the standards of excellence; develop procedures to make sure the work will be finished on time and meets the previously agreed quality standards.
- Having persistence: be proactive when dealing with significant obstacles and when facing a challenge or overcoming difficulties; takes personal responsibility regarding the needed performance in order to meet their targets and objectives.
- Having commitment: spends extraordinary efforts to complete a task; works with people from their group or even stands in their places, to get a job done if necessary; struggles to keep the staff satisfied, above the short-term desire for profit.

b) Competences related to planning:

- Searching for information: personally dedicate to get information to conduct the enterprise; personally investigate how to make a product or provide a service; consult experts for technical or commercial advices.
- Setting Goals: set challenging targets that have personal meaning. Set long-term goals, as well as clear and specific short-term measurable goals.
- Conducting systematic planning and monitoring them: to plan dividing large tasks into sub-tasks with deadlines; reviews constantly the plans, taking into account the obtained results and the changes that happens; maintains financial records and using them to make decisions.

c) Competences related to power:

- Using persuasion and networking: Establish deliberate strategies to influence or persuade others. Use key people as agents to achieve their own goals. Act to develop and maintain important relationships to their companies' stakeholders.
- Independence and self-confidence: Search for autonomy in relation to standards and controlling the others. Maintaining the view, even when facing of opposition or initially disappointing results. They express confidence in their ability to complete a difficult task or to face a challenge.

Regarding to the necessary competences to start the process of business internationalization, it is important to mention the study of Knight & Cavusgil (2004). This work investigates the first three years of small and medium-sized enterprises going through their internationalization process activities. These authors call them born global organizations, or global start-ups. They also have grouped their developed competencies into four categories:

- Global technological competence: Guidance for developing technologies allowing reductions on the production costs and enabling the production at smaller scales. This latter effect has been shown as responsible to serve different niches in the international market.
- Development of single or unique products: also relating to competence, this competence guides the technological development process for the production of differentiated, innovative and excellence products.
- Focus on quality: Through this competence firms seek to meet and exceed their consumer expectations. They enable themselves to optimize their resources to the extent that avoids re-work and improve their performance.
- Using independent distributors: Learning to develop a relationship with international partners is identified as the fourth competence. Here a born-global company shares the risks with an independent distributor, but it also could take advantage of the already developed competences of these international partners.

The access to foreign markets by the born global is supported by these four related competencies, which enable them to have superior performance in their internationalization strategies. Knight & Cavusgil (2004) indicate that the born global often have a smaller scale of production and lack of some infrastructure that the large enterprises do not; and yet they manage to overcome their asset limitations because they use intensively their competences regarded as their intangible assets.

Methodology

In order to identify and evaluate entrepreneurial competences of export, we used a quantitative and descriptive methodology by convenience sample (not probabilistic). Through personal manifestations, quantitative methods allow the researcher to make a link between the vision of social reality and the events of the social system in focus (Buglear, 2005). They also enable us to know the sum of responses of the research and associate them with other units of

analysis constructs in the study. In addition, this study seeks to validate a range of entrepreneurial competences for exports. It is also intended to assess the perceptions of small and medium-sized companies' entrepreneurs manifested in their responses from the questionnaire they have answered.

In order to structure a questionnaire which would reflect the necessary competences for entrepreneurs of exporting SMEs, it was taken as reference the work of McClelland (1973) and Ghemawat (2001) supported by the recent study of Dar & Misha (2019). The methodological process of this research involved the following: the research strategy, the use of an expert panel in order to structure the research instrument, the analysis unit and the data collection.

To address the absence of a specific measurement model of entrepreneurial export competences we used McClelland's study (1973) on entrepreneurial competences. Thus, for each set of proposed variables by this author – Accomplishment, Planning and Power – possible indicators associated with entrepreneurial export competences of these three constructs were constituted. Dimensions associated with psychic distance were also considered: geographical distance, culture, and management were important aspects considered in the identification of those necessary competencies for product and service exports.

When preparing the scale, two dimensions were included in the measurement instrument: the first was the individual competencies - inserted in order to explore the influences arising from their experiences, social interactions and learning in a context of the entrepreneurial export competences. The other dimension was the performance measures or export success perceptions such as: sales, profitability, market share and other variables. (Table 1)

The structure proposed has to do with a creation of the survey on entrepreneurial export competencies that composed the statistical model to assess the impacts of these variables in the exportation of small and medium-sized enterprises. The research methodology consists of three phases: development, validation and application of the entrepreneurial competences for SMEs exports' questionnaire. Theoretical constructs selected from the literature of internalization and entrepreneurial competences were used to elaborate the questions.

Table 1
Groups of variables for evaluating entrepreneurial competences for exports

| | |
|--|---|
| <p><u>Accomplishment Set</u></p> <ul style="list-style-type: none"> - Seeking opportunities and having initiative - Taking calculated risks - Demanding quality and efficiency - Having persistence - Having commitment. | <p><u>Individual Competences</u></p> <ul style="list-style-type: none"> - Influences from social interactions - Learning and knowledge acquired through studies and qualifications - Professional experiences |
| <p><u>Planning Set</u></p> <ul style="list-style-type: none"> - Seeking information - Setting goals - Systematic planning and monitoring | <p><u>Organization's Performance Measures</u></p> <ul style="list-style-type: none"> - Market share - Profitability - Success perception |
| <p><u>Power Set</u></p> <ul style="list-style-type: none"> - Persuasion and Networking - Independence and Self-Reliance | |

Source: Adapted by McClelland (1987).

In order to structure and validate the reliability of the research instrument, we applied the expert panel method. This tool seeks to the consensus of expert opinions and it is collected

through interactive questionnaires on the studied issues; an expert panel should be formed by groups that may vary from 06 to 15 people (Schwab, 2013). Twelve experts participated in this stage of analysis and in the questionnaire review. They were researchers in the field, teachers and practitioners.

Some of these experts reported that there were an excess of variables related to the same dimension which could be clustered into fewer variables and this would make the questionnaire more objective, and would not undermine the purpose of the study. Regarding clearness, formatting, writing, relevance and understanding, experts indicated that, in fact, the variables reflected each dimension, and the questionnaire was considered appropriate and consistent for the research proposal.

Regarding the unit of analysis and data collection we have initially decided to search the businessmen's entrepreneurial competences for exports of the agribusiness exporting sector in Minas Gerais State. However, it was found, that by limiting the universe of search to this specific sector (agribusiness), it would significantly lose in sample size. There was also the need to include in the sample the entrepreneurs of non-exporting SME to compare the results. Thus, this study survey was conducted with businesspeople from both exporting and non-exporting small and medium-sized companies from various sectors, in Minas Gerais State.

We researched the Sebrae-MG database identifying 2,500 exporting and non-exporting SME's from various segments, which were added to the other 210 only-exporting SMEs from the "Exporta Minas" Website. We created an electronic questionnaire, and sent it through e-mail to 2,710 SME's, in the state of Minas Gerais (MG). Subsequently, every seven days those who, had not yet responded it, received a reminder inviting them again to participate. Due to the database expiry provided by Sebrae-MG, only 959 e-mails confirmed the questionnaire receiving. After six weeks only three questionnaires were answered.

Thus, we had to change our data collection strategy. Initially we thought about getting in touch with them by telephone. This approach was intended to make them aware of the importance to participate in this research. However, due to the difficulty in contacting those managers in charge of companies, we also gave up this strategy. Fortunately, through a contact we've made with a businessman, we were told about an exporting event, which was sponsored by the Minas Gerais Federation Industries (FIEMG). This event offered several lectures and courses. Then we requested the person in charge of FIEMG's event the permission to apply our questionnaire during this event. Two people were hired to perform this data collection task and a total of 193 questionnaires were answered among exporters and non-exporters.

Result discussions – testing and validating the scale

Two parts are discussing in this topic: the statistical phases to validate the questionnaire and its application. The validations of the survey instrument through expert panel allowed us to group the variables through dimensions and examine their clearness, format and relevance. In the validation of the entrepreneurial competences for exports' scale a series of statistical tests were performed. It was emphasized: a) the low number of missing data, b) the rejection of null hypothesis of data normality, and c) no absence of linearity application. The questionnaire was responded by small and medium-sized business entrepreneurs. Their companies were both exporting and non-exporting companies from different sectors from the state of Minas Gerais in Brazil (the second most developed state in the country). Totally 193 questionnaires were answered.

There were ten dimensions in the original model. However after the sequence of dimensionality, reliability, convergent, discriminant and nomological validity tests, 8 dimensions remained (F1 to F9). Factors such as "Persuasion and Contact Network" and "Learning and Knowledge Acquired" were excluded. During the tests for validation questionnaire a range of variables from the 8 factors were excluded from the final model. Those

factors that remained, served more accurately the purpose of this research. Before proceeding the hypotheses test of average difference, it was first verified that the data followed a normal distribution. To assess whether our data is distributed according to the normal curve and it has its properties - a bell shape, symmetry, measures of central tendency of correspondence - we used the Kolmogorov-test Sminorv Z. Table 2 shows the result for the Kolmogorov-Sminorv Z. normality test. To confirm that the variable follows a normal distribution it is necessary that the significance test to be higher than 1%.

Table 2 - Variable Normality Test

| Variables | n | Est. | Sig. |
|--|----------|-------------|--------------|
| F1 - Opportunity and initiatives | 193 | 2,90 | 0,000 |
| F2 - Risk analysis | 193 | 2,82 | 0,000 |
| F3 - Quality and efficiency | 193 | 2,64 | 0,000 |
| F4 – Persistence | 193 | 1,49 | 0,023 |
| F5 – Dedication | 193 | 1,96 | 0,001 |
| F6 - Information and updates | 193 | 1,50 | 0,023 |
| F7 - Planning and monitoring | 193 | 2,24 | 0,000 |
| F9 - Independence and self-confidence | 193 | 1,66 | 0,008 |
| ICEEX - Entrepreneurial competence index for exports | 193 | 0,61 | 0,851 |

Source: Research Data

As shown in Table 2, only the variables "F4 - Persistence", "F6 - Information and update" and ICEEX - "Entrepreneurial Competence Level for Exports" follow a normal distribution. We noted that concerning the ICEEX, the significance value of its normality test is very high, since the acceptance of the variable meets a normal distribution which requires a significance equal to/or greater than 0.1%. Therefore we continued with our hypothesis tests.

To check if the variables have equal variance, we performed the Levene Test (Bereson et. al., 2012). Table 3 displays the results for these tests. The results will guide if the t-test of average difference will be for samples in with equal or different variances. We verified that only the variables "F6 – Information and Update", "F9 – Independence and Self-Confidence" and ICEEX - "Entrepreneurial Competence Index for Exports" did not reject the null hypothesis of equal variance. All other variables presented different variance between the group of exporters and the group of non-exporters.

Table 3 - Test for variance equality for the variables - comparing exporting and non-exporting companies

| Variables | Levene Test | |
|--|--------------------|-------------|
| | F | Sig. |
| F1 - Opportunity and initiatives | 7,07 | 0,01 |
| F2 - Risk analysis | 22,75 | 0,00 |
| F3 - Quality and efficiency | 8,43 | 0,00 |
| F4 – Persistence | 5,02 | 0,03 |
| F5 – Dedication | 6,47 | 0,01 |
| F6 - Information and updates | 0,34 | 0,56 |
| F7 - Planning and monitoring | 13,31 | 0,00 |
| F9 - Independence and self-confidence | 0,14 | 0,71 |
| ICEEX - Entrepreneurial competence index for exports | 1,15 | 0,28 |

Source: Research Data

Before checking the average difference tests, we checked sample averages, standard

deviation and standard error which was found in the analyzed variables for both exporting and non-exporting. Table 4 shows these results.

Table 4 - Descriptive Data Analysis

| Variables | Companies | Average | Standard Deviation | P. Error |
|---|---------------|---------|--------------------|----------|
| F1 - Opportunity and initiatives | Exporting | 7,86 | 0,75 | 0,07 |
| | Non-exporting | 7,55 | 0,97 | 0,12 |
| F2 - Risk analysis | Exporting | 7,56 | 0,76 | 0,07 |
| | Non-exporting | 6,93 | 1,25 | 0,16 |
| F3 - Quality and efficiency | Exporting | 8,30 | 0,83 | 0,07 |
| | Non-exporting | 7,69 | 1,13 | 0,15 |
| F4 - Dedication | Exporting | 5,90 | 1,45 | 0,13 |
| | Non-exporting | 4,96 | 1,20 | 0,15 |
| F5 - Persistence | Exporting | 6,92 | 0,74 | 0,06 |
| | Non-exporting | 5,10 | 0,94 | 0,12 |
| F6 - Information and updates | Exporting | 7,59 | 0,94 | 0,08 |
| | Non-exporting | 6,78 | 1,05 | 0,13 |
| F7 - Planning and monitoring | Exporting | 7,68 | 0,80 | 0,07 |
| | Non-exporting | 6,63 | 1,16 | 0,15 |
| F9 - Independence and self-confidence | Exporting | 6,03 | 0,94 | 0,08 |
| | Non-exporting | 5,89 | 0,92 | 0,12 |
| CEEX - Entrepreneurial competence index for exports | Exporting | 6,06 | 0,52 | 0,05 |
| | Non-exporting | 5,39 | 0,63 | 0,08 |

Source: Research Data

Table 5 shows the results for the average difference test. To reject the null hypothesis so that the average groups of companies - exporters and non-exporters - it is necessary that the test significance to be lower than 5% (Buglear, 2007).

Table 5 - Average Difference Test between exporting and non-exporters companies

| Variables | Teste t de igualdade de média | | | | | IC de 95% ^f | |
|--|-------------------------------|------------------------------|---------------------|-------------------|-------------------|------------------------|----------|
| | d ^a | Erro p. da dif. ^b | Est. T ^c | G.l. ^d | Sig. ^e | Inferior | Superior |
| F1 - Opportunity and initiatives | 0,32 | 0,14 | 2,27 | 95 | 0,03 | 0,04 | 0,60 |
| F2 - Risk analysis | 0,63 | 0,17 | 3,63 | 81 | 0,00 | 0,28 | 0,98 |
| F3 - Quality and efficiency | 0,62 | 0,16 | 3,80 | 91 | 0,00 | 0,29 | 0,94 |
| F4 - Persistence | 0,94 | 0,20 | 4,72 | 140 | 0,00 | 0,54 | 1,33 |
| F5 - Dedication | 1,82 | 0,14 | 13,34 | 95 | 0,00 | 1,55 | 2,09 |
| F6 - Information and updates | 0,81 | 0,15 | 5,36 | 191 | 0,00 | 0,51 | 1,11 |
| F7 - Planning and monitoring | 1,05 | 0,16 | 6,38 | 87 | 0,00 | 0,72 | 1,38 |
| F9 - Independence and self-confidence | 0,14 | 0,14 | 1,00 | 191 | 0,32 | -0,14 | 0,43 |
| ICEEX - Entrepreneurial competence index for exports | 0,67 | 0,09 | 7,68 | 191 | 0,00 | 0,49 | 0,84 |

Source: Research Data

Notes: d^a = average sample of the exporting companies - Average samples of non-exporting companies; Error p. of dif. b = standard error of the difference; Est. T c = Statistic of the Test.; G.l. d = degree of freedom of the test; Sig. e = test of significance; IC f of 95% = confidence interval.

Table 6 presents the result of the hypothesis tests from this topic.

Table 6 - Hypothesis Test Results

| Variables | Tested hypotheses | Diferenc es | Sig . | Results |
|--|--|----------------|----------|---------------|
| F1 - Opportunity and initiatives | μ exporters \neq μ non-exporters | 0,32 | 0,0 3 | Accept |
| F2 - Risk analysis | μ exporters \neq μ non-exporters | 0,63 | 0,0 0 | Accept |
| F3 - Quality and efficiency | μ exporters \neq μ non-exporters | 0,62 | 0,0 0 | Accept |
| F4 - Persistence | μ exporters \neq μ non-exporters | 0,94 | 0,0 0 | Accept |
| F5 - Dedication | μ exporters \neq μ non-exporters | 1,82 | 0,0 0 | Accept |
| F6 - Information and updates | μ exporters \neq μ non-exporters | 0,81 | 0,0 0 | Accept |
| F7 - Planning and monitoring | μ exporters \neq μ non-exporters | 1,05 | 0,0 0 | Accept |
| F9 - Independence and self-confidence | μ exporters \neq μ non-exporters | 0,14 | 0,3 2 | Reject |
| ICEEX - Entrepreneurial competence index for exports | μ exporters \neq μ non-exporters | 0,67 | 0,0 0 | Accept |

Source: Research Data

We also have chosen to use the Spearman coefficient to analyze the correlations between pairs of variables. Table 7 presents the correlation of factors and ICEEX by intending to start exporting/continue exporting and the perception of a sector easiness to continue exporting.

Table 7 - Correlation coefficients and significances

| Variables | Intention to start or continue exporting | | More favorable sector to exports | |
|--|---|---------|-------------------------------------|---------------------|
| | Cor. | Sig. | Cor. | Sig. |
| F1 - Opportunity and initiatives | 0,162 | 0,025* | -0,044 | 0,546 ^{NS} |
| F2 - Risk analysis | 0,217 | 0,002** | 0,107 | 0,137 ^{NS} |
| F3 - Quality and efficiency | 0,224 | 0,002** | -0,021 | 0,775 ^{NS} |
| F4 - Persistence | 0,487 | 0,000** | 0,525 | 0,000** |
| F5 - Dedication | 0,638 | 0,000** | 0,368 | 0,000** |
| F6 - Information and updates | 0,349 | 0,000** | 0,153 | 0,034* |
| F7 - Planning and monitoring | 0,442 | 0,000** | 0,210 | 0,003** |
| F9 - Independence and self-confidence | 0,142 | 0,049* | 0,161 | 0,025* |
| ICEEX - Entrepreneurial competence index for exports | 0,501 | 0,000** | 0,310 | 0,000** |

Source: Research Data

Notes: ^{NS} – not significant correlation coefficient; * - significant coefficient of correlation:

5%; ; and ** - significant correlation coefficient:1%.

Based on Table 7 it appears that all the factors and the index have a significant correlation with the intention of exporting / resume exporting. The highest correlations, considered moderate intensity they were with the F4 – Persistence, F5 – Dedication, F7 – Planning and Monitoring and the Index.

Regarding the correlations, the factors F1 – Opportunity and initiatives, F2 – Risk analysis, and F3 – Quality and efficiency presented no significant correlation with the perception of sector easiness to continue exporting in relation to the industry it serves. The F4 variable: Persistence – a moderate correlation was found. Other factors and ICEEx demonstrated significant correlations, however having weak or very low intensity.

After the validation test of the Entrepreneurial Competences Index for Exports (ICEEx), 18 variables remained and they were distributed among eight model dimensions, which could be further tested in new researches. Table 8 shows the final questionnaire after the statistical procedures.

The model test to validate the Entrepreneurial Competences Index for Exports (ICEEx) indicates significant indicators of explicative variables concerning the factors (Figure 1). Regarding to the correlation of ICEEx with success perception indicators in exports after the dimensionality and reliability testing, it was proved to be no significant correlation coefficients between ICEEx and the used performance variables.

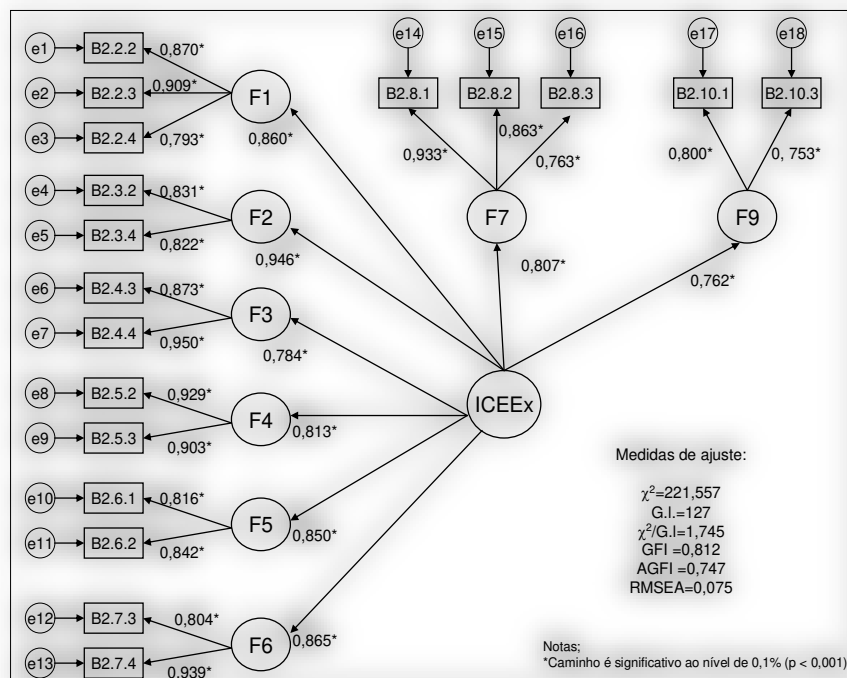
Table 8

The entrepreneurial competences for SMEs exports' questionnaire - validated dimensions, factors and variables

| |
|---|
| Achievement Dimension |
| Factor 1: Opportunities and Initiatives |
| B2.2.2) Identifying potential less explored markets for exporting their product (s) and / or service (s) in other (s) country (ies). |
| B2.2.3) Being proactive seeking opportunities in promising international markets. |
| B2.2.4) Being aware of new exports opportunities in other (s) country (s) due to constant changes in the international market. |
| Factor 2: Risk Analysis |
| B2.3.2) Monitoring existing threats in the environment of the country (ies) to that one intends export. |
| B2.3.4) Analyzing the possible scenarios for the business, considering the target export country (ies). |
| Factor 3: Quality and Efficiency |
| B2.4.3) Adapting product (s) and / or service (s) to international quality standards. |
| B2.4.4) Keeping up a high standard of quality of product (s) and / or service (s) and process efficiency in order to meet the international market demands. |
| Factor 4: Persistence |
| B2.5.2) Keeping the exports purpose of product (s) (s) and / or service (s) even if the origin country has barriers that makes this process very difficult. |
| B2.5.3) Do not give up the goal of exporting the product (s) (s) and / or service (s), even if there are several obstacles on the way |
| Factor 5: Dedication |

| |
|---|
| B2.6.1) Dedicating intensely to the success to export product (s) (s) and / or service (s). |
| B2.6.2) Engaging enough in the process of exporting one product (s) (s) and / or service (s). |
| Planning Dimension |
| Factor 6: Information and Update |
| B2.7.3) Keeping constantly updated on the product (s) or service (s) export process. |
| B2.7.4) Keeping informed, reading magazines, newspapers, talking to people to identify what it is possible to interfere in the process of exporting product (s) and / or service (s). |
| Factor 7: Planning and Monitoring |
| B2.8.1) Constantly doing detailed reviews of the plans and goals, taking into account the international market. |
| B2.8.2) Carrying out a formal planning with predefined goals for product (s) and / or service (s) exports. |
| B2.8.3) Planning how to exports the product (s) (s) and / or service (s) will be and monitoring results to see if everything is going as planned. |
| Power Dimension |
| Factor 9: Independence and Confidence |
| B2.10.1) Being able to make the necessary decisions to exports the product (s) and / or service (s). |
| B2.10.3) Having confidence that it is possible and able to export the product (s) (s) and / or service (s) |

Figure 1 – Validation test of the Entrepreneurial Competences Index for Exports (ICEEx)



In total, 193 SMEs were researched in the state of Minas Gerais, Brazil. 132 companies (67.9%) export their products or services and 61 (32.1%) do not. Regarding the SMEs, exports, almost half of their exports go to South America countries, demonstrating their option for nearer markets. The origin of most SMEs exports (67.4%) is the industry. The market segments that

received more Minas Gerais exported goods were: fruits, leather, automotive parts, coffee and electronic equipment. Still regarding to our sample, exporting and non-exporting firms have similar average rates comparing their staff number (around 33) and longevity, which is ten to eleven years.

Regarding the exporters' perception of success, the evolution of brand recognition (7.35) and the income increase because of the export activities (7.09) stand out as the highest average reported in the results. On the other hand, the failure to meet the expectations of the importing countries (4.85) and the low perspective regarding the market share exports increase (5.18) indicated the lowest average percentage.

In terms of the descriptive analysis of the variables and factors related to entrepreneurial export competences, the responses of the exporters on the "Opportunities and Initiatives", "Risk Analysis" and "Quality and Efficiency" groups, showed average rates of over 9 points. Two variables: "Having an education that contributes to exports" and "I believe the industry in which my company operates is easier to export than others" presented the lowest average indicators (4.60 and 4.72, respectively). Regarding the exporters' success perception there is a positive manifestation in relation to the recognition of the brand and company profit increasing due to their export activities.

Conclusion

This study sought to verify which main entrepreneurial competences are required for the internationalization of small and medium-sized companies' entrepreneurs, especially those ones required for exporting activities. In Brazil, it is noticed yet a low representativeness in the volume of exports of small and medium-sized companies compared to other countries that operate in the world market. Although most companies in Brazil are SMEs they have an insignificant the percentage share in the volume of goods and services they export. Small and medium-sized enterprises depend essentially on the initiative and persistence and improvement of the search for their products to be truly competitive in the international market.

In this general competition, besides economic issues (tax incentives and legislation) it is clear that behavioral aspect (initiative, persistence) is essential in the quest for exports. The SME's attempt to entering into new markets is directly linked to their behavioral factors. However, it is clear how difficult it is to acknowledge these limitations by this kind of entrepreneur. The search for competence improvements to prepare themselves before entering in the global competition it is still modest.

The volume of exports, although, also now reduced by the economic crisis motivated by the Coronavirus began in the second half of 2008, which resulted in sudden drop the sale in the international market in all sectors, demonstrates to be one of the main ways to search for new markets, knowledge and technologies. Even with the recently increase in exports of commodities, especially in agribusiness, Brazil still presents low level exports in the sale of value-added products (machinery and equipment, precious stones, furniture), which culminated in the low retraction of exports of small and medium enterprises. In the research conducted prevailed the export of Brazilian products in larger numbers for countries in Latin America – belonging to the Latin American Integration Association (ALADI).

This research contributes to the studies on the internationalization of Small and Medium-Sized Companies (SMEs), due to the fact that it identifies factors and variables of entrepreneurial competences for exports and proposes a validated scale to measure them. It was suggested the implementation of a permanent website with a questionnaire with the respective guidelines to fill to test and refine the new generated measurement instrument. The idea is to continue this research using a broader data. This information can help academic reflections, as well as mark possible purposeful interventions of government agencies and support SMEs.

One limitation of the study concerns to the small sample size, which was very justified

because of the difficulties described in the data collection. The large number of parameters estimated in the initial model also contributed to the inhibition of the respondents when the survey forwarding electronically. Thus it is suggested in a future study to apply again the questionnaire with the factors and the remaining variables of the final model.

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