INNOVATION STRATEGIES IN THE PORTUGUESE FOOTWEAR INDUSTRY

Francisco Diniz*, Rolando Vaz**, Nelson Duarte***

Abstract

Background. There are several studies focusing on different issues of innovation, however few of them study the footwear industry. With innovation being a key element for success, and while the Portuguese footwear industry enjoys a period of growth and international recognition (second most expensive in the world) it seems relevant to better understand the engagement of this industry with innovation.

Research aims. This paper addresses the issue of innovation in the Portuguese footwear industry.

Method. In order to develop this study data from the Community Innovation Survey (CIS) carried out in Portugal during the period 2008 to 2010 was used. CIS is a survey that is carried in most EU countries, and explores company innovation in the product, process, marketing and organization dimensions.

Key findings. With the results from this survey, obtained from Statistics Portugal, the different dimensions of innovation were analysed individually and paired. As a main achievement, a lack of an innovative culture was identified. When innovation was identified it was mainly in product and process dimensions. It was also verified that when companies adopt an innovation strategy, it is normally present in more than one dimension.

Keywords: Innovation, Footwear Industry, Community Innovation Survey

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INTRODUCTION AND BACKGROUND

Several studies were undertaken to better understand the results on innovation activities (Liu, Hodgkinson, & Chuang, 2014; Bogliacino & Pianta, 2013). The literature suggests that the concept of innovation as a research topic, was early identified by Schumpeter (1934) but, it was recognized as a field of study by the academic community during World War II (Benoit, 2008).

Innovation is present at different levels of society, however the business sector assumes a major role, because it is in this sector that the majority of innovations are applied, tested, rejected or sent to the market. In fact, innovation is the key to a better performance (OECD, 2005) and

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considered as a prerequisite for business survival (Tudor, Zaharie, & Osoian, 2014; Hogan & Coote, 2014). It is a cross-factor in all activity sectors or company sizes, nevertheless, Craig, Jackson, and Thomson (2007), argue that there is a widespread perception that small businesses operate as a growth incubator. Small businesses are the nest for innovation, and where new ideas transform into viable businesses. So, innovation should be a strategy in all companies, no matter their sector or dimension.

As identified in the paper title its aim is to present some results on innovation strategies adopted in the Portuguese Footwear Industry. The search for competitive advantage is present in most activity sectors, however in the footwear industry this is a requirement for survival and growth and innovation is identified by several sectorial reports as a key factor for success.

This industry presents a traditional pattern, based on an intensive work force, but with some changes being noticed since the 90s’. Nowadays, even in a traditional pattern it presents a strong exportation dynamic, high production levels and products where innovation and fashion are present. Consequently, firms within this industry have been able to increase national competitiveness. Production costs reduction is no longer the key to success in this industry. Currently, the focus is on product quality and marketing (namely targeting niche markets with higher value added).

Those industry developments contributed to a modern and technological industry. At the same time, the industry was able claim an important position in international markets. According to AICEP (2009) (AICEP, Portugal Global – Trade & Investment Agency) the Portuguese footwear industry was one of the most innovative and competitive sectors. It also contributed in a positive way to the trade balance, since it exports 95% of its production to 132 countries (APICCAPS, 2012a) (APICCAPS: Portuguese Association of Footwear Industry, Leather Components and Articles and their Substitutes). In 2014, 4.2% of Portuguese exports were achieved by this industry (AICEP, 2014), and it employed 41,946 people in 2012 (INE, 2014). Other figures from this sector indicate that it had €1,600 million in exports, accounting for 95% of production, to a total of 150 countries (APICCAPS, 2012b).

The Portuguese footwear industry is in a developing process with a strategy based on innovation, creativity and design of their products (APICCAPS, 2013b). At an average price of €23.68/pair, takes the second highest value internationally, exceeded only by Italy. This ranking reflects the appreciation of the Portuguese footwear (APICCAPS, 2012b). However this is an industry that presents high levels of competitiveness,
and Portugal does not escape this reality, both at internal and external levels (APICCAPS, 2013a, 2013b; Marques, 2013; Maias, 2013).

In order to analyse the innovative behaviour of companies in this sector, with this paper it is intended to present some results at the four main dimensions of innovation identified in the Oslo Manual (OECD, 2005).

The next chapter will present a brief overview of state of the art innovation. In this theoretical research an attempt was also made to position the footwear industry in terms of innovation, however, a lack of studies about innovation in the footwear industry was identified. The low number of scientific studies in this field justifies the relevance of this study, since this is a worldwide industry, and as a major player in terms of innovation.

The discussion about economic issues of innovation is widespread in the literature. It is possible to find references to the issue of innovation in most schools of economic thought. Research on innovation has been a great contribution and a mastery of the traditional neoclassical school until the first half of the 20th century.

The principle of innovation in economic and business sciences, results in particular to the theoretical framework proposed by Schumpeter, (1928, 1934, 1947). Schumpeter considered innovation as the setting up of a new production function including the emergence of new commodities, new forms of organization, new products, processes or new markets. He also introduced the term creative destruction arguing that from the constant emergence of innovations and economic changes, there are two aspects to be noted (Schumpeter, 1942):

1. The strongest economic sectors tend to centralize the innovation activities;
2. Businesses with greater ability to innovation (types and processes) tend to lead as regards the technological progress.

Regarding an innovation definition, Schumpeter (1939), presented a simple and comprehensive definition: “any way of doing things differently”. After this Schumpeterian approach, several scholars presented and classified innovation according to different standards and dimensions. Overall, summarizing the research of several studies: an innovation is a new idea that can arise from recombination of old ideas, and perceived as something new (Rogers, 1995).

According to the Portuguese Standard (IPQ, 2007), innovation is the implementation of a new or significantly improved solution, a new product, process, organizational method or marketing activity, in order to strengthen the competitive position, performance or knowledge. According to Peter Drucker (2007), innovation is a special tool for entrepreneurs. It can turn any change into an opportunity to start a new activity
or to offer new services. Based on the progresses of the innovation activity, Crossan & Apaydin (2010) defined innovation as:

Production or adoption, assimilation, and exploitation of a value-added novelty in economic and social spheres; renewal and enlargement of products, services, and markets; development of new methods of production; and establishment of new management systems. It is both a process and an outcome.

This definition is based in the European Commission Green Paper on Innovation (European Commission, 1995).

Moreover, it should be noted that no innovation develops independently, as, for example, a new source of raw materials can lead to a new product or even a new production process (OECD, 2005).

It is difficult to find and agree on a single definition for innovation, however, it is possible to say that innovation means:

1. New goods/services or new processes that lead firms to a better performance;
2. New production methods;
3. Opening up new markets;
4. New sources of raw materials, that might lead to sustainable production increases;
5. New forms of organization.

No matter what the definition, it is widely accepted that innovation is a crucial source of differentiation, competition, and economic development. While Schumpeter (1942) argued that the innovator gets a differentiation from its competitors, enjoying a temporary monopoly, Goyal and Pitt (2007) argue that innovation has been considered essential for companies to remain competitive. For Albarracín and Lema (2012) innovation is a way for companies to achieve sustainable competitive advantages, and according to Hogan and Coote (2014) it is a key driver of economic development and plays a crucial role in the growth of enterprises and economies. However, innovation is also a question of organizational culture and as argued by Rogers (1995) it must be promoted in order to benefit from it. From this brief overview it is possible to conclude that innovation can present different approaches. As suggested by Gopalakrishnan and Damanpour (1997) innovation is a complex construct. Since it would be difficult to summarize all the innovation approaches, in this paper it will be adopted the Oslo Manual types of innovation. That report (OECD, 2005) identified four types of innovation that encompass a wide range of changes in firms’ activities. Those types (listed below) still remain as a reference for several studies:

1. Product Innovation (Goods and Services) – involve significant changes in the capabilities of goods or services. Both entirely new
goods and services and significant improvements to existing products are included.

2. Process Innovation – represent significant changes in production and delivery methods.

3. Organizational Innovation – refer to the implementation of new organizational methods. These can be changes in business practices, in workplace organization or in the firm’s external relations.

4. Marketing Innovation – include changes in product design and packaging, in product promotion and placement, and in methods for pricing goods and services.

In this paper, innovation analysis will be based in the Oslo Manual innovation dimensions. The manual, developed jointly by Eurostat and the OECD became a reference for researchers and studies that analysed the nature and impacts of innovation in the industrial sector, providing guidelines for data interpretation in order to obtain results that allow national and international comparisons.

As conclusion of this chapter and quoting Tudor et al., (2014) the innovation process is vital to business survival, and it is no longer acceptable to interpret innovation as an extra or optional factor.

**METHOD**

Considering the study population (companies operating in the Portuguese footwear industry, around 2,500) it was found the existence and availability of a Community Innovation Survey (CIS). The use of the results from this survey was interesting because it allowed obtaining valid data without performing direct observation. Other factors that suggested the use of CIS were:

1. Data availability at micro level. The information was collected directly from companies.

2. Inclusion of all innovative activity (successful or failure). Thus, CIS produces a broad set of indicators on innovation activities.

3. Comparability, CIS is the main survey on innovation at European level. It is a community survey that must be held in all member states of the EU, according to Eurostat guidelines.

A disadvantage it was identified due to the low number of questionnaires, since it was limited to the sample inquired by the organizers (Statistics Portugal).

CIS leads to a statistical report of innovation activities in European countries under the supervision and methodological recommendation of Eurostat, according to the conceptual framework provided in the Oslo Manual. It aims to measure and characterize innovation in all member states. In Portugal, CIS is under the responsibility of the Planning, Evalua-
tion, Strategy and International Relations Office, jointly with the Minister of Education and Science, and the Portuguese Statistics.

The sample covers 80 companies in the footwear industry analysed in the period 2008-2010. For this paper, analysis will be based initially on an exploratory data analysis, followed by dependency relationships tests. The latter, was performed since according to the theoretical framework, a chance of was identified of correlation between different types of innovation. Those tests were based on independence tests [chi-square ($\chi^2$)].

The data analysis was performed through the Statistical Package for Social Sciences (SPSS).

**RESULTS**

The results presented provide and disseminate panel results for the period 2008-2010. We will start by classifying companies into innovative and non-innovative. Later, we will rank the innovation dimensions and then cross some dimensions.

Considering a dummy variable (innovative vs non-innovative), a company classified as innovative is a company that adopted at least one strategy from the 12 possible strategies within the 4 innovation dimensions (from CIS 2010):

1. **Product Innovation**: Goods/Services – new or significantly improved.
2. **Process Innovation**: (a) production manufacturing methods new or significantly improved; (b) logistics, delivery and distribution methods of productive factors (inputs) or final products (goods and or services) new or significantly improved; (c) process support activities new or significantly improved.
3. **Organizational Innovation**: (a) new business practices in the organization procedures; (b) new methods of organization responsibility and decision-making; (c) new methods of organizing external relations with other companies or institutions.
4. **Marketing Innovation**: (a) significant product aesthetic changes or packaging (goods and/or services); (b) new techniques or media to promote goods or services; (c) new methods of products distribution/ placement or new communication channels; (d) new price policies.

Thus, the variable assumes the value “1” if the company is innovative, and “0” for a company that did not adopt any innovation strategies.

The first results are related to the number of companies that adopt innovation strategies. It was possible to verify that only 23.75% of companies present at least one innovation strategy, against 76.25% that do not adopt any type of innovation.
This result is not aligned with the theoretical framework that links innovation to the business sector (Craig et al., 2007; Hogan & Coote, 2014; OECD, 2005). On the other hand, considering that footwear industry is characterized as innovative (AICEP, 2009) this result revalidates the position defended by Schumpeter (1942): companies with greater capacity to offer innovative products and processes tend to lead with regard to technological progress. This might mean that the footwear industry is innovative, but this innovation is only found in a small number of companies.

In Table 1, innovation strategies were organized by dimension (lines) and by typology (columns). Under the column “Accumulated” a company that innovates for instance at product level may also be accounted for any other type of innovation. Under “Exclusive” a company that innovates in a product, innovates exclusively in this dimension.

**Table 1. Innovation by Typology**

<table>
<thead>
<tr>
<th>Companies with:</th>
<th>Innovation</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Accumulated</td>
<td>Exclusive</td>
</tr>
<tr>
<td>Product Innovation</td>
<td>47.37%</td>
<td>10.53%</td>
</tr>
<tr>
<td>Process Innovation</td>
<td>47.37%</td>
<td>21.05%</td>
</tr>
<tr>
<td>Organizational Innovation</td>
<td>15.79%</td>
<td>10.53%</td>
</tr>
<tr>
<td>Marketing Innovation</td>
<td>31.58%</td>
<td>15.79%</td>
</tr>
</tbody>
</table>

Source: own elaboration based on (DGEEC, 2010).

In Table 1 the column “Exclusive” presents for all typologies figures lower than the column “Accumulated”. It means that most of companies that adopt an innovative strategy choose to innovate in more than one dimension. This result is consistent with the Oslo Manual (OECD, 2005): no innovation is developed separately.

The next step is to analyse the relationship among the different types of innovation. The exploration of these relationships will be developed by a cross tabulation technique whose results are presented in the tables 2-4.

**Table 2. Product and Process Innovation**

<table>
<thead>
<tr>
<th>Companies with:</th>
<th>Process Innovation</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Product Innovation</td>
<td>No</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>% of Total</td>
<td>26.3%</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>% of Total</td>
<td>26.3%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>Count</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>% of Total</td>
<td>52.6%</td>
</tr>
</tbody>
</table>

Source: own elaboration based on (DGEEC, 2010).
The first results show that approximately $\frac{3}{4}$ of companies do not innovate. Results from Table 1 also indicate that for those that were classified into innovative, 47.37% innovated in product/service. The same figure is valid processes innovation. After product and process, appears marketing innovation (31.58%) and at last organizational innovation. These results suggest that the most important dimensions for innovation are those with a direct external impact (15.79%). This is in line with the results presented by Duarte, et al. (2013) not only regarding innovation adversity, but also, by concluding that managers welcome change that present a chance of rapid profit, instead of change in structural aspects. Regarding the present study, it is possible to realize that entrepreneurs in the footwear industry, prioritize innovation with external impact, which are thus more likely to promote immediate returns.

**Table 3. Product and Organizational Innovation**

<table>
<thead>
<tr>
<th>Companies with:</th>
<th>Organizational Innovation</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Product Innovation</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>% of Total</td>
<td>42.1%</td>
<td>10.5%</td>
</tr>
<tr>
<td>Count</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>% of Total</td>
<td>42.1%</td>
<td>5.3%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>10</td>
<td>9</td>
</tr>
<tr>
<td>% of Total</td>
<td>84.2%</td>
<td>15.8%</td>
</tr>
</tbody>
</table>

Source: own elaboration based on (DGEEC, 2010).

**Table 4. Product and Marketing Innovation**

<table>
<thead>
<tr>
<th>Companies with:</th>
<th>Marketing Innovation</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Product Innovation</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>% of Total</td>
<td>31.6%</td>
<td>21.1%</td>
</tr>
<tr>
<td>Count</td>
<td>7</td>
<td>2</td>
</tr>
<tr>
<td>% of Total</td>
<td>36.8%</td>
<td>10.5%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>13</td>
<td>6</td>
</tr>
<tr>
<td>% of Total</td>
<td>68.4%</td>
<td>31.6%</td>
</tr>
</tbody>
</table>

Source: own elaboration based on (DGEEC, 2010).

With the following tables we started to analyse the relationship between the different dimensions of innovation. Starting by product innovation and crossing it with the other dimensions it can be concluded that 21.1% are innovating simultaneously in process (Table 2), while 10.5% in
marketing (Table 3) and the figure falls to 5.3% in the organizational dimension (Table 4). Since the most relevant dimensions of innovation are in product and process, those are also the dimensions expected where a higher level of accumulated innovation exists (Table 1).

Considering process innovation we will proceed to present on Table 5 and 6 the results on process*organizational and process*marketing.

Table 5. Process and Organizational Innovation

<table>
<thead>
<tr>
<th>Companies with:</th>
<th>Organizational Innovation</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Process</td>
<td>Count</td>
<td>% of Total</td>
</tr>
<tr>
<td>Innovation</td>
<td>7</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>% of Total</td>
<td>47.4%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>Count</td>
<td>16</td>
</tr>
</tbody>
</table>

Source: own elaboration based on (DGEEC, 2010).

Table 6. Process and Marketing Innovation

<table>
<thead>
<tr>
<th>Companies with:</th>
<th>Marketing Innovation</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Process</td>
<td>Count</td>
<td>% of Total</td>
</tr>
<tr>
<td>Innovation</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>% of Total</td>
<td>42.1%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>Count</td>
<td>13</td>
</tr>
</tbody>
</table>

Source: own elaboration based on (DGEEC, 2010).

Process innovation, as previously presented is related to new production methods, new logistics, or new support activities. Digging a bit into these concepts, it will be easy to realize that process innovation is related to organizational innovation (business practices, responsibility, external relations). However, the results show that no companies are innovating simultaneously in process and organizational dimensions. Even, having expected a stronger relationship between these dimensions (Gunday, et al., 2011), the results are also in accordance with some other studies that analysed this relationship (Ballot et al., 2015). Considering the relationship, in process*marketing only 5.3% of companies are innovating simultaneously...
at these dimensions. Finally we will cross marketing and organizational innovation.

As was first presented, organizational innovation is the type of innovation that presents a lower percentage. This figure is reflected in the results of Table 5, with no companies innovating simultaneously in processes and organizational dimension. A low figure was also obtained in Table 7 where only 5.3% of companies are innovating simultaneously in marketing and organizational dimensions.

Table 7. Process and Marketing Innovation

<table>
<thead>
<tr>
<th>Companies with:</th>
<th>Marketing Innovation</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Organizational Innovation</td>
<td>Count</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>% of Total</td>
<td>57.9%</td>
</tr>
<tr>
<td>Yes</td>
<td>Count</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>% of Total</td>
<td>10.5%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>Count</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>% of Total</td>
<td>68.4%</td>
</tr>
</tbody>
</table>

Source: own elaboration based on (DGEEC, 2010).

This means that companies are more product (manufacturing) than market oriented (external relations – selling activities). The internal perspective is also important but mainly on the factory floor (product and process innovation), since the organizational (mostly internal) dimension is assumed as the less important in Portuguese footwear industry.

**DISCUSSION AND CONCLUSION**

After analysing the results presented in the previous section, it may be concluded that there is a lack of an innovative culture in the Portuguese footwear industry. However, innovation exists, and it has been fostering this sector, but apparently the innovation strategy is present in few companies. The most representative dimensions are product and process innovation. These results are valid both at individual analysis and on cross tabulations.

From Table 1 it was possible to verify that even with similar results (product and process innovation) when analysing accumulated innovation, in exclusive typology process innovation takes the lead. The most important dimensions for innovation are those with a direct external impact (product, process, marketing), however a few companies are just committing on product innovation. Companies are promoting process and marketing innovation, and it seems that these strategies are also originating prod-
uct innovation. Besides product innovation, organizational and marketing innovation are also mostly entailed by the adoption of another innovation strategy. This is demonstrated in the results presented in Table 1 where it appears that exclusive innovation presents values 50% lower than accumulated innovation. The results also lead us to identify interdependence among the types of innovation, often more visible between the product and process innovation variables.

For this relationship some chi-square tests ($\chi^2$) were performed to test the variable independence, since there was dependence evidence. However, the low number of companies classified as innovative does not verify compliance with the assumptions for statistical validation of those tests.

As a possible response to the focus of this research, it is clear that there are some companies that perform innovative activities, but most companies, ($\frac{3}{4}$) in the Portuguese footwear industry, are averse to innovation.

The results from this paper, even requiring some other statistical procedures show that most companies in this sector do not adopt an innovation strategy. From an entrepreneurial perspective, the results of some field experience, this is due mainly to companies that still work on an outsourcing basis, and have only recently taken the first steps in presenting their own brand to the market. These changes necessarily lead the company to provide itself with innovation processes and an innovation strategy. Despite the weak propensity to innovation, it is clear that the most significant innovations are at the product and process levels and immediately afterwards appears marketing innovation. Moreover, innovation strategies adopted by companies in the footwear industry, prioritize innovation with external impact and thus are more likely to promote immediate returns.

For the present and future of this industry, as referred to in the sectorial study “Footure 2020” innovation is critical to survive. For their success it is expected that innovation activities will become a short-term element in the strategic and operational management. This opens up new research opportunities to follow the development of innovation at the company level, or to identify the reasons that keep blocking it.

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STRATEGIE INNOWACJI W PORTUGALSKIM PRZEMYSŁE OBUWNICZYM

Abstrakt

Tło badań. Istnieje kilkanaście badań skupiających się na różnorodnych kwestiach związanych z innowacyjnością, jednak tylko niewiele z nich porusza te kwestie w odniesieniu do przemysłu obuwniczego. Jednak, w momencie gdy innowacyjność stała się kluczowym elementem sukcesu a portugalski przemysł obuwniczy przeżywa okres wzrostu i rozwoju oraz międzynarodowego uznania (drugi najdroższy na świecie), istotne jest, aby lepiej zrozumieć zaangażowanie przemysłu w innowacyjność.

Cel badań. Niniejszy artykuł zajmuje się kwestiami innowacyjności w portugalskim przemysł obuwniczym.


Słowa kluczowe: Innowacyjność, przemysł obuwniczy, Badanie Innowacji Wspólnoty (Community Innovation Survey – CIS)