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Corporate strategy and competitiveness in a knowledge-based economy

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Nowadays, we live in a knowledge-based economy. The focal point of the term 'knowledge-based economy' is the greater reliance on intellectual capabilities than on physical inputs or natural resources. That is why innovation provides firms with a strategic orientation to overcome the difficulties they encounter while striving to achieve a sustainable competitive advantage. The strategy that governs the innovation process within a company is called the innovation strategy. It gives guidance on the allocation of resources in order to achieve the previously set goals. All these mean that innovation is considered to be one of the most important factors determining competitive advantage. Researchers can be divided into two main groups. Some of them consider that the concept of competitiveness mostly relates to firms and products. Others find that national competitiveness is a significant determinant of firms' overall competitiveness and they analyse it from a sectoral viewpoint. Continuous growth in productivity over a longer period of time should be the top goal of economic policy. For achieving all this, a knowledge generation encouraging the business environment is needed to foster constant innovation in products, services, processes and management.

Keywords: innovation, knowledge, innovation strategy, competitiveness, productivity, new economy.

JEL codes: D83, J24, O31.

Introduction

Knowledge generation and innovation have been cited as some of the key factors behind economic success. As a consequence of increasing competition in the global markets, companies have realised the importance of innovation since fast-changing technologies and harsh global competition quickly erode the value added of existing products and services. Innovation has become a necessary and compulsory part of corporate strategy for several reasons. It is crucial for the implementation of more productive manufacturing processes, for gaining a better market position and achieving a more positive reputation among customers, all of which lead to a sustainable competitive advantage.

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Innovation strategy in a nutshell

One of the most widely cited definitions of strategy is constructed by Pisano (2015). According to him, "a strategy is nothing more than a commitment to a set of coherent, mutually reinforcing policies of behaviours aimed at achieving a specific competitive goal" (Pisano 2015. 46). Well-developed strategies encourage the smooth operation of the different functional areas within the organisation, they set clear goals and concentrate resources and efforts to reach them. It is crucial for companies to pay attention to identifying their general business strategy and describing how the different functional areas help reach it (Pisano 2015).

Two types of firms can be distinguished. Cumulative firms adopt an innovative strategy that is based on an internal learning process with different searching methods, while non-cumulative firms adopt a strategy focused on external sources of knowledge (Llerna–Oltra 2000).

An innovative strategy leads to competitive advantage. Competitive advantage can be analysed at macro and micro levels. Michael Porter states that "the only meaningful concept of competitiveness at the national level is productivity" (Porter 1998. 160). The World Economic Forum makes an addition to this definition, namely that competitiveness is "the set of institutions, policies and factors that determine the level of productivity of a country" (Schwab 2009. 4). In other words, the more competitive an economy is, the higher the levels of income it can produce for its inhabitants. The productivity level also defines the rates of return achieved by investments in a given economy. An economy is considered to be competitive if it has a trade surplus, few import barriers and limited "discounts" for exporters. As Atkinson (2013. 3) clearly expresses, "the true definition of competitiveness is the ability of a region to export more in value added terms".

At micro level, innovation is considered a method of reaching competitive advantage. Managers should articulate an innovation strategy that stipulates how their firm's innovation efforts will support the overall business strategy. This will help them to make trade-off decisions so that they can choose the most appropriate practices and a set of overarching innovation priorities that are in line with all functions. Creating an innovation strategy involves determining how innovation will create value for potential customers, how the company will capture the value and what type of innovation to pursue. When creating an innovation strategy, companies have a choice about how much focus is placed on technological innovation, product innovation, organisational or marketing innovation as well as on business model innovation.

The importance of innovation

The most frequently used definition of innovation is designed by the OECD, according to which "an innovation is the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organisational method in business practices, workplace organisation or external relations" (OECD 2005. 46).

However, even when innovation is defined properly, it is often confused with competitiveness and/or productivity. While innovation is related to productivity, it is not synonymous with competitiveness. There are many types of innovations that have little to do with productivity and competitiveness.

$$Output/Unit\ of\ Input = Productivity \quad (1)$$

Productivity is the ratio of economic output to the unit of input. The unit of input comprises labour hours (labour productivity) or all production factors, including labour, machines and energy (total factor of productivity).

To be able to understand the sources of productivity, it is important to recognise that economies have three ways to grow in the medium and long terms. These are the growth in:

– Workers,

– Productivity across the board, and

– The share of activity in high-productivity industries.

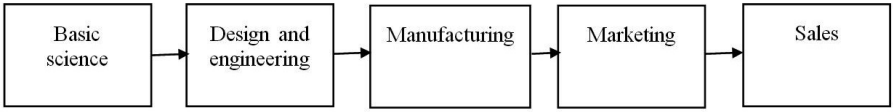
A shift effect occurs when high-productivity industries grow faster than low-productivity industries. The lion's share of productivity in most nations comes not from the shifting of the sectoral mix to higher productivity industries, but from all branches. Industries, even low-productivity ones, are boosting their productivity (Miller–Atkinson 2014). Nations need well-articulated and distinct strategies addressing competitiveness, innovation and productivity. No one strategy addresses all three factors effectively (Manyika et al. 2010).

The essential outcome of entrepreneurship is innovation or its transformation into a new product that can be sold to a sizeable market (Schumpeter 1934). Schumpeter focuses on the typical European economic structure of the late nineteenth century when new entrepreneurs entered the industry with new ideas, new products and new processes. Radical or breakthrough changes result in new and fundamentally changed products and services. Incremental improvements add to or sustain their value. Radical and breakthrough modifications contribute to new or fundamentally transformed business and management processes and

practices. Incremental improvements enhance the efficiency and effectiveness of existing business and management processes and practices.

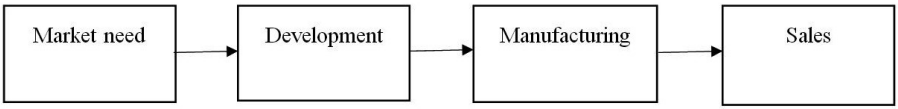
Lam (2005) defines innovation as a capacity to respond to changes in the external environment, and organisational innovation as the creation or adoption of an idea or behaviour new to the organisation. All these mean that "the most fundamental resource in the modern economy is knowledge and, accordingly, the most important process is learning" (Lundvall 1992. 1).

Enterprises significantly differ in their approach to innovation and that is why there is no single model of innovation process. The linear model can be mentioned as the first model of innovation. Here, we can distinguish two types. The main essence of the science-push linear model (Figure 1) is that basic research constitutes the main source of innovation. On the other hand, in the case of the market-pull linear model, innovation originates from demand (Figure 2).



Source: Rothwell 1995. 36

Figure 1. Science-push linear model



Source: Rothwell 1995. 36

Figure 2. Market-pull linear model

The importance of knowledge in the new economy

The new economy discourse emphasises the productivity-enhancing effects of information and communication technologies (ICTs). The other side of the new economy discourse refers to a new family of firms whose characteristics are assumed to signal the future. These firms are typically producing Internet services or other advanced knowledge-intensive products and services (Lundvall 2004). Those firms that introduced ICTs without combining them with investments in the training of employees, management changes and changes in the work organisation had a negative effect on productivity growth, which lasted for several

years (Lund–Gjerding 1996). Paradoxically, it may be argued that, as long as the economy remains new, it will be much more difficult to obtain productivity growth than in an old economy. In the OECD countries, the highest rate of productivity growth ever was registered in the 1960s when the OECD economies had already moved far ahead on the Fordist scale intensive trajectory. The very maturity of the technologies used made the rapid growth of productivity possible. The fact that, in recent years, high productivity rates have been registered predominantly within ICT-producing sectors reflects that, for these sectors, information and communication technologies do not represent a new paradigm, but an old and well-established one. This is one reason why it is adequate to call the current era a "learning economy" (Lundvall–Johnson 1994. 23). It is worth noting that the divergence between dynamic firms and static firms is modest to begin with, but it keeps growing as time goes by. This might reflect that the radical change in technology and organisation has a positive impact on performance only after a period of organisational learning. In the current situation, it might be useful to start thinking about a new kind of Keynesianism, where public expenditures aim at upgrading human resources and promoting organisational change.

Knowledge-producing institutions like universities have the potential to stimulate growth. Often, the analysis of universities' knowledge potentials is strictly related to the utility of research and research spin-offs. Research certainly shows potential in terms of utility and entrepreneurship, but it is not the only important source of knowledge for learning and innovation in the relations between university and enterprises.

Productivity is a measure of value added in the production of goods and services. In this way, it can be understood as an indicator of added-up efficiency in applying tangible and intangible assets in production processes at enterprise level. One important driver of productivity growth is the ability of the firms active in a specific area to apply new knowledge and innovate. Product innovation and process innovation are considered productivity enhancers. Innovations are results of learning relations and new knowledge is materialised into products or processes. The knowledge foundation of innovation makes it interesting to study the learning relations between knowledge-producing institutions, like universities and enterprises.

Research and development are certainly important for product innovation, but they are not the only forms of knowledge, as their importance was previously

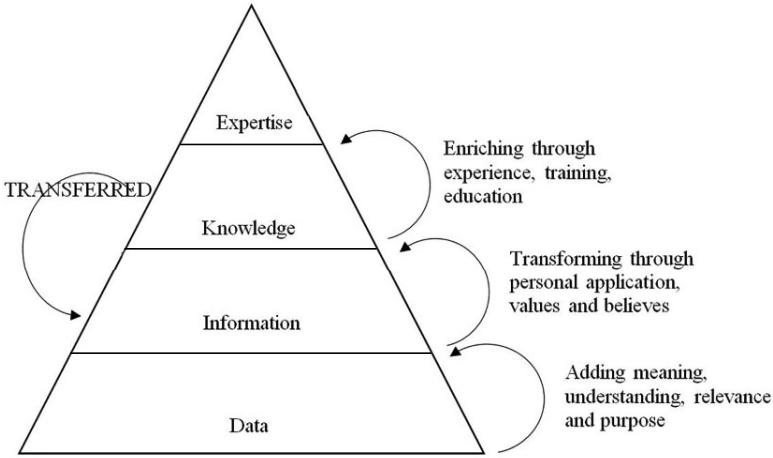
indicated for product and process innovation, too. Other more experience-based or empirical learning forms may play important roles both in the knowledge portfolios of universities and as sources of innovation in enterprises and entrepreneurship.

Often, research is an institutional embedded, collective and path-dependent process. Research knowledge, which eventually becomes formalised, systematic and verified as scientific knowledge, can be more or less basic and abstract or operational and ready for transformation to practical purposes (Dallango–Tortia 2019). Scientific knowledge is typically used as the cognitive substance of learning in linear innovation processes, which is tested and verified as the basis of product or service innovations. Even though it is difficult to assess the competitive advantage of firms that are product or service innovative, it can be expected that the market novelty of the innovation will bring more advantages to enterprises.

With the emergence of the so-called "knowledge economy", knowledge has become one of the most fashionable terms in the political and managerial spheres. As Weiler (2001. 36) states, "the politics of knowledge become less and less separable from the politics of production and profit, arguably the most powerful political dynamics in today's world". According to Halal (1997. 2), knowledge has a crucial role in a new way of seeing the organisation, "we see now that knowledge is the most strategic asset in enterprise, the source of creativity, innovation and economic value". Knowledge management is considered to be a vital aspect of the so-called "knowledge economy" and, hence, it has a strong influence on innovative practices. Figure 3 shows the classical hierarchical positions of the concept (Bender–Fish 2000). Data constitute the bricks from which the pyramid of knowledge is built.

If we wanted to determine data in managerial terms, we could because they are available without many restrictions in the knowledge society, on the Internet, in databases and in daily activities (Villalba 2007). On the other hand, Bender and Fish (2000. 126) pointed out that "data will become information only when they have been permeated with meaning, understanding, relevance and purpose."

Martensson (2000. 208) distinguished between general information and contextual information. According to him, general information consists of data that are organised and structured, whereas "contextual information is created by filtering and organising general information to meet the requirements of a specific community of users".



Source: Bender–Fish 2000. 126

Figure 3. Knowledge hierarchy

Information is converted into knowledge when an individual person processes and internalises it. New information has to be incorporated into the individual's existing knowledge structure in order to generate learning. Finally, if somebody masters a certain subject or area of knowledge, he or she will become an expert.

Sveiby (1997) makes a clear distinction between tacit and focal knowledge. Focal knowledge is knowledge of a specific thing, while tacit knowledge is the knowledge that is used as a tool to handle what is being focused on (Sveiby 1997. 30). Tacit knowledge is only possessed by individuals; it is not public but private. It belongs to the given person and only he or she can fully use it (Leonard–Sensiper 1998). Wiig (1993) distinguished between tacit and explicit knowledge, which refers to the internal and external knowledge base.

Using the distinctions between tacit and explicit knowledge, two different approaches can be mentioned. According to the first approach, knowledge and information are considered to be not identical but interchangeable. Knowledge can be transformed into information and every piece of knowledge can be made explicit. The second approach states that knowledge cannot be totally explicit as there is always a subjective and individual component. O'Connor and Carr (1982. 61) used other terms, the "know what" and the "know how" knowledge. The first one refers to "knowing that the proposition is true" and the second one

to "knowing how to do something". Understanding the nature of knowledge and innovation is important to make the right decision in the highly competitive knowledge economy.

Summary and suggestions for policymakers

To conclude, it must be clearly stated that some steps that reduce a firm's short-term costs actually work against its true competitiveness. At national level, a weaker currency makes imports more expensive and discounts the price of exports. This is essentially a national pay cut. A nation's competitiveness hinges on its long-term productivity, which is the value of goods and services produced per unit of human, capital and natural resources. Only by improving their ability to transform inputs into valuable products and services can companies prosper in a given country.

Increasing productivity in the long run should be the central goal of economic policy. This requires a business environment that supports continuous innovation in products, processes and management. Governments commonly play an important role by temporarily increasing outlays to soften the impact of recession. Such moves may improve company performance in the short run, but they typically don't improve the fundamental drivers of productivity and, therefore, cannot improve company performance in the long run.

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