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***THE KNOWLEDGE ECONOMY AND SOCIETY IN THE POST-COVID-19 ERA***

**TAKE 2022**

**THEORY AND APPLICATIONS IN THE KNOWLEDGE ECONOMY 2022**

**CONFERENCE BOOK OF ABSTRACTS**

#### **4.59. The Portuguese SME's managers perception of the importance of digitization in the internationalization process**

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##### **Abstract:**

###### a) Purpose

The present study aims to analyze the perception of managers about the importance of digitalization in the internationalization process of small and medium-sized Portuguese companies.

###### b) Design/methodology/approach

It was used a questionnaire survey, supported by an extensive literature review on business internationalization and technological solutions. To validate the form and content of the questionnaire, the instrument was pre-tested. The questionnaire, structured using the Google Forms tool, was shared via a link attached to an email to all companies registered in the database of exporting companies of AICEP (Portuguese Agency for investment and External Trade), which contained about 8,100 companies of Portuguese companies internationalized. During the time the questionnaire was available, 238 valid responses were collected and the data was then processed using IBM SPSS Statistics 26.0 software through a quantitative approach based on descriptive analysis and exploratory factor analysis.

###### c) Theoretical base

Digitalization within a business context can be defined as a concept of operations that become more automatic and digital. All data is transferred to computer systems and becomes more accessible. Thus, the development of automation enabled by robotics and artificial intelligence brings the promise of higher levels of productivity and also better efficiency, security and convenience (McKinsey Global Institute, 2017). This digitalization, according to Huckstep (2016) is transforming entrepreneurship in two ways. The first transformation is the inconstant location of entrepreneurial opportunities in the economy and the second is the transformation of entrepreneurial practices themselves. The same author uses the term "digital disruption" to describe the

transformational impact produced by digital technologies and infrastructures on the way business, economy and society operate. This digital disruption creates opportunities for SMEs to grow and internationalize, or if they do not follow the trend of digitalization there is a risk that they will fall behind their competitors, which could eventually lead to their closure (Lobo et al, 2020).

According to Beneki et al (2011, p. 41) when saying that a company is internationalized, it means saying "that a firm acts in one or several foreign markets and thus develops its activities in an international context". Internationalization is one of the most important sources for the growth of the company and to improve its performance. For example, in the past, there was a clustering of internationalization in large organizations, but the internationalization strategy of SMEs started to increase when digital technologies allowed them easy access to other types of markets. These technologies increased the speed of internationalization and created global recognition of opportunities, as evidenced by trends in the use of these means to promote, reach and communicate with various partners. Thus, the ability to internationalize has become a competitive necessity for many firms, allowing their survival and growth under conditions of globalization and in the middle of the knowledge economy (Lobo et al, 2020).

#### d) Results or expected results

In order to formulate the present study, the authors analyzed the most common technological solutions, namely: e-commerce, Cloud solutions, Big Data, IoT / sensors, 3D printing, virtual reality / augmented reality, robotics / automation, agile tools, business intelligence and artificial intelligence.

About 91% of entrepreneurs consider that business digitalization is at least relevant regarding their company's internationalization strategy (24% responded that it is relevant, 36% consider it very relevant and 32% extremely relevant). More than 32% of managers consider the use of electronic commerce in the internationalization process extremely important. Cloud solutions are considered very or extremely relevant by around 34% of respondents. More than 36% of entrepreneurs say that Big Data technology is not at all or not very relevant to the internationalization process of their business. 39% of entrepreneurs consider that robotics / automation is at least relevant to the internationalization process (10% consider that it is relevant, 15% consider it very relevant and 14% say it is extremely relevant). Business intelligence is greatly valued by

managers, as 21% considers it relevant, another 21% very relevant and 22% extremely relevant.

It is also important to highlight the significant results obtained for the technological categories, in relation to the options "Term unknown" and "Not applicable for my business". About e-commerce, less than 1% affirm that they do not know the term and less than 5% say that it was not applicable to their business. However, 1% of respondents say they do not know the term 'Cloud Solutions', while more than 9% are unaware of Big Data and 6% do not know the term IoT / Sensors. On the other hand, 'Big Data', 'IoT / Sensors', '3D Printing', 'Virtual Reality / Augmented Reality', 'Robotics / Automation', and 'Artificial Intelligence' obtained very high percentages of perceived non-applicability to the business (15 %, 19%, 24%, 23%, 17% and 22%, respectively). The Kruskal–Wallis nonparametric hypothesis test was performed to compare the distributions of the variables 'technological solutions' and 'company size'. Observing the results of the test, regarding the technological tools by company size, we conclude that there are only statistically significant differences at a significance level of 5%, in the 'Robotics / Automation' solution depending on the size of the company ( $p\text{-value} = 0.03 < 0.05$ ).

#### e) Originality/value

This work has its value demonstrated by being an original research that produces new knowledge, with primary results collected exclusively for the purpose of this research project. This article is written by the researchers who elaborate the study as well as interpret the results and discuss possible implications.

#### f) Practical implications

As technology is one of the main tools available to companies to achieve competitiveness, identifying elements that can contribute to the process of implementing and managing technologies is crucial for the growth and sustainability of SMEs, especially when it comes to expanding their business to other countries. However, the effective use of technological solutions is still a challenge for most companies and their managers. There are important terms that are still unknown by some managers or they believe they have no application in their business. To minimize these challenges, organizations must benefit from government support to achieve competitive advantage and optimize their information systems.

Keywords: Internationalization Process; Digitalization; SMEs; Technologic Solutions; Information Systems.