Case Study

INTERNATIONALISATION FOR INDUSTRY 4.0 – A CASE OF SPAIN

Keywords: *Internationalisation, Industry 4.0, International Business, Foreign Markets*

Background to Case Study

Industry is one of the areas that has changed the most over the centuries. With a small invention, great revolutions have taken place that have changed the way we produce, consume and live. Since the first industrial revolution in the 18th century, the way in which companies in the industrial sector have developed their activity has not been static. They moved from mechanical production in the first instance to mass production with the second industrial revolution of the 19th century. We can say that this revolution was one of the most important because it turned around what we knew as industry.

From the third revolution in 1969-1970 until today things have also changed. With industry 3.0 the production process was automated and computers were incorporated into the process, this has made many people think that no progress is being made in the sector, but nothing could be further from the truth, we can say that we are in the fourth industrial revolution. In Industry 4.0, cybernetic physical systems have been implemented in these automated processes.

With the passage of time and the successive industrial revolutions, companies have been opening up to the outside world and have been expanding their markets, this is what is known as internationalization. The phenomenon of internationalization can be defined as a process carried out by companies and business subjects through which they expand into international markets, increasing their knowledge of international transactions and business, and giving them the opportunity to grow and access new resources in foreign places, achieving long-term profitability. It includes activities such as trading, networking, branching, cross-border clustering, collaborations, subsidiaries, etc.

The incorporation of technological advances has facilitated internationalization processes worldwide. In particular, advances in transportation and communications have had a major impact on these processes, increasing international trade as it has become more feasible and cost-effective. In this environment, Industry 4.0 has further pushed the boundaries of internationalization, as companies are now able to work with more complex supply chains and data networks, whereby physical connectivity is disappearing.

The fourth industrial revolution has brought together emerging technologies and autonomous devices to communicate with each other across production networks. This has given rise to computer-managed smart factories that control production processes, create virtual copies of some aspects and make decisions based on self-organizing mechanisms. But Industry 4.0 is not only about new technologies and processes in manufacturing itself; it also encompasses organizational changes.

According to the World Economic Forum, the consequences for companies will be articulated at four levels:

Project No. 2019-1-PL01-KA202-064936

- *Customer expectations will be at the center of corporate decision-making.*
- *Technology will make it possible to improve products by incorporating digital capabilities.*
- *There will be major innovations in the area of collaboration, because the unstoppable advance of technology will render the customer/supplier model obsolete;*
- *New ways of organizing companies will emerge, for example by rethinking the value and management of talent.*

Introduction to the Case Study and it's growth within Industry 4.0.

The link between Industry 4.0 and internationalisation is not a new phenomenon, but a common practice among companies. Companies started their globalisation and internationalisation process a long time ago, but with the advent of Industry 4.0 this process has accelerated. This revolution and the processes of internationalisation are closely interrelated, as both contribute to the growth and expansion of a company, reducing costs and increasing the efficiency of its production.

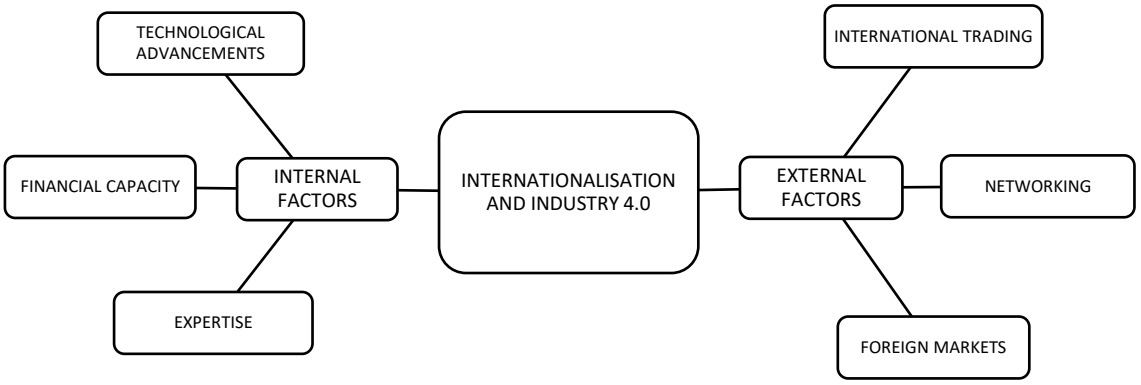
Increased connectivity in industry means that not only large companies are becoming more internationalised, but SMEs have also been pushed to operate beyond their home markets, accessing new and cheaper resources, as well as creating new networks and accessing other markets with new customers. SMEs have become more competitive and have managed to increase their exports considerably, increasing their profits if they have identified their priorities correctly.

These changes derived from Industry 4.0 have also created new solutions for companies, providing them with innovative and intelligent methods to apply in their activity. A clear example of this is Big Data, which improves a company's ability to monitor emerging trends and opportunities in other countries, thus gaining access to new markets and customers; another example could be communications, as remote maintenance and diagnosis of machinery is nowadays totally feasible without major problems; and finally, another example could be industrial robots, as their creation, design and programming can be carried out by a specialised company anywhere in the world, becoming international standards that any company can apply in its production chain, regardless of the country in which they are located.

The Case Study and Industry 4.0 Elements: A Pictorial Overview

In this graph, we can see how both internal and external factors of a SME contribute to the growth and expansion of the firm. The technological advancements adopted by the firm (Industry 4.0), as well as its financial capacity and expertise on the field contribute as internal factors, while its access to international markets and networks contribute as external factors. Both factors complement each other.

Project No. 2019-1-PL01-KA202-064936



This graph is based on the article "Industry 4.0 as the driving force of SME internationalisation: a case of Lithuania", by K. KOVAITĖ, P. ŠŪMAKARIS, J. STANKEVIČIENĖ and R. KORSAKIENĖ.

Project No. 2019-1-PL01-KA202-064936

Case Study

INTERNATIONALISATION FOR INDUSTRY 4.0 – A CASE OF SPAIN

The Element Explored within Industry 4.0 Application.

Wolco is an enterprise founded in 1972 in Bizkaia, Spain. They are specialized in the design and manufacture of special cutting tools that offer customized solutions to their customers.

Though internationalisation, Wolco and its group (Wolco Group) have got into different markets such as car industry, aeronautics and even aerospace sector. David Bernar, manager of Wolco Group, has stated that "With internationalization, we seek sustained growth by always offering solutions tailored to our customers, and working with them jointly to develop tools that bring greater profitability to our products".

In 2019, the Basque company signed an agreement to supply special cutting tools and sharpening services for a period of ten years for ITP Aero's plants in Zamudio (Spain) and Querétaro (Mexico). Twelve workers joined the new plant in Mexico, which involved a total investment of nearly 1 million euros.

The agreement with ITP Aero is in line with Wolco's expansion strategy in the aeronautical sector, an activity which currently represents 20% of its total sales and which it hopes to increase to 30% in the medium term.

Within the future plans of the company, a new plant in India is expected to be opened, concretely in Pune city, Maharashtra.

Wolco Group's internationalization is closely related to the needs of some of its main customers in sectors such as aeronautics and automotive, such as the Bosch Group and Chassis Brakes, the world's leading manufacturers of automotive brakes, as well as Schaeffler (bearings) and Rolls & Royce (aeronautics), among others.

Thus, the group expects to increase its sales by 20% and reach 10 million euros of turnover in 2020.

For its foreign expansion, Wolco has counted on the collaboration of the Basque Government through the "Gauzatu programme", which promotes the creation and development of companies abroad.

Project No. 2019-1-PL01-KA202-064936

	In this context, Wolco also boosts its R+D+i activity, in addition to having leading machinery in its sector such as CNC grinding machines, Mazak CNC lathes and Matsuura CNC machining centre, dual-head grinding machines, Fanuc CNC wire-cutting machines and Zoller control machines.
Application Target Audience	*The results of the case-study are intended for use by SMEs and entrepreneur subjects.*
Resources Used:	*- "Industry 4.0 as the driving force of SME internationalisation: a case of Lithuania", by K. KOVAITĖ, P. Šūmakaris, J. Stankevičienė and R. Korsakienė. Available here.* *- "When Technology meets Strategy: Impacts of Industry 4.0", by E. Kaltenecker. Available here.* *- "How Industry 4.0 Is Impacting Globalisation", by J. Wilkins. Available here.*
Further Reading:	*- "Go global by technology: how to leverage Industry 4.0 Internationally", by M. Johansson, C. Skoglar and S. Öberg. Available here.*

Project No. 2019-1-PL01-KA202-064936