

ENHANCING FACTORS OF BUSINESS INTERNATIONALIZATION SURVEY: STRUCTURAL VALIDATION PROCEDURES

Carla Azevedo Lobo¹, Ana Teresa Ferreira², Cristina Costa-Lobo²

¹ *Univ. Portucalense, Research on Economics, Management and Information Technologies – REMIT; Portucalense Institute for Legal Research - IJP; (PORTUGAL)*

² *Univ. Portucalense, Portucalense Institute for Human Development - INPP (PORTUGAL)*

Abstract

A growing flow of research into new international ventures has sought to understand the causes, processes, and outcomes of the decision to early enter in foreign markets. A common thread in these research concerns the role of learning and knowledge. Concerning the importance of learning and knowledge for companies with no great international experience, theories prior to the mid-1990s offered limited ability to explain how and for what reasons some companies began to operate successfully across national boundaries very early in its life cycle. Organizational knowledge, or lack thereof, was a central explanation for internationalization in original, stage-based models, but some current authors have recognized that individual factors, such as international experience, can also influence the pace and the beginning of internationalization. Thus, knowledge plays a key role both for the stages approach and for the international new ventures approach, it exists in a significantly different way. This perspective on international new ventures emphasizes the role of individual knowledge to argue that international ventures do not need organizational experiences, routines or capabilities to enter earlier in their first foreign market. On the contrary, the past experiences of founders and other key managers can replace such shortcomings. Individual knowledge of business managers about foreign markets can thus help the company to skip the incremental processes suggested by the stages perspective. The increasing popularity of this new strategic perspective on international new ventures has created a body of literature on the problem of the beginning of internationalization. Also, according to the Network Theory, network relations undoubtedly favor the competitiveness of enterprises and have become an important tool to support the internationalization of SMEs. Some authors states that potentially conflictive relationships and divergent interests are seen by the parties as collaborative partnerships around a common goal.

This paper is a report on the findings of a survey validation, applied to 320 entrepreneurs, of internationalized companies. The relational structure of the Business Internationalization Survey was evaluated by exploratory factor analysis. The objective was to estimate the common factors and structural relationships that link factors (latent variables) to the variables considered as possible inducers of Business Internationalization - manifest variables.

The results obtained are discussed and refer to a theoretical positioning of career education, through three latent factors: "Psychological distance"; "Knowledge", and "Company Characteristics" confirming the model defined by [1].

Keywords: business internationalization; exploratory factor analysis; career education; competencies; psychological distance.

1 INTRODUCTION

This paper presents a study focused on the perspective of the entrepreneur and company manager, as well their views on the issue of internationalization, more specifically, about the factors that contributed to make possible the company entry into markets beyond of the domestic market, as well its entrepreneurial initiatives of early internationalization. It's about the entrepreneur, the company's characteristics, market and employees that focuses mainly this analysis. The statistical techniques used allow us to define the latent factors that represent the entrepreneurial variables that enhance entrepreneurial internationalization, as well to evaluate the quality of adjustment of these structural patterns. Based on the objectives, the following research questions were defined: a) What are the variables that enhance the internationalization of Portuguese companies? b) What latent factors are responsible for the behavior of the manifested variables?

In the literature on business internationalization, a large number of scientific studies focus on the determinants of internationalization, more specifically, the relationship with the success / failure of internationalization. In this perspective, the company is treated as a "black box", as a set of factors that will lead to a certain result. Based on the literature review, it is important to know what factors have potentiated the internationalization of Portuguese companies, that is, to determine which variables act as "facilitators/ enhancers" of the internationalization strategy of Portuguese companies. For example, verify if factors such as the "relational network", "entrepreneurial personal characteristics and acquired skills of entrepreneurs"; the "international experience of employees", or other variables such as "company age"; its "size"; the "incentives/support for internationalization"; the "distance or physical and psychological proximity" can act as agents that enhance the internationalization process of the company. The main objective is to find structural patterns among variables, understanding what latent factors are responsible for the behavior of the manifested variables specified according to our theoretical model.

2 METHODOLOGY

This paper is a report on the findings of a survey validation, applied to 320 entrepreneurs, of Portuguese internationalized companies. The relational structure of the Business Internationalization Survey was evaluated by exploratory factor analysis. Exploratory Factor Analysis (AFE) is an exploratory data analysis technique that aims to discover and analyze the structure of a set of interrelated variables in order to construct a measurement scale for factors (intrinsic or latent) that somehow control the original variables [2]. The variables can be measured by asking the interviewee to evaluate them by measuring a series of items. The key factors will be determined through these assessments [3]. The objective of this technique is to simplify the information extracted from the data, defining a new and reduced set of variables that result from the original combination with the same power of characterization of the individuals. Thus, we now intend to estimate the common factors and structural relationships that link factors (latent variables) to the variables under study (factors considered as possible inducers of business internationalization - manifest variables).

To evaluate exploratory factor analysis validity, Bartlett's sphericity test was used, and also KMO adequacy coefficient, which presented a value of 0.619. Measure of Sampling Adequacy values are greater than 0.5 for all variables, suggesting that all can be used. It is used to test the null hypothesis that the variables are not correlated in the population. The statistics' test is based on a chi-square transformation of the correlation matrix determinant. The higher the value of the statistic test, the greater the likelihood of rejection of the null hypothesis [3]. However this test is scarcely used since it is very sensitive to the size of the sample. The test also requires that the variables present a normal multivariate distribution and are very sensitive to the violation of this assumption [3].

For these reasons, we will also use KMO, Measurement of Kaiser-Meyer-Olkin sample adequacy - is a measure of the homogeneity of the variables, which compares the simple correlations with the partial correlations observed among the variables. According to [3], KMO values between 0.5 and 1.0 indicate that the Factor Analysis is adequate. In this analysis we also used anti-image matrices for variances-covariance and correlation-the values of the main diagonal are another measure of adequacy of the data to the AFE designated as "Measurement of Sampling Adequacy" (MSA) for each One of the variables in the analysis. MSA values below 0.5 indicate that this variable does not fit the structure defined by the other variables [2]. The rule of Variance extracted by the Factorial solution is to extract a minimum number of factors in order to explain at least 50% of the total variance of the original variables and was also used in this paper. According to [2], the value of 50% of the total variance is a value that should be considered as the minimum acceptable. All analyzes were performed with the SPSS Statistics software (see 20, IBM SPSS, Chicago, IL).

3 RESULTS

The relational structure of the Inducing Factors of the Internationalization of companies was evaluated by Exploratory Factor Analysis (AFE), as the matrix of variances and covariance not of the original variables, but of their ranks. The extraction of factors was done by the main components method followed by a Varimax rotation. The retained common factors were those that presented an eigenvalue greater than 1, in agreement with the Scree Plot and the percentage of variance retained, since the use of only one criterion can lead to the retention of more [3].

According to the eigenvalue rule superior to 1 and with the Scree plot, the relational structure of the Inducing Factors of Business Internationalization in study is explained by three latent factors. The following table summarizes the factorial weights of each variable in each of the three factors, the commonality of each variable and the percentage of variance explained by each factor. With the use of the eight variables considered originally as Factors Inducing the Internationalization of Companies the following factorial scores were obtained.

Table 1. Factor loadings for Exploratory Factor Analysis on a Varimax Rotation.

	Factors		
	1	2	3
Seniority	-.002	.117	.863
Size	.089	-.026	.830
Employees competence	-.073	.802	.011
International experience	.139	.664	.135
Entrepreneurial propensity	.120	.731	-.034
Language proximity	.855	-.050	.110
Cultural proximity	.886	.045	.114
Network connections	.665	.359	-.160
% of variance	28.82%	19.03%	18.10%

Considering these results and the weak "factor weights" of the variables Territorial Proximity (0.431) and Incentives / support to internationalization (0.371), it was decided to eliminate these variables. Therefore they are not included in table 1.

Thus, with the eight final variables an Exploratory Factor Analysis was elaborated again.

To evaluate the validity of the AFE, the Bartlett sphericity test was used, which, as shown in the following table, rejects the null hypothesis (the variables are not correlated) with an associated significance level of 0.000. As already explained, other methods such as the KMO adequacy coefficient were used, with the classification criteria defined in Malhotra (2012). As shown in the following table, the KMO coefficient for the sample shows a value of 0.619 that is considered above the desired (> 0.500) and can be considered as "reasonable" (Malhotra, 2012). However, high values (between 0.5 and 1.0) indicate that factorial analysis is adequate (Malhotra, 2012), and with a explained variance percentage of about 66%.

Table 2. KMO and Bartlett Test.

KMO and Bartlett's Test ^a		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.619
Bartlett's Test of Sphericity	Approx. Chi-Square	496.614
	df	28
	Sig.	.000

Measurement of Sampling adequacy (MSA) was also analyzed for each of the variables in the analysis from the anti-image matrices for variances-covariance and for correlations. MSA values are greater than 0.5 for all variables suggesting that all can be used. The scores of each subject on each of the retained factors were obtained by Bartlett's method. The first factor has high factorial weights of linguistic proximity to the new markets, cultural proximity to the new markets and network of contacts in the host country and explains about 29% of the total variance. The second factor, with high factorial weights of the employees' specific competencies, international experience of employees and Entrepreneurial Propensity and to assume Risks on the part of Employees and Management, explains 19% of the total variance. The third factor stands out the length of the company and the size of the company, explaining 18.1% of the total variance. Overall, the three factors explain 66% of the total variance. Assuming that the first factor can be called "Competencies", the second was called

"Psychological Distance" and the third "Organizational Characteristics". In addition, all commonalities are high, demonstrating that retained factors are appropriate to describe the latent correlational structure among the inducing factors of internationalization.

4 CONCLUSIONS

The purpose was to estimate the common factors and structural relationships that link factors (latent variables) to the variables considered as possible inducers of Business Internationalization. When they were estimated the common factors and structural relationships that link factors (latent variables) to the variables under study (Factors considered as possible "inducers" of Business Internationalization - manifest variables), through Exploratory Factor Analysis (AFE), it was possible to find three dimensions Latent: the group of variables related to "Knowledge / Entrepreneurship" (Specific Competences of Employees, International Experience of Employees, Entrepreneurial Propensity and to take risks of Employees and Management), which we call Dimension Competencies; The set related to factors of "Distance" (the Linguistic Proximity and Cultural Proximity and Network of Contacts in the Host Country), which we call the Psychological Distance Dimension; And a third grouping related to the " Organizational Characteristics" (Company Size and "Company Antiquity") - the Company Characteristics Dimension.

As discussed previously by [1], this study shows empirically the relevance of individual characteristics, competencies and psychological/relational and sociological dimensions towards business internationalization. On 2012, [4] argued the need to look up to sustainable decision making on professional transitions. These can be aimed and developed through informed choices and relevant key psychological aspects such as self-efficacy. This study follows this work and adds empirical relevance to these models, assuming that organizational characteristic's must be surrounded by mechanisms of short psychological distance and research should continue focusing on entrepreneurs and employees' competencies that allow businesses to successfully internationalize.

REFERENCES

- [1] Azevedo-Lobo, C., Ferreira, A. T., Cordeiro, S. A., & Costa-Lobo, C. (2017). Enhancing factors of business internationalization - A model for portuguese smes. In *Proceedings of 11th annual International Technology, Education and Development Conference* (pp. 2467-2476). Valencia, Spain, 6-8 March 2017.
- [2] Marôco, J.(2011). *Análise Estatística com o SPSS Statistics*. Pero Pinheiro: Report Number
- [3] Malhotra, N. K. (2012). *Marketing research: an applied approach*. Pearson: Prentice Hall
- [4] Costa-Lobo, C. & Ferreira, A. T. (2012). Educação para a Carreira: Contributos para a Tomada de Decisão nas Transições Profissionais. In: Alves, J. S. & Neto, A. M. S. (org.), *Decisão: Percursos e Contextos* (pp. 201–206). Vila Nova de Gaia: Eu Editó.