

Internationalization and society 5.0

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Abstract:

Industry and internationalization are extremely important concepts for the development of the economy and society. This article seeks to analyse the changes that the implementation of society 5.0, will promote in terms of the internationalization in business organizations, as well as changes in behaviours and actions for decision making. In a theoretical context, it is perceived that the change will be an asset for companies, which when adopting this technological and conceptual innovation of the new society, will have more competitive, better relationship and productivity advantages. However, it is still necessary to discuss and explore these concepts in more depth, because in addition to being recent, they may be cause some obstacles in their global implementation.

Keywords: Internationalization, Society 5.0, Industry 5.0, Technologies, Born Global Companies

1 Introduction

In an increasingly globalised world, the efficiency of the internationalisation model is synonymous with progress and value creation. Technological innovation has been one of the dimensions that has contributed most positively to new approaches and concepts of internationalisation.

Themes such as society 5.0 and industry 5.0 are emerging and current issues that seek not only to respond to existing problems, but also to potentially become future solutions. This balance should exist in the near future, with the adoption of common measures and objectives centred on the individual.

The coming together of internationalisation and society 5.0, makes more and more sense for current and innovative industries, such as Born Globals.

This article evaluates in a theoretical context, the behaviour and relative consequences that society

5.0 will introduce in the industry and, consequently, in their internationalisation strategy. To this end, a survey of the so-called traditional matters was carried out, their analysis and the changes and new assumptions inherent to the current and future reality were presented.

The contribution of this article is in essence the theoretical analysis and evaluation that the 4th industrial revolution will bring to society, industry and the internationalisation of companies.

The present work is organized as follows. Section 2 describes the literature review and the main concepts of internationalization. Section 3 presents a theoretical synthesis concerning the society

Section 4 analyses and merges the two concepts and determines what changes society and industry will have to explore and incorporate. Finally, Section 5 presents the conclusions and future work.

2 Internationalization

The concept of internationalization has long been the subject of discussion, and there is no consensus as to its definition. For Meyer, (1996) "internationalization is a process in which companies increase the level of activities outside their country of origin", while Freire, (2003) states that: "the internationalization of a company consists, first of all, in the extension of its product-markets and vertical integration strategies to other countries."

In a simplistic and practical approach, we can say that internationalization means moving towards international markets in order to do business. But how can this entry into international markets take place?

Bartlett and Beamish (2010) state that when companies decide to explore cross-border markets, the choice of the best mode of entry is made by the company's expansion strategy, which will depend on various internal and external factors. In this sense, companies have three mechanisms that they can choose to enter new markets: (1) exporting, (2) contractual agreements and (3) direct investment abroad (FDI). Lorga, (2003) proposes a systematization of the modes of entry into international markets presented in Table 1.

Table 1 - Ways of entering international markets (Source:
Lorga, 2003)

Export:	Direct: the company sells directly to an importer in a foreign country.
	Indirect: the company sells to an intermediary in the destination country.
Hiring:	Licensing / Technology Transfer: one company transfers to another the right to use a technology, within a fixed area, in exchange for royalties. While licensing involves the assignment of patented rights, technology transfer applies to unpatented technological knowledge.
	Franchising: is a particular type of licence or assistance contract through which a company (called the franchisee) obtains from another company (franchisor) the right to exploit exclusively and under certain conditions a product, a service, a name or trademark, or a technology within a particular area.
	Management contract: is an agreement by which a company ensures the total or partial creation of an economic unit in a foreign country, subsequently ceding its management to an independent company, usually based in the destination country.
	International subcontracting: the principal or subcontracting enterprise orders from the subcontractor products, parts of products or mere operations on the based on pre-established specifications.
Direct Investment:	Joint-venture: consists of the participation of several companies in the capital of a legally independent economic unit, with the purpose of developing a productive and/or commercial activity, thus helping to share the respective assets and profits and business risks.
	Strategic alliances: encompasses various situations of business relationships between companies in one economy (often competitors) and companies in different countries, where the relationship in question does not fall under the licensing or joint venture.

2.1. The different theories of internationalization

In terms of temporal evolution, internationalization can be divided into two distinct phases. The first, older one, when companies have a slow and low intensity internationalisation process, and the second phase when there is a rapid growth in internationalization, and it plays an important role in business strategy.

Traditional theories place focus on the internationalization of products and direct investment in foreign countries, where multinational companies play a central role. In contrast, in recent theories, internationalisation has been approached as a process in which firms increase their participation in international operations.

Internationalization theories can be divided into two:

- **Behavioural theory:** considers internationalisation as a sequential process, based on the evolution of behaviour and export studies that focus on the process from the attitudes, perceptions and behaviours of entrepreneurs, which seek to reduce risks in decisions about where and how to expand and emphasise the importance of learning and accumulation of knowledge in companies.

Table 2 - Summary of the theories of the behavioural approach (Source: Mendonça, A & Cunha, 2011)

Theories	Relevant aspects
Uppsala Model	The Uppsala model reveals that lack of knowledge is a major obstacle to the development of international operations and that knowledge needed can be acquired mainly through overseas operations.
I-Models (Innovation)	The models belonging to this approach explain internationalization with an innovation-related perspective. The models are based on learning in connection with the adoption of innovation; so, internationalization is characterised by a step-by-step process.
Theory of Entrepreneurial Internationalization	This theory justifies the use of entrepreneurial orientation to represent the specific style and method on strategic orientation, decision making and implementation of the firm.
Network Theory	This theory defines that, depending on the position occupied by a company in the network, its range of opportunities and constraints will be defined and its strategies will be developed. Networks provide companies with a set of resources and information about the market and customers, increasing the chances of survival and success.

- **Economic theory:** based on economic criteria, the rational thinking of solutions prevails, through the advantages that the company has as key factors in the internationalization process.

Table 3 - Summary of the theories of the economic approach (Source: Mendonça, A & Cunha, 2011)

Theories		Relevant aspects
Product Theory	Cycle	This theory supports the product cycle hypothesis. Therefore, the product starts with the assumption that the stimulus for innovation is usually provided by some threat or promise in the market.
Market Theory	Power	This theory is based on reducing competition in the sense that it forces the company to continually reinvest profits and expand the market to remain competitive.
Internalization Theory		This theory states that firms expect activities to be more profitable when they are under common control. This strategy enables the firm to minimise transaction costs by better exploiting the underutilised capabilities of the organisation.
Eclectic Paradigm		The eclectic paradigm states that extension, geographical and industrial, is determined by the interaction of three sets of variables: These are commonly known as OLI: Ownership; Location; Internalization.

2.2. The emergence of Born Globals / International New Ventures

Several theories have been developed to explain the internationalization process, however, the actual behaviour of companies shows deviations that make it impossible to adopt a standard. This is a relatively recent paradigm, which can be explained by factors such as information and communication technologies (ICT) and the increase in human capital with international experience. This is how the concept of Born Globals emerged (Figure 1).

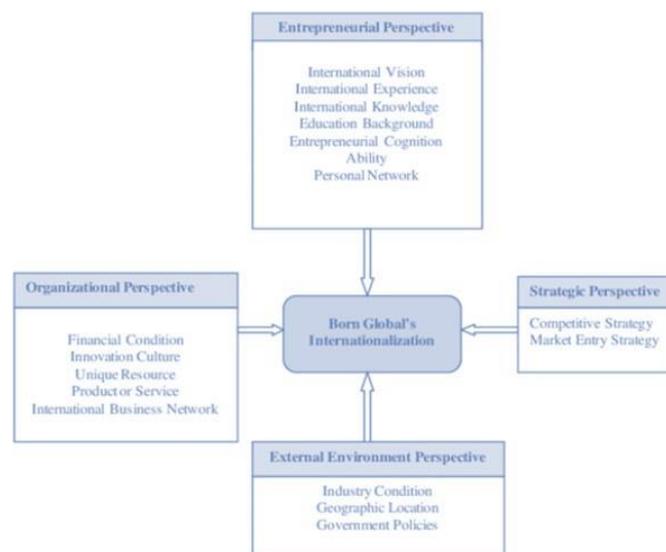


Figure 1- Factors that characterise Born Globals (Source: Andersson, Danilovic, & Huang, 2015)

To classify a company as being Born Global is not unanimous (Dominginhos, 2007), however, the definitions characterise them as companies that in a short period of time, after the beginning of their activity, become globalised. This concept is due, particularly, to the technological revolution of the last years, with the development of information technologies that drastically accelerated the communication flows and consequently of information.

Table 4, briefly explains the characteristics of these companies.

Table 4 - Characteristics of Born Globals (Source: Author)

Characteristics of Born Globals	
Dimension	
Concentration	Small and Medium-sized Enterprises (SMEs)
Beginning of the international activity	Essentially in high-tech sectors, however not only in this area Usually 3 years after its foundation
Motivations for internationalization	Clear and proactive strategy; Internationalization is part of the strategy; Prominent position in global niche markets

2.3. Motivations for Internationalization

According to Bartlett & Beamish, (2010) there are 5 motivations that can be divided into two groups: (1) traditional motivations, which date back to the beginning of the first internationalisation processes, and (2) emerging motivations, which concern the new economic environment of recent decades.

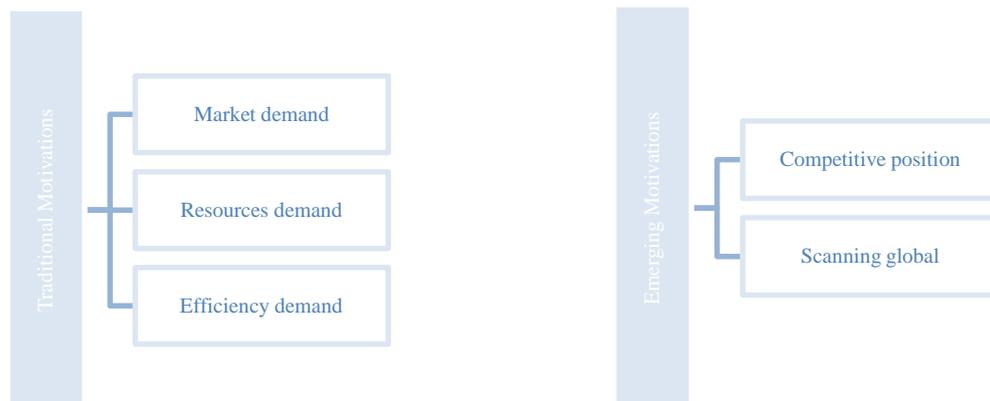


Figure 2 - Traditional and emerging motivations (Source: Mendes, 2015)

- **Market demand** refers to firms investing in a particular country or region with the intention of providing products or services (Hansson, A. & Hedin, 2007).
- **Resource seeking** occurs when firms invest abroad in order to obtain cheaper resources or resources that do not exist in the domestic market (Dunning, 1993).
- **Efficiency-seeking** occurs when companies aim to rationalise established investment structures to benefit from their common management (Dunning, 1993).
- **Competitive positioning** concerns firms seeking physical presence in leading markets where competitors are present or, conversely, physical presence in developing markets with great potential but with the absence of competitors (Bartlett & Beamish, 2010).
- **Global scanning** occurs when companies want to explore the benefits of global operations (Bartlett & Beamish, 2010). In these groups, the reasons are related to the need to access emerging trends, new technologies and the best skills worldwide, among others.

There are also other classifications, such as those of Czinkota, (2004) in which 11 motivations are identified, divided into two groups: (1) proactive motivations, which represent stimuli towards achieving strategic change in the company, and (2) reactive motivations, which concern changes in the business world that cause companies to have to alter their activities over time.

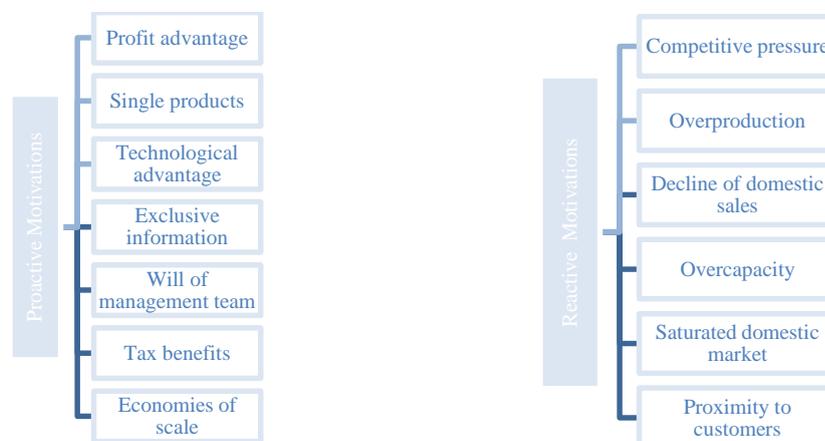


Figure 3 - Proactive and reactive motivations (Source: Mendes, info@conferenceme.org
www.conferenceme.org)

2015)

3 SOCIETY 5.0

Society 5.0 is the concept that succeeds Industry 4.0. It is a much more transformative process than its predecessor since it impacts on an asset of greater value to society: humanity. That is, while Industry 4.0 is focused essentially on manufacturing and product, Society 5.0 seeks to position the human being as the gravitational centre of innovation and technological transformation (DAVIES, 2018).

3.1. The evolution of societies

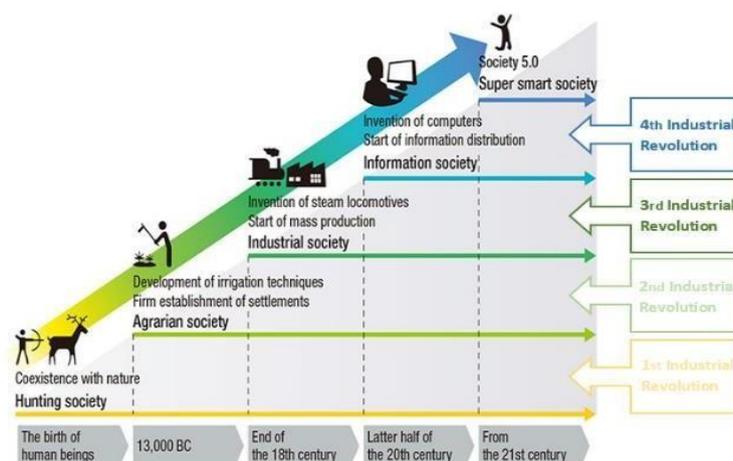


Figure 4 - Evolution of societies (Source: Keidanren, 2016)

The evolution of society is divided into 5 stages ("Production Engineering: Society 5.0," 2019):

- Society 1.0 Hunter-Gatherer: nomadic society that lived and survived by hunting;
- Society 2.0 Agriculture: sedentary society, with the advent of agriculture, the emergence of small towns and the start of trade through barter;
- Society 3.0 Industry: emergence of steam engines and industries, at this stage a great change in society occurs, highlighting mass production.
- Society 4.0 Information: emphasis on the automation of processes applying the concepts of cyber-physical systems, augmented reality and virtual reality, internet of things, artificial intelligence and cloud computing, among others;
- Society 5.0 Integration: integrated man-machine connection, with the human being as the centre of society, who takes advantage of all the alternatives of technology in order to transform and improve the quality of life.

3.2. The change from 4.0 to 5.0

In the conventional information society (Society 4.0), the problem was identified, where knowledge and information were not shared, and cross-sectoral cooperation was insufficient. Due to the limited capacity of human beings, the task of finding and analysing the necessary information from the information that abounded was burdensome, and work and the variety of activities due to age and disability were limited.

Thus, this society aims to overcome these problems and difficulties by creating value from connecting people and objects from sharing various knowledge and information through the Internet of Things (IoT). Artificial intelligence (AI) provides the necessary information when needed, and technologies such as robots and autonomous vehicles can overcome problems such as the declining birth rate and ageing population, depopulation in rural areas and social differences.

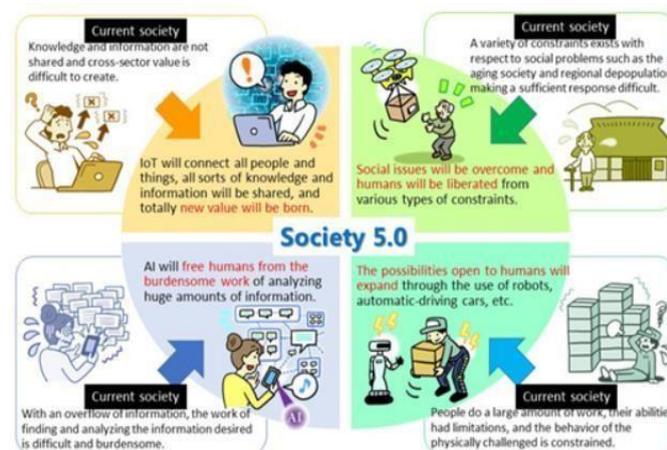


Figure 5 - The changes from 4.0 to 5.0 (Source: ("Society 5.0 - Office of Science and Technology Policy Office," n.d.)

3.3. The emerging of Industry 5.0

The basic principle of the fourth industrial revolution is that by chaining together machines, smart devices and systems, companies are creating smart networks across the value chain (from raw material supply to production) that can control each other.

Technological advances continue to grow at such an incredible rate that concepts such as society 5.0 and industry 5.0 have emerged in current business communication. These concepts are based on increasing the human touch back into manufacturing. Therefore,

Industry 4.0 puts smart technology at the forefront of manufacturing, while Industry 5.0 will bring increased collaboration between humans and intelligent systems.

Industry 5.0 is necessary due to consumers' high demand for individualisation in the products they buy, which means that they prefer a degree of customisation and personalisation in products. Furthermore, with adoption of these concepts, ICT in organisations will play an important role in promoting innovation and internationalization.

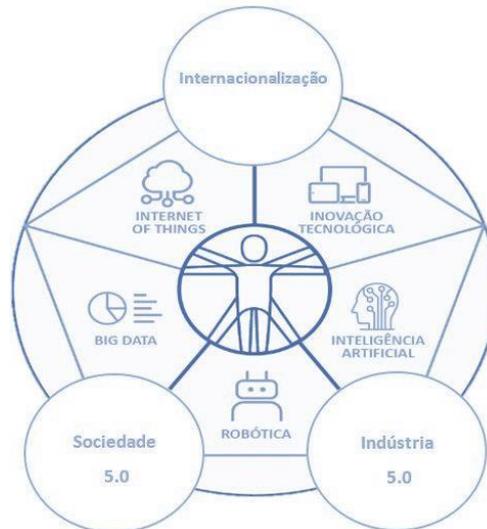


Figure 6 - Relation society 5.0, industry 5.0 and internationalization (Source: Author)

3.4. Benefits of society 5.0

The main benefits with the adoption of this concept globally, are ("Society 5.0 - The Answer to the 'dehumanisation' of the 4th industrial revolution," 2019):

- Balancing the economic process with the resolution of social problems;
- Improving people's quality of life by putting intelligent systems at the service of the human being;
- People will have more time and a more active life, freeing themselves from some of the most common constraints and overcoming debilitating limitations;
- More value will be placed on imagination and creativity;
- Freedom from constraints associated with scarcity of resources and environmental issues in general, favouring sustainability;
- A happier, more satisfied and, consequently, more productive society.

4 INTERNATIONALIZATION AND SOCIETY 5.0

The 'super-intelligent society'- Society 5.0 envisages a sustainable and inclusive socio-economic system powered by digital technologies such as Big Data analytics, artificial intelligence (AI), Internet of Things and robotics. The concept of Industry 5.0 aims to understand and keep pace with the evolution of society. According to goal 9 (Industry, innovation and infrastructure,) of the United Nations (UN) Agenda 2030, it aims to align technological, industrial and economic development with social and human well-being , while respecting the environment ("Goal 9: Industry, innovation and infrastructure - United Nations - UN," n.d.).

4.1. The paradigm shift

Considering the current social and business situation and the global adoption trend of society and industry 5.0, there are changes that are essential and notorious, which must be adopted by entrepreneurs and other stakeholders. The change will also pass at the level of internationalisation strategic decisions, therefore, when we talk about the criteria that involve business success in internationalisation projects, these are distinguished in 5 fundamental points, which we theoretically perceive the following trend in society 5.0:

Table 5 - Criteria for internationalization (Source: Author)

Decisive Criterion for Internationalization	Trend and Forecasting 5.0
Motivation of the entrepreneur	Increase ↑
Organisational structure of the company	Decrease ↓
Financial strength of the company	Decrease ↓
Intended evolution of the company in the internationalization process	Increase ↑
Previous experiences, Previous contacts, Intentions	Increase ↑

This paradigm shift regarding the criteria for internationalization can be explained by figure 6. It is perceptible by direct observation that the goal is to incorporate into society the innovation and knowledge achieved by the 4th Industrial Revolution, combining technologies and people.

Thus, the entrepreneur's motivation will be the most important factor, since this society focuses on the individual as the main decision maker, both in society and in the business world. The organizational structure of the company will play a less relevant role in the success of the implementation of the international strategy, as will the financial solidity of the organization, explained above all by the emergence of the SME's - Born Globals. The company's intentions to evolve will be a factor that will gain weight, as will previous experience, previous contacts and intentions, this essentially due to the emerging globalization and the adoption of ICT.

4.2. Traditional theories and internationalization 5.0

Internationalization 5.0 (a concept adopted by the author that encompasses the new society 5.0 + industry 5.0) has challenged traditional theories of internationalization. Why? Most theories on internationalization describe it as a system that occurs progressively, in several stages and where knowledge is acquired gradually. Given that these theories have been corroborated with the proliferation of Born Global companies in the market, is it not necessary to update / adjust traditional theories to a new industrial version, the Industry 5.0? That is the question. However, there are others that can be adopted to this new industrial version, such as the network theory, which defines industrial markets as networks of relationships between companies. Considering that current companies adopt digital technologies (AI, CRM, Big data,...) there is greater ease of creating relationships between the various stakeholders.

To better understand the differences between traditional theories and internationalization 5.0, Table 6 was prepared.

Table 6 - Experimental experiment (Source: Author)

	Traditional theories	Internationalization 5.0
Speed	Slow and gradual	Fast and incisive
Scope	Not applicable	Applicable to various company activities
Diversity	Addressing one market at a time	Acting several markets simultaneously
Objective	Increase profit	Increase competitive advantage
Age	Consolidated and traditional companies	New and innovative companies
Learning	Acquired through experimental business experience	Acquired through experience experimental business and human resources
Distance	Market choice based on psychic distance	Not relevant

4.3. Motivations for internationalization 5.0

This new reality will also bring changes in the motivations of entrepreneurs and companies regarding internationalization. Thus, according to what was described in point 2.3 of this article, we can determine that the traditional motivations will not be the most adopted by Industry 5.0, since they only focus on the profit generated. So, what will be the possible motivations adopted by this society and industry? The emerging motivations. Their focus is on the competitive advantage that the organization derives by going international, we are talking about competitive positioning and global scanning. These motivations have emerged in the newest and most innovative companies, which take advantage of ICT to differentiate themselves from the rest.

Still concerning motivations, these were also divided by Czinkota, (2004), into two groups: proactive and reactive motivations. Considering the constant business innovation and the new technological advantages available in the business market, more and more proactive than reactive motivations will be adopted. These changes may also generate a new group of motivations, the collaborative motivations, some examples of which are presented in Figure 7.



Figure 7 - Collaborative motivations (Source: Author)

These motivations should be fostered and adopted, both in the business ecosystem and in society in general. Besides being in line with the concepts of society 5.0, they also complement the targets of the UN Sustainable Development Goal - 9 ("Goal 9: Industry, innovation and infrastructure - United Nations - UN," n.d.).

Inclusive and sustainable industry should be studied and implemented, as described in the objective

9.2 of the UN 2030 agenda "9.2: Promote inclusive and sustainable industrialization and, by 2030, significantly increase industry's share of employment and gross domestic product, in accordance with national circumstances, and double its share in the least relatively developed countries."

The sharing of data and information, of know-how with the use of ICTs, as described in goal 9.c of the UN 2030 agenda "9.c: Significantly increase access to information and communication technologies and strive to seek as far as possible to provide universal and affordable access to the internet in the least developed countries by 2020";

The network is developed according to the business strategy and with the implementation of software such as CRM. As described in goal 9.1 of UN agenda 2030 "9.1: Develop quality, reliable, sustainable and robust infrastructure, including regional and cross-border infrastructure, to support economic development and human well-being, with a focus on equitable and affordable access for all";

Risk mitigation, through collaborative support measures across governments and risk sharing with other entities and/or partners, as described in UN agenda 2030 goal 9.3 "9.3 Increase access for small industries and other enterprises, particularly in developing countries, to financial services, including affordable credit and their integration into value chains and markets".

4.4. ICT at the service of internationalization 5.0

Technologies have always been at the origin of all these internationalization processes, as they are a privileged means of communication, giving more and more the feeling of proximity. Nowadays, it is increasingly evident the early internationalization of companies, this evidence is somehow due to the technologies available in the market and increasingly directed to the relationship with the customer and various stakeholders.

Thus, an Artificial Intelligence Technology Strategy essential to Society 5.0 has been defined in Japan. This characterizes AI as a service and foresees three phases for the development and use of AI: (1) expansion of the use of data-driven AI in each service domain, (2) general use of AI and data across services, and (3) the formation of ecosystems through a complex fusion of these services. It should be applied to three priority areas of society: health, mobility, and productivity.

The use of preventient data from software like AI, Big data, IOT can provide important information for the implementation, development, and control of the internationalisation strategy. Other software such as CRM, can establish relationships, bring customers and other stakeholders together, study products and markets and invest in R&D. All this makes it possible to create functional and reliable communication and partnership networks. As is usually known, we can adopt the motto of IoT to explain the importance of these technologies for internationalization and society: "Connecting the unconnected".

In short, ICTs allow reducing the friction of distance between the various contacts such as people, organisations and institutions and reduce the complexity factor in the treatment and exchange of information, allowing supporting the processes of innovation and internationalization.

4.5. Problems to internationalization 5.0

This super-intelligent society will have to go through some challenges before being consolidated, namely when it comes to its implementation. In order not to be just a mere political-ideological concept, it needs to integrate several dimensions, such as: "1) Innovation Policy (from the government side); 2) Entrepreneurship (from the society side) and 3) entrepreneurial skills (from civil society and institutions)" (Yousefikhah, 2017).

It's a problem with open future ("Society 5.0: the big social transformation plan to Japan," n.d.): "Whether such a vast societal change will work, and the wall of social acceptance will be broken down is a question that will be answered in the future. Making predictions in this regard would be Western arrogance from our part and a big mistake. So: who knows? And is this a model we could envision in other parts of the world?"

Thus, the main problems/barriers identified in the face of 5.0 internationalisation are essentially due to cybersecurity, the adoption and adaptation of the concepts of the new society and industry and finally the guarantee of equal access to ICTs by all industries/organisations.

However, measures to mitigate these problems are being considered and developed, concurrently with the targets of the UN Sustainable Development Goal - 9.

5 CONCLUSION AND FUTURE WORK

The main objective of this article was the theoretical analysis and the contrast between traditional concepts of internationalization with the industrial revolution 4.0. Thus, the concept of internationalization 5.0 was developed, which refers to new models and theories adjusted to society 5.0 + industry.

5.0. To carry out the present work, researches were carried out and comparisons were made between the two realities under study.

The main conclusions drawn involve the entry of new motivations for internationalization 5.0, as an example the collaborative motivations; the existence of a change in the weighting of decision criteria, since the theme seeks the total involvement of the individual in the business and social future; and there was also a need to reformulate and adapt traditional theories of internationalization to innovative industries, the 5.0.

The research results demonstrate that ICTs were a fundamental lever for the development of the various concepts under study and that they contribute actively and innovatively to internationalization, promoting the globalization of several companies, mainly the well-known Born Globals, and other technologically advanced SMEs. .

In short, this theme is of special interest to all companies that wish to follow the market, gain competitive advantages, and fit into a humane, sustainable, inclusive and productive society, within the scope of the so-called 5.0 society. Of course, not everything is an advantage, but organizations like the UN are aware of adjacent problems at the technological, social and business levels.

As future work it is intended to conduct a business study at national level, in order to understand whether Portuguese companies are willing to implement and adopt these new concepts, how many cases already exist of the so-called Born Globals and to understand how this society will interfere with level of strategies and adoption of internationalization measures. In addition, it would be interesting to keep this research up to date, covering other areas of interest, making studies known to society in general, particularly to industry, government, and educational institutions.

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