

HOW INNOVATION CREATES VALUE IN THE PORTUGUESE FASHION VALUE CHAIN

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Abstract: *The Portuguese footwear industry had in the last five years a remarkable performance in the exportation values, the trade balance and others economic indicators. After a long period of difficulties and with a strong reduction of companies and employees since 1994 until 2009, the Portuguese footwear industry changed the strategy and is now a success case between the international players of footwear. The 2015 exportation values confirm this situation. These results are linked with the strategy in innovation followed and with the type of innovation adopted by the footwear companies. The research methodology was qualitative and the strategy for data collection was the case study. The model “Ace of Diamonds” proposed by the authors explains the way how this performance was reached by the seven companies that participate in the study and if this model can be used in others traditional and low-tech industries as they are the fashion industries (apparel and textile).*

Keywords: *Footwear industry, innovation, fashion value chain, low-tech industries.*

1. Introduction

The textile, apparel and footwear industry belong to the called “fashion industries”. Indeed, there are many similarities between the footwear industry and the textile/apparel industries (ITV) in Portugal. They are traditional, mature, “low-tech” and labor intensive, with a strong position in the Portuguese economy and represent thousands of jobs. They export more than other Portuguese labor-intensive industries, mainly to Europe, and contribute to a very positive trade balance. The Portuguese textile and apparel industries have suffered an important impact with the economic crisis of 2009-2012, but in the last three years started the recover (Table 1). Also the Portuguese footwear industry shows an excellent performance in several indicators in the last five years. The economic and social indicators of the footwear sector for the year 2014 published by APICCAPS (2015) show that 1.430 companies employed 37.781 people and had a gross production value of 1.884 million euros (Table 2). The coverage rate (value) is around 411%, one of the highest in the Portuguese economy. Year by year this industry became stronger, creates new skills and increases his competitive position between the global stakeholders, players and competitors, even in demanding European markets, such Italian or French.

Table 1: General data of Portuguese textile and clothing industry (2010-2015) (* forecast 2015)

	2010	2011	2012	2013	2014	2015
Production (millions €)	5.640	5.770	5.647	6.028	6.407	6.379 *
Turnover (millions €)	5.815	5.983	5.838	6.296	6.654	6.755 *
Exports (millions €)	3.844	4.167	4.127	4.288	4.620	4.836
Imports (millions €)	3.419	3.467	3.116	3.343	3.608	3.795
Employment	137.264	132.133	124.329	124.147	127.901	129.452

In two decades, the footwear companies in Portugal made a strategic change in the business model and they started to develop own products and own brands, supported by a large and successful international marketing campaign to new foreign markets. The presence in international fairs (e.g. MICAM), exhibitions and congresses are common and with more and more Portuguese participants. This performance wasn't achieved yet in the same way by the textile and clothing industry in Portugal, but the results in 2015 and in the first semester of 2016 that were reached by the ITV industry are very promising.

Table 2: General data of Portuguese footwear industry (2010-2014)

	2010	2011	2012	2013	2014
Production (millions €)	1.283	1.511	1.824	1.797	1.884
Number of companies	1.245	1.324	1.322	1.399	1.430
Exports (millions €)	1.297	1.541	1.600	1.735	1.846
Imports (millions €)	425	467	403	422	449
Employment	32.132	34.509	34.624	36.889	37.781

The competitive strategies [1, 2] followed by the Portuguese ITV industry and by the footwear companies are similar but have some variations in the starting point (year) and in the velocity they were adopted. Also there are some differences in the strategic focus (fashion/brands to footwear industry) versus technical innovations (technical products/innovative fabrics to ITV) [3]. Monitor's report in 1994 [4], coordinated by Michael Porter, highlight the importance of the traditional industries in the Portuguese economy, focused in create value added in the textile and footwear products and brands. Textile and apparel industries (ITV) have a higher production than footwear, but footwear is increasing his production year by year very quickly [5]. The last official results for Portuguese exportations for the first five months of 2016 (INE), shows that the ITV had exported 1.288 million of euros (+6.3% than 2015) and the footwear industry had exported 747 million of euros (+3.7% than 2015).

Can find the three generic strategies suggested by Porter [1], i) cost leadership, ii) differentiation and iii) focus (in differentiation or in cost) in the Portuguese innovative footwear companies and can be easily identified when analyzed each case. David Aaker [6] considers the three strategies identified by Porter and adds two more: synergy and quick-response. But the increase of global competitiveness requires from the companies the conditions to reach competitive advantages and conquer new markets and opportunities. Own products, own collections and own brands are differentiation strategies that the companies follow step by step in order to change the strategy from private label to own brand production regime. Also innovation and cooperation are very important factors in the achievements showed by the footwear sector (Table 3).

Table 3. World Top 15 Exporters in 2014 (Value)

Rank	Country	Value (millions USD \$)	World Share (%)	Average Price (\$) – (Rank)	Export Markets (Top 3)
1	CHINA	53 837	40.5	4.44 (15 ^o)	USA/Japan/Russia
2	VIETNAM	12 200	9.2	16.09 (12 ^o)	USA/France/Gwermany
3	ITÁLY	11 138	8.4	50.92 (1 ^o)	France/Germany/USA
4	BÉLGIUM	5 566	4.2	24.50 (4 ^o)	France/Netherlands/UK
5	GERMANY	5 166	3.9	22.62 (6 ^o)	France/Netherlands/Poland
6	INDONÉSIA	4 761	3.6	20.88 (8 ^o)	USA/Belgium/Germany
7	HONG KONG	4 014	3.0	16.65 (11 ^o)	USA/China/Japan
8	SPAIN	3 540	2.7	22.07 (7 ^o)	France/Italy/Germany
9	NETHERLANDS	3 295	2.5	19.99 (9 ^o)	Germany/France/UK
10	FRANCE	3 095	2.3	31.74 (3 ^o)	Italy/Germany/Spain
11	ÍNDIA	2 610	2.0	13.08 (13 ^o)	UK/USA/Germany
12	<u>PORTUGAL</u>	<u>2 452</u>	<u>1.8</u>	<u>31.88 (2^o)</u>	<u>France/Germany/Netherl.</u>
13	U K	2 079	1.6	12.83 (14 ^o)	Germany/Ireland/Netherl.
14	ROMANIA	1 374	1.0	24.01 (5 ^o)	Italy/Áustria/Germany
15	SLOVAKIA	1 226	0,9	17,20 (10 ^o)	Germany/Áustria/Poland

2. Methodology

To reach the necessary data to any investigation on these Portuguese industries, sectorial footwear organizations are key determinants and partners to successfully achieve the research objectives. APICCAPS (Portuguese Association of Industries of Footwear, Components and Leather Products) and CTCP (Footwear Technological Center of Portugal) were important to select the sample of footwear companies that develop some kind of innovation in its industrial activity, and they are also partners in several industrial and commercial projects with these companies. CITEVE (Technological Center for Textile and Clothing Industry of Portugal) was also interviewed during the research.

The qualitative analysis is presented as the most recommended when the researcher wants to study a small sample of entities and the study is focused on a theme or sector. It is also recommended when the investigation aims obtaining detailed and in-depth information on organizations, interactions and behaviors observed by the investigator during the field research [7]. In this case were seven footwear companies: Felmini/J.Moreira, Savana, Centenário, Procalçado, Kyaia, Soze/Dkode and Aco Shoes. The research methodology followed was qualitative and the strategy for data collection was the case study (multiple case studies), as suggested by Yin [8]. This strategy allows to the researchers obtain holistic and relevant features of real events, regardless of the element of analysis is related with an individual, group or organization [8],[9]. A number of cases between four and ten works normally well [9]. CEOs and other important directors were interviewed several times during the field research. Hill and McGowan [10] argue that for the study of smaller businesses and their leaders and administrators, is convenient to use an epistemological approach that minimizes the distance between the researcher and the entrepreneur, allowing a positive interaction between them. Other sources of data were used in order to help the research [9] and gather critical knowledge to develop the present paper.

To select these seven companies, mainly SMEs, were used the purposeful or intentional sampling [10]. The logic and the power of purposeful or intentional sampling is based on the selection of cases that are rich in information for in-depth study of a particular phenomenon, and on which can be drawn from relevant information and central to the purpose of the investigation [9]. There are several strategies to select the footwear companies using the intentional sampling. The maximum variation strategy and the sampling with criteria are the most appropriate to the present investigation [11]. The good collaboration between the researcher and the footwear companies CEOs was critical to the results achieved. In this research, the main sources used were semi-structured interviews, questionnaires and observation of reality in the workplace (real work context). During more than six months were listened several members from the companies and was filled a small questionnaire about innovation.

3. Results and discussion

The research was focused in the innovative companies of the Portuguese footwear industry. Independently of which type of innovation, dimension or footwear products, the common feature in the companies was the innovation. Innovation and cooperation are very important factors in these achievements by the footwear sector. Other factors are also very important. Own products, own collections, own brands and new brands are critical to the economic results. In one decade, the Portuguese footwear industry launched more than three hundred of new brands in the global market. The profitable development of own products, own collections and own brands is reached by many Portuguese companies. Last MICAM (leading international footwear fair, promoted by ASSOCALZATURIFICI ITALIANI, the Association of Italian Footwear Manufacturers) in September 2016 had the participation of more than ninety Portuguese footwear companies and the presence of the Portuguese prime minister and the minister of Economy.

The type of innovation (according Oslo Manual classification) is different in the companies. Innovation in product and innovation in marketing are present in four cases. Innovation exclusively in products is verified only in one company. These five cases have a higher rate "Turnover/Worker" and they have also a superior innovation level. The other two cases are focused in the innovation in processes, working mainly in private label regime (Table 4). Own brand sales in these cases represents less than 10% (both companies have own products, own brands and own collections). The organisational innovation is referred by two cases, but only in one it is clear (Kyaia).

Chain-linked model proposed by Kline and Rosenberg [12] and open innovation theory suggested by Chesbrough [13, 14] helps to understand how works the innovation in the Portuguese footwear sector. The High Speed Shoe Factory (HSSF) is an innovation project with several partners, led by Kyaia and CTCP (technological center for footwear industry) but had the participation of many others suppliers and stakeholders (software, cutting machines, mechanics,electronics,etc).

Table 4: Innovation and turnover in the seven cases (Portuguese footwear industry)

Year 2013	Felmini	Savana	Centenário	Procalçado	Kyaia	Soze	Aco
Type of Innovation (Oslo Manual)	Product Marketing	Process Organisational	Product	Product Marketing	Product Organisational Marketing	Product Marketing	Proces
Innovation Level (1-5)	4	2	3	5	5	3	2
Turnover (million €)	13,443	8,954	9,187	21	56	10	33,49
Ratio "Turnover/Work." (€/worker)	73.460	63.050	124.150	70.950	90.320	62.500	45.200

From the research, can be proposed a simplified model called "Ace of Diamonds" (Figure 1). The simplified model "Ace of Diamonds" can give the guidelines to prepare an approach more efficient and profitable to the footwear companies, increasing their competitive performance and creating value in the fashion value chain.

In the center of the simplified model is "INNOVATION" in Products and Marketing. Better economic results and better competitive positioning are associated with these types of innovation, reason why they are the core of the model. On the top of the diamond is the first vertex called "Creativity, design and brand". Creativity comes from different actors in the companies: the owners and administrators or design departments and workers. International fashion fairs specialized (e.g. MICAM Milan, GDS Dusseldorf) in leathers and shoes, visits to the most important clients and street shots in several situations are relevant sources of information to develop the new collections. As result, they create and develop new footwear brands oriented for the right markets. Know-how and skills were warranted by the workers of this traditional sector, making possible an increasing of quality levels. Dimension of the companies is important to develop collections, design products and promote the new brands in markets. Because is expensive, not all the SMEs has the conditions and the dimension to launch collections and own brands in international markets. Second vertex is "Strategy, vision and leadership". These conditions are linked with the competences and skills of the management, CEO's and directors in different levels of the value chain. Leadership is a notorious skill of the CEOs and administrators that participate in the research. The way how they deal with all the subjects, including threats and opportunities related with competitors and markets, is critical to the results achieved. They recognize the importance of the cluster to be more competitive, doing outsourcing mainly in others members of the cluster. On the third vertex is placed "Internationalization for new markets (outside Europe)". European markets have a huge importance in the sector. As is shown in the table 3, France, Germany and Netherlands are the top 3 of the Portuguese footwear importers. Others markets as United States or Canada, although their dimensions, doesn't have relevance on the exportation's value, but the situation has changed a bit in the last semesters. Japan and others Asian markets also have not a significant market share. Internationalization to markets outside of Europe is the solution to continue increasing the sales and turnovers of the Portuguese footwear companies. On the fourth vertex is placed "Cooperation and partnerships in the cluster". Cooperation is important in all the activities of the cluster. No matter how or whom, but the fact that companies can share some resources and knowledge gives benefits for all of them. CTCP and APICCAPS are important sectorial organizations, respected and recognized not only by the cluster, but also by international players as GSD Dusseldorf that collaborates in the preparation of international statistics of the footwear industry. Outsourcing in the cluster is important to obtain low production prices in order to compete with others global competitors. These production contracts are often times informal agreements and allows that micro-enterprises with only a few operations of the production process can work and can be specialized on these phases of the value chain. Finally, it's very important the cooperation between equipment producers and services suppliers (mainly cutting and software houses) and the footwear.

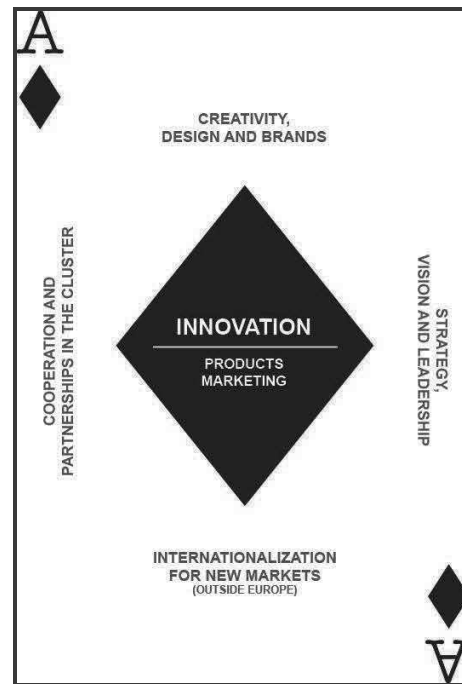


Figure 1: Simplified model “Ace of Diamonds”

4. Conclusions

Innovation is critical to the competitiveness and sustainable development of the world economies and industries [1, 2]. In traditional and “low-tech” industries, dominated by SMEs, innovation plays an important role in the performance shown by the sector and their companies. The simplified model “Ace of Diamonds” gives a complete framework with multiples components of the value chain where the companies had to concentrate their resources and efforts to create value and to earn market shares. Competitiveness is possible and easier in cases in which the innovation is centred on own products (leather finishing and shoes collections) and own brands (product and marketing innovation). Economic results in the last four years emphasize the advantage of this strategic approach to innovation done by these innovative firms of the Portuguese footwear industry.

The main impacts of innovation activities identified by all the companies were the financial results, the sales volume and the possibility to entry into new markets. These direct impacts create an important value added for these innovative companies. The experience and know-how shown by the workers is also very important for the incremental innovation, independently of the type of innovation [15], and this is verified and recognized by the companies. After a period of private label regime, these companies learn how to jump to another level: own products, own collections and own brands. Sometimes they are yet working to important clients, more for sentimental reasons than for economic or strategic reasons, but the share of the private label became much lower than the own products and brands.

Investment in qualification of human resources, innovation and internationalization should allow the Portuguese footwear sector to consolidate its performance and positioning among the world’s leading exporters of fashion footwear, mainly leather shoes. The role of the universities and sectorial organisations is very important to consolidate these achievements.

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References

- [1] Porter, M.E.: *Competitive advantage: creating and sustaining superior performance*, The Free Press, ISBN 978-0684841465, New York, (1985)
- [2] Porter, M.E.: *The competitive advantage of nations*, Palgrave MacMillan, Chippenham and Eastbourne, ISBN 9780333736425, (1998)
- [3] Marques, A: *Inovação como fator de competitividade da cadeia de valor da moda*, Ph.D. Thesis Universidade do Minho, Guimarães, (2015)
- [4] Monitor Company: *Construir as vantagens competitivas de Portugal*, Edição Forum para a Competitividade, Lisboa, (1994)
- [5] APICCAPS: *World Footwear Yearbook 2015*, Publicações APICCAPS, Porto, (2015)
- [6] Aaker, D.: *Developing business strategies*, John Wiley & Sons, Inc, New York, (1995)
- [7] Stake, R.E: *Qualitative Research: studying how things work*, The Guilford Press, New York, (2010)
- [8] Yin, R.K.: *Case Study Research: Design and Methods*, Sage Publications, London, (2009)
- [9] Saunders, M. et al: *Research Methods for Business Students*, Financial Times Prentice-Hall, ISBN 9780273750758, London, (2009)
- [10] Hill, J. & McGowan, P.: Small Business and Enterprise Development: Questions about Research Methodology, *International Journal of Entrepreneurial Behaviour and Research*, **5** (1999) 1, 5-18, ISSN 1355-2554
- [11] Patton, M.Q.: *How to Use Qualitative Methods in Evaluation*, Sage Publications Inc., ISBN 9780803931299, California, (1987)
- [12] Kline, S.J & Rosenberg, N.: An overview of innovation, In *The Positive Sum Strategy*, National Academy Press, ISBN 0-309-03630-5, Washington D.C., (1986), 275-305.
- [13] Chesbrough, H.W.: *Open Innovation: The new imperative for creating and profiting from technology*, Harvard Business School Publishing, ISBN 9781578518371, Boston, (2003)
- [14] Chesbrough, H.W: The Era of Open Innovation, *MIT Sloan Management Review*, **44** (2003) 3, 35-41, ISSN 1532-9194
- [15] OECD; *Oslo Manual: guidelines for collecting and interpreting innovation data*, OECD Publishing and Eurostat/European Commission, Paris, (2005)

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