

Path Dependence and Innovation: A Dichotomy in Internationalization

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ABSTRACT

This study attempts to understand the role played by path dependence in the evolution of the international business of firms faced with circumstances in which innovation becomes a challenge. Decisions, both related to innovation and to internationalization, are interdependent and are related to prior events, generating repetitive effects and triggering self-reinforcing processes that affect future decisions. We employed descriptive, qualitative research methods, in the form of a single case study, conducting interviews at a large footwear firm and with independent industry experts, then analyzed these data using content analysis. The results enabled us to map the events internal and external to the organization that led to the decisions taken and which, at certain points, were reactions to innovation and to acceleration or deceleration of the internationalization process, providing evidence of path dependence. This study has implications for management practice, since it deals with the combined effects on decision making of path dependence at the levels of the organization and of the industry. At the level of the industry, it makes contributions related to the interconnections between decisions taken within an organization, which in turn affect the future decisions of other firms in the same industry. Factors limiting our results include the facts that just one firm was studied and that the historical data are also dependent on the limitations of human rationality and may not, therefore, include certain elements of perception linked to the period of time during which the facts narrated took place.

PALAVRAS-CHAVE

Inovação.
Dependência de
Trajetória.
Internacionalização.

RESUMO

Este estudo visa compreender como a dependência de trajetória se estabelece na evolução dos negócios internacionais das empresas diante de circunstâncias em que a inovação se torna um desafio. Decisões, tanto em relação à inovação quanto à internacionalização, são interdependentes e relacionadas a eventos anteriores que geram efeitos repetitivos, desencadeando processos de autorreforço em decisões futuras. Realizamos uma pesquisa descritiva, qualitativa através de estudo de caso único, valendo-se de entrevistas dentro de uma grande empresa calçadista e com experts da indústria, analisados pela técnica de análise de conteúdo. Os resultados permitiram mapear os eventos internos e externos à organização que levaram a tomadas de decisão que, em determinados momentos, representaram reações à inovação e a aceleração ou desaceleração do processo de internacionalização, evidenciando dependência de trajetória. Este estudo tem implicações de ordem gerencial, uma vez que trata dos efeitos combinados de dependência de trajetória em nível organizacional e de indústria sobre a tomada de decisão. No nível da indústria, traz contribuições acerca da interconexão entre as decisões tomadas dentro de uma organização, que afetam decisões futuras das demais empresas da indústria. Como limitante aos resultados, alertamos que apenas uma empresa foi investigada e que os dados históricos são também dependentes da limitação da racionalidade humana, portanto podem não trazer elementos de percepção relativos ao espaço de tempo em que os fatos são narrados.

1 Introduction

This paper presents an analysis of how decision-making influences the evolution of international business in circumstances in which innovation becomes a challenge. Faced with the dynamic scenario of international business, involving constant innovation, the organizational world seeks options to maintain itself in the game of economic growth. This perspective has resulted in studies with a behavioral understanding (Johanson & Vahlne, 1977) becoming increasingly relevant over recent decades. This approach sees internationalization as one of the options with the greatest scope for sustainable corporate growth because it involves complex conditions, such as up-to-date knowledge and permanent strategies for innovation (Anderson, Potočník, & Zhou, 2014).

Internationalization involves a complex decision-making process founded on both behavioral and rational factors that impact on the international paths taken by organizations (Johanson & Vahlne, 1977; Schweizer, Vahlne, & Johanson, 2010). However, the decision-making process is bound to past decisions, which leads to development of path dependence (de Vasconcellos, Calixto, Garrido, & De Souza, 2012; Mahoney, 2000). Thus, current and future decisions are influenced by the sequences of decisions that precede them, including the position taken by organizations with regard to innovation.

Although there is consensus in the international business literature with regard to the relevance of innovation (Gudlavalleti, Gupta, & Narayanan, 2013; Kafouros, Buckley, Sharp, & Wang, 2008; Knight & Cavusgil, 2004) and of path dependence to the decision-making process (Barney, 1999; Koch, Eisend, & Petermann, 2009; Mahoney, 2000, and others), there are few studies dealing with the effects of path dependence on innovation during the internationalization process. Some studies have made this connection previously, but in different scenarios, analyzing the role of path dependence in global value chains (de Vasconcellos, Garrido, Vieira, & Schneider, 2015), in innovation systems (Narula, 2002), in institutional environments in transition (Ebbinghaus, 2005; Zukowski, 2004) and in legitimation of international-business-oriented decision-making (Hutzschenreuter, Pedersen, & Volberda, 2007). This paper focuses on the decision-making process as it unfolds over time,

analyzing events that affected an entire industry and comparing them with decisions taken within a large organization that manufactures footwear for both domestic and export markets.

The Brazilian footwear industry provides a suitable setting for complex studies because it is a mature market, that internationalized at the end of 1960s, and one that is repeatedly challenged by innovations with a global reach (Costa, 2010). In response to this scenario, it is important to understand the following research question: how does decision-making influence the evolution of international business, in the face of circumstances in which innovation has become a challenge? It was therefore proposed that a case study should be conducted of a large firm in the Rio Grande do Sul footwear industry, *Ômega* (fictitious name). It is believed that studying *Ômega* provides an opportunity to take a more in-depth look at management decision-making, in view of the different path taken by this firm, distinct from the majority of similar large companies, from the end of the 1960s to date.

2 Theoretical Framework

The theoretical foundation used to ground this paper is drawn from studies on internationalization, innovation, and path dependence. It is based on the premise that there is a relationship between the process of internationalization and innovation, which is influenced by path dependence, acting as a beacon for the decisions that lead organizations to seek markets overseas.

2.1 Internationalization

Over recent decades, internationalization has occupied a prominent position in the strategies for sustainable growth of organizations on the world stage. Internationalization is a gradual process of acquiring knowledge about other markets, that enables an organization to increase its involvement with business activities at a distance from its home market (Johanson & Vahlne, 1977). Internationalization is embedded within a process of adaptation of commercial transactions for the international markets that involves knowledge, economic factors, and innovations (Anderson, Erin; Gatignon, 1986; Zott et al., 2011).

Two central perspectives dominate studies of

internationalization. From the economic perspective, international business comprises trade and investment activities seeking profitability through rational decisions and strategic positioning (Dunning & Lundan, 2008; Dunning, 1980) to deal with dynamic environments (Girod & Whittington, 2017). In parallel, from the behavioral perspective, organizations seek advantages to equip themselves for situations in different countries, through interactions with different knowledge bases, through use of technologies, through changes in production processes, and through marketing strategies (Zahra, Ireland, & Hitt, 2000), and continue learning as they gradually advance into other markets (Johanson & Vahlne, 1990; Johanson & Wiedersheim-Paul, 1975).

In counterpoint to the economic perspective, decision-making on internationalization faces different barriers. In addition to natural barriers, such as those created by geography, in international business other determinant barriers also exist, such as, for example psychological barriers (Johanson & Wiedersheim-Paul, 1975; Rebelato Mozzato & Grzybowski, 2018), cultural barriers (Reus & Lamont, 2009), and institutional barriers (Salomon & Wu, 2012). With regard to behavioral aspects, the influence of interpersonal relations, differences between values, education, and management practices all interfere in the internationalization process (Johanson & Wiedersheim-Paul, 1975). Therefore, firms gradually go through an evolutionary process of acquisition of knowledge and learning, which impacts on the decisions taken once this knowledge and learning has been assimilated by the company (Johanson & Vahlne, 2009).

While behavioral issues are relevant, others, of an economic nature, also remain determinant (Sun, Wang, & Luo, 2018). Profitability it is at the heart of an organization's existence (Barney, 1991). To achieve profit, firms develop competencies that bring them competitive advantages. Fierce competition and the needs of efficient production processes and technological updates, compounded by business practices, have led organizations to focus their strategies on development of innovative capabilities (de Vasconcellos, Garrido, & Parente, 2019; Yu & Si, 2012).

2.2 Organizational innovation

Innovation is superimposed on the economic perspective in the organizational environment and the changes involved are generally the result of external technological events (Rosenberg, 1982). From an economic perspective, innovation is a set of evolving functions that take place in the economic space and that modify the organizational environment with new methods of production, creating new products and markets (Schumpeter, 1934).

On the organizational level, several approaches centered on innovation came to the forefront with publication of the Oslo Manual (OECD, 2005). This is a globally-recognized reference for several surveys that examine the nature and impacts of innovation. According to the Oslo Manual, at the organizational level, "innovation is the implementation of a new product, good, or service, or of a new process, or a new marketing method, or a new organizational method in business practices" (OECD, 2005, p.46). According to the Oslo Manual (2005), innovation can be classified into four types: innovation in product, innovation in process, organizational innovation, and marketing innovation. Product innovation refers to introduction of new or improved goods or services that achieve superior results to those previously in existence. Process innovation is essential to the firm that wishes to be ahead of and differentiate itself from its competitors through superior processes that deliver flexibility, quality, and greater productivity (Souza & Bruno-Faria, 2013), since implementation of new production methods, equipment, software, and adequate automation bring competitive advantages for the firm. The Oslo Manual (2005) describes organizational innovation as implementation of new organizational methods applied to the firm's business practices and organization of the workplace, or even to relations with the external environment (OECD, 2005). Finally, the capacity to innovate in marketing is related to the firm's capacity to interpret the needs and desires of its customers, allowing it to stay ahead of the competition (Roberts & Grover, 2012).

Innovation is at the heart of economic change. The decision to innovate is generally taken in an environment of unpredictability and uncertainty, which can delay change and block innovation projects (Rosenberg, 1982). The level

of management knowledge and commitment influence the decision-making process in relation to the most appropriate innovations for improving firm performance (Tigre, 2006). Thus, organizational innovation occurs within the firm in response to innovations in the external environment (Dosi, 1988).

2.3 Path dependence

Many studies have thrown light on the effects of organizations' prior histories, in particular, the sequence of events linked to a specific subject, in order to understand and explain present actions which will, in turn, impact on the future (David, 1985; Liebowitz & Margolis, 2010; Zukowski, 2004). Seen as bonds that constrain an organizations' decisions, this phenomenon has become known as path dependence (Arthur, 1989; David, 1985; Mahoney, 2000; Rosenberg, 1982). Path dependence is the occurrence of contingent and causal historic events that drive institutional patterns or chains of events with deterministic characteristics (Mahoney, 2000), given that each choice that a manager makes involves rejection of other options that were available at the time at which the decision taken was defined, given the limits of understanding of its effects (Simon, 1957).

Path dependence is present in organizations every day and influences their decision making, when the manager has the chance to question and curtail prior paths that could impact on the present moment and on the future evolution and direction (Arthur, 1989). Path dependence involves knowledge and understanding of the past and the path that derives from it, even if the pertinent changes cannot be exclusively explained by the historical events that have gone before (Mahoney, 2000). Management choices, based on past experiences, lead to formation of organizational structures that are self-reinforcing over time and influence the paths that organizations take, with the potential to limit or expand the range of future options (Mahoney, 2000) even for organizations that are part of the same global value chain (de Vasconcellos et al., 2015).

The sequences of events that are involved in path dependence can be classified as self-reinforcing sequences or reactive sequences (Mahoney, 2000). While self-reinforcing sequences are characterized by increasing returns,

in which the benefits are increasing and cause an institutional pattern that eliminates other alternatives, that are sometimes better, reactive sequences are chains of causally connected events in a temporal sequence, in which each step is dependent on a preceding step, but without reproducing an institutional pattern. There is therefore the possibility of changes during the process, and also the possibility that contingencies can provoke points of rupture, which create new deterministic patterns, which, in turn, lead to a series of reactions that follow on in a logical manner after this point of rupture (Mahoney, 2000; Morck & Yeung, 2007). Path dependence is therefore related to an understanding of how patterns become routines or are altered by contingent combinations, influencing the decision-making processes of organizations over time (Mahoney, 2000).

This whole cycle of path dependence created by decision-making defines organizational changes and strategies. At the point at which a manager takes a decision to break with the past, a new path dependence is defined that will come to influence the decisions taken from this point onwards (de Vasconcellos et al., 2012). Understanding of how the external environment affects the organization does not exclude an understanding of how decisions taken in the past and, thus, past experiences can put constraints on future decisions. The result is the emergence of a cycle of interrelated restraints on organizations, which interfere with their managements' decision-making processes and the evolution of their international business (Johanson & Vahlne, 1977; MacKinnon, 2012). It is concluded that path dependence both provides the foundation for and influences the decision-making process, triggered by key events, whether internal or external, that will direct future decisions. Path dependence therefore binds present decisions to past decisions and has the potential to determine decisions to implement or not to implement innovation or to trigger or block innovation in the future. In this context, the evolution of a firm's international business is directly linked to its historical baggage, which is itself the result of decisions taken over time (de Vasconcellos et al., 2012) and will define the range of alternatives available for evaluation and selection in the future (Garud, Kumaraswamy, & Karnøe, 2010).

3 Methodological procedures

This study has a descriptive design, since it reexamines the theoretical framework in the light of data collected empirically in the field (Baxter & Jack, 2008), drawing together a consolidated selection of the literature on international business, innovation, and path dependence and applying it to a case study. This body of literature was used to underpin the investigation (Roesch, 2009), and provided the foundation for construction of a semi-structured interview script with open questions, part of a research protocol for data collection during interviews in the organization and its surroundings (Collis & Hussey, 2005). Two scripts were constructed, working from the theoretical references, one to be administered during the interviews with members of the firm and the other for administration to industry experts (de Vasconcellos et al., 2015), to enable triangulation of data and identification of the determinant events in decisions that involved reactions to innovation and internationalization.

The research technique employed was the case study, because it enables both wide-ranging and in-depth investigation with questions that offer the chance to analyze historical data on the firm that is the object of study, events that did or did not result in decisions taken by the firm's management, influencing the evolution of its international business (Yin, 1994). The approach chosen is qualitative research, to seek understanding of a problem that involves in-depth information obtained from a small group and in which subjective data are analyzed without using statistical techniques (Cooper & Schindler, 2016), enabling understanding of the different significances that people attribute to their experiences and the motivations for their actions. The study involved three semi-structured interviews with professionals with a long history of connection with the footwear industry and three interviews conducted at the firm, Ômega.

The choice of interviewees took into consideration the requirements of the semi-structured interview scripts, including the interviewees' history at the firm and the roles they had occupied over their time at the company. A total of six interviews were conducted, in July 2017. The criterion for choosing the external interviewees was their professional participation in events that were determinant in changes in the

footwear industry. External interviewee 1 (EXT-1) has participated intensively in the footwear industry since the 1960s, working as an export agent, as professor of international business at the Universidade do Vale do Rio dos Sinos (UNISINOS), and as a consultant for the Brazilian Footwear Industry Association (ABICALÇADOS). External interviewee 2 (EXT-2) has been in business in the international logistics industry since the 1980s and was president of the Novo Hamburgo Commercial Association (ACINH) for 5 years. Finally, external interviewee 3 (EXT-3) has been in business in the footwear industry since 1969, focused on styling and sales of women's footwear, handbags, and accessories. The interviewees from Ômega were chosen on the basis of their involvement in the firm's strategic decisions and their histories at the firm, enabling them to provide details about the events that had taken place over the period of interest to the study. Internal interviewee 1 (INT-1) is the chairman of the board of directors, founder, controlling shareholder, and manager and whose participation in the firm's strategies has been decisive throughout its history. Internal interviewee 2 (INT-2) is the CEO, and internal interviewee 3 (INT-3) has worked for the firm since it was founded, holding positions in many different operational departments, from the mechanical engineering department, through production and sales, culminating in his current role as director of property and assets.

The corpus accumulated during the interviews with the external interviewees totaled 3 hours and 28 minutes, while the interviews with representatives from Ômega lasted 3 hours and 5 minutes, making a total of 6 hours and 33 minutes. This material was transcribed, resulting in 105 pages of text. Data were then compiled using categories preestablished for the interviews (Bardin, 1977). The analytical categories defined for this study were: a) internationalization, b) organizational innovation, and c) path dependence in decision-making. The information accumulated was analyzed in the light of the theoretical foundation and confirmed against secondary data, which were acquired by searching for material on the history of the footwear industry in scientific periodicals and books. Specific data on Ômega were collected on the same day as the interviews. For data analysis, responses were first categorized according to the theoretical foundation, to then

attempt to answer the research question, as recommended by Yin (1994). Organizational techniques proposed by Bardin (1977) were employed to speed up and order interpretation of data, creating a systematic sense of “what” should be analyzed and “how”. Finally, an analysis was conducted based on the theoretical assumptions, so that reliable inferential reflections could be made and conclusive interpretations could be drawn that would be able to explain how the process of internationalization was affected both by the need to constantly innovate and by the elements of path dependence in the organization..

4 Historical analysis of the Brazilian footwear industry

The footwear industry was chosen as the setting for this case study because of the convenience of conducting research in this industry, as an export sector, since there is a rich body of historical and academic data available. Additionally, the footwear industry is a mature industry, one that is constantly facing challenges related to innovation because of its involvement in launching fashions and developing new products, and it was also the first industrial manufacturing sector from Brazil to gain international recognition (Costa & Passos, 2004).

Up until the start of the 1960s, footwear production was concentrated in developed countries, but the search for lower production costs put Brazil on the global footwear production and export trail (Costa, 2010). The footwear industry expanded and foreign sales increased gradually, but steadily, in a scenario in which credibility was primarily provided by foreign customers, via agents and export companies that took responsibility for practically all foreign sales, taking care of the entire intermediary process, including product development, quality control, and expansion of production capacity (Rabellotti & Schmitz, 1999).

In the 1970s, the footwear industrial complex began to develop as part of the efforts to serve growing international demand and in response to programs to encourage growth in exports, such as tax incentives and the policy of mini-devaluations of Brazilian currency against the dollar, improving the competitiveness of Brazilian products (Costa, 2010; Costa & Passos, 2004). Under these conditions, production of footwear increased and

the industry’s infrastructure, including the entire supply chain, was consolidated. However, the start of the 1980s was a time of challenges created by a scenario of economic difficulties in general related to the Brazilian recession and the troubled international economic situation. Compounding this, China was already showing signs of making large-scale investment in expanding its footwear manufacturing base and there was an atmosphere of concern with making prices more competitive (Costa, 2010; de Vasconcellos et al., 2015).

In 1985, Brazil was responsible for 7.6% of global footwear export volume, whereas China was responsible for just 1.4% and Italy for 31.3%. This situation shifted rapidly and in 1993, Italy’s share was down to 18.5%; Brazil’s share had shrunk slightly, to 5.7%, and China, in the ascendancy, had reached 15.4%, with clear signs of short-term supremacy (Costa & Passos, 2004).

The start of the 1990s proved to be a period of economic instability and recession. Industrial production was drastically reduced and the Brazilian leather goods and footwear complex was weakened, feeling the negative results of its lost competitiveness, whereas China took the lead as the largest manufacturer of footwear in the world, with low prices, absorbing part of Brazil’s production (Schmitz, 2006). As tax incentives for exported products were phased out, in 1991, and the first major foreign exchange crisis provoked by the Plano Real began to bite, in 1994, Brazilian footwear export revenue fell by 30% from 1993 to 1999, from US\$ 1,846 million to US\$1,277 million (ABICALÇADOS, 2019).

Asian competitors, with abundant labor and government support, advanced into the international market rapidly. In this context, in the 1990s, Brazilian firms needed to recover competitiveness and, motivated to maintain their profitability, they began to relocate part of their production to the Northeast of Brazil, where labor costs were lower and government subsidies were available (Costa, 2010).

At the end of the 1990s, there was a wave of investment in proprietary brands, as an alternative strategy for sales on both domestic and export markets (Costa & Passos, 2004). The availability of export orders in earlier periods, combined with the challenges of taking advantage of opportunities for growth, prevented the majority of firms from improving their internal capabilities for product development, design, proprietary branding, and

sales of their own production, so they remained dependent on the export companies (Calixto, 2013). The firms reacted and focused on technological modernization to increase productivity and improve the quality of their product. They were also obliged to seek alternative markets and, for geographic and cultural reasons, prioritized Latin America, primarily Argentina, which became a regular customer over the following years (Costa, 2010).

The first decade of the 2000s was a scenario in transformation, with developments in the quality of the product and increased added value (de Vasconcellos et al., 2015). During this period, there was no significant variation in the numbers of pairs exported, but the value of exports increased by 17%, illustrating an improvement in the quality of the product, confirmed by the increase in mean price from US\$ 9.52 in 2000 to US\$ 11.35 in 2008, and then US\$ 11.57 in 2011. However, from 2011 to 2016, the mean price fell by 31.2%. It was suggested that this was because of an increase in exports of lower added value products, such as synthetic injection molded items (EXT-2).

In 2017, the Brazilian footwear industry was recognized for its production of higher quality products with greater added value and continues to be one of the largest clusters worldwide, as third-largest manufacturer, producing approximately 900 million pairs per year, with exports at the US\$ 1 billion level to 163 countries (ASSINTECAL, 2019).

Table 1. Brazilian footwear exports

Year	Footwear exports (US\$ millions)	Footwear exports (Millions of pairs)
1970-1975	470.00	115.0
1976-1980	1,366.00	187.0
1981-1985	3,677.00	501.0
1986-1990	5,601.00	745.0
1991-1995	7,383.00	801.0
1996-2000	7,245.00	716.0
2001-2005	8,325.90	926.6
2006-2010	8,503.20	792.9
2011-2015	5,512.00	602.8
2016-	998.00	125.6

Source: MDIC/Abicalçados.

The industry's evolution can be observed in terms of the organizational business structure,

diversified and high-quality production, industry associations, and technology centers, and the increased participation in both domestic and international trade fairs. According to ABICALÇADOS (2019), this is a successful path, with a production base comprising around 7.7 thousand firms, of great importance to the Brazilian economy, directly employing more than 300 thousand workers, in ten of the country's states.

Table 1 shows a summary, in dollars and numbers of pairs shipped, of the path taken by Brazilian footwear exports over the last 46 years. These data demonstrate the periods of expansion and retraction of Brazilian footwear exports.

5 The case of Ômega

Ômega Footwear was founded in the 1970s, in Brazil's southernmost state, Rio Grande do Sul, producing 500 pairs of ladies' footwears per month. Nowadays, the firm is one of the largest manufacturers of ladies' footwear in Brazil with eight factories and 14 thousand direct employees. According to documentary research on Ômega Footwear, in 2017 its production was approximately 70,000 pairs per day, around 10% of which is earmarked for export, to 50 different countries.

It is considered that this firm is an appropriate object of study to fulfill the research objectives because it has had experience of several different strategies over the course of its internationalization and because it has been faced with a complex environment, with many changes and crises over the course of its almost 40 years in the international market. Although it is embedded in one of the largest footwear clusters in the world, where a large number of firms have taken the path of prioritizing the international market over the last twenty years (Costa, 2010; Rabellotti & Schmitz, 1999), Ômega stands out because of its unique innovations, founded on creation of its own proprietary brands, expansion in the internal market, and targeting foreign direct sales.

The firm began exporting in 1978, indirectly, to the United States via an export agent, using the production system that predominated in the Vale do Sinos at the time – private label production. However, later the same year the firm chose a different route and entered into a partnership to sell products on the English market, considered more demanding in terms of quality and technical control

of production, attempting to introduce a product line developed in-house at Ômega (INT-1).

In order to supply the English market, the firm modernized and implemented innovative processes in all areas, particularly for production, which expanded gradually. These actions were part of a plan for expansion that was based on a high-quality product with competitive pricing, under supervision and guidance from the European customers (INT-2).

Over the next five years, sales to the domestic market were reduced and exportation took over the entire production in 1983 and 1984, as a result of constant effort and investments. During this period, production was growing by around 15% a year and the factory was already producing higher added value ladies' shoes. However, with the intention of reducing its dependence on foreign customers, the plan was to retain part of its production dedicated to the domestic market (INT-1). The firm therefore took on the challenge of launching its proprietary brand and opening markets throughout Brazil, without restricting its export growth (INT-1).

In relation to the progress of international sales, the firm achieved solid growth of 10 to 20% over the first 10 years of the operation (INT-2). The fall in exports seen from 1987 to 1994 was the result of its transition from private label sales to its proprietary brand, which was considered an investment that was necessary to launch the Ômega product abroad. From that point onwards, the firm achieved impressive growth in production for export, reaching 3.2 million pairs, in 2016.

As a result of the experience it had accumulated in the English market, Ômega was supplying a product with unique selling points, that combined competitiveness with quality. As a result, sales on the domestic market remained buoyant and overtook exports in 1989 (INT-2). In the opinion of interviewee INT-1, there was a need to find ways of doing business with greater security and autonomy, which implied cutting out the intermediaries.

The company's growth was consolidated after it launched its first proprietary brand, Delta, in 1986. This was followed by relocation of a proportion of its production to the Northeast of Brazil, from 1995 onwards, targeting greater productivity and competitive prices. These initiatives were necessary to guarantee sustainable growth and sales autonomy (INT-1).

The 1990s were a decade of transition in

international sales, with substitution of customers' brands by the proprietary brand. Little by little, the firm eliminated intermediaries from its international sales. In parallel, it launched two more brands. The constant increase in sales encouraged the firm to expand its production facilities in the Northeast and, as of 2017, Ômega comprises six factories in the Northeast and two in Rio Grande do Sul. In terms of numbers of pairs, from 2001 to 2016, production in the Northeast increased from 2.3 million pairs per year to 18.4 million, accounting for 95% of the firm's production by 2017 (INT 1-2-3, confirmed by documentary analysis of the firm).

Within this scenario, the challenges of innovation were an element of the path taken by Ômega. As proposed by Tigre (2006), it was necessary to create strategies that resulted in an environment that was conducive to constant renewal, not only of products or advanced technologies, but also of processes, marketing, sales, and organizational management. According to interviewee INT-1, three innovations were decisive in the firm's history: meeting foreign customers' standards, creation of proprietary brands, and migration of production to the Northeast. Other changes were triggered by these three primary changes. Ômega has taken a different route to the typical path in the Brazilian footwear industry, which, in general, internationalized under the guidance of foreign importers, prioritizing private-label production.

6 Analysis of the case of Ômega and the footwear industry

The drive for expansion and continued competitiveness prompted Ômega to decide to sell to the international market, as described by interviewee INT-1. This is consistent with research by Fligstein (1996), who states that internationalization of companies is the result of rational/economic and behavioral factors and is pursued in order to keep them competitive and strategically positioned in the global scenario. According to interviewee INT-1, this firm chose the easier and lower risk option when starting internationalization, via an export agent, because it was not set up for direct sales. According to Johanson and Vahlne (1977), seeking alternatives in the international market to deal with situations of risk and uncertainty is inherent to the

internationalization process. The descriptions from EXT 1 and 3 of the start of Brazilian footwear exports coincide with the initial path taken by Ômega, since both experts emphasized the importance of export agents to formation of the footwear manufacturing cluster, particularly in Rio Grande do Sul.

The Ômega case is consistent with earlier research into the reasons for internationalization, which have described a constant relationship between the rational-economic and the behavioral angles (Fligstein, 1996). While the firm was targeting economic growth with a rational foundation, there is an evident behavioral component, since the decision-making process only started once the owners felt confident in the governmental support and followed the steps taken by other firms in the footwear manufacturing cluster. Johanson and Vahlne (1977) point to the importance of the behavioral approach to the decision-making process, since it is influenced by subjective factors inherent to the path of the firm and its management. This is evident in the position of interviewee INT-1, who mentions his experience as a shoemaker, working in his father's small factory since adolescence.

According to de Vasconcellos et al. (2012) and Sun et al. (2018), both approaches, rational and behavioral, are of equal relevance and complement each other in the attempt to reconcile different perceptions of how managers define their strategies for foreign markets. In this context, it appears evident that the rational factors, such as extreme care with the firm's financial security, and the behavioral factors, such as family and historical baggage, as described by interviewee INT-1, complemented each other in the search for actions that lead to the decision to internationalize the firm.

The lack of control of sales that is an element of indirect exportation, as explained by Özcan, Coronado Mondragon, and Harindranath (2018), was clearly felt by the management of Ômega. According to interviewee INT-1, despite its convenience and greater rapidity, this system did not fit in with the firm's work principles, since it took away their control over the operation and left the firm exclusively concerned with production. The lack of independence and the risk of accommodation prompted the firm to start its own exports to the European market the year after, although still in an indirect form, but in a manner that demanded a more complete involvement and

which opened the doors to a gradual accumulation of increased knowledge.

In the opinions of the interviewees from Ômega, the company needed to take advantage of the learning it acquired through exporting to England, which was a particularly demanding market, to effect changes. The firm therefore decided to follow the proprietary brand path to expansion, both in its local market and to achieve direct export sales. It can also be observed that these decisions predominantly represent a change in path influenced by behavioral factors, given the way that they were taken gradually, in response to the innovations originating in the external environment. Ômega's first major innovation was of an organizational nature, taking the decision to internationalize. During the three interviews with members of the firm, an understanding was arrived at that this decision was decisive for the other innovations that occurred as the firm evolved, which is consistent with the concepts dealt with in the Oslo Manual (OECD, 2005).

It is of relevance to this study to understand the perceptions of the interviewees from Ômega of dealing with the challenges of innovation. It can be observed that innovation is an integral part of the firm's primary objective of constant growth, through a product that is always up to date and competitive. This goal means that internal and external innovations are adopted naturally as part of the firm's growth process. It can be discerned that the firm responds in an organizational manner to external innovations, triggering the appropriate innovations in process, product, and marketing.

The firm's second major innovation was creation of its proprietary brand, in 1985, focused on the product and the customer, and this action triggered creation of the firm's research and development (R&D) department. This change injected dynamism into diffusion of knowledge, cooperation, and commitment, driven by the rapid increase in sales (INT-2). According to Dosi (1988), the customers' perception of a product's added value triggers reactions in the firm, reactions that accelerate change. In contrast, in the interviews with the external experts, there was no mention of development of brands or focus on product during this stage of the Brazilian footwear industry's history.

In 1995, the need for greater productivity, combined with pressure on prices exerted by competition from China, led the firm to start the

process of relocation of production to the Northeast (INT-1 and 2). The same movement could be observed in the other firms in the footwear industry in Rio Grande do Sul (EXT-1 and 2). However, while the majority of firms were targeting a reduction in costs to enable a later attempt at increasing production, Ômega was already targeting cost reductions and increased production simultaneously. The perspective of an interactive process of organizational innovation, as an argument for competitive advantage and superior results to the competition, is emphasized in the studies in the Oslo Manual (OECD, 2005).

Ômega's development is aligned with its focus on innovation. In the 2000s, the firm consolidated its sales and was able to implement a program of industrial automation in conjunction with a technological update of the firm (INT-3). According to interviewees INT-1 and 2, both of whom are directors of the company, the firm's decisions are taken on the basis of its accumulated knowledge and the beliefs and values that are part of the firm. They believe that these decisions are the result of a wide range of factors, such as the managers' personal experience, what they have learned about the institutional environment, the confidence they have acquired in their own actions, the commitment of their team of employees, and, most importantly, their capacity to ensure that the necessary actions are implemented.

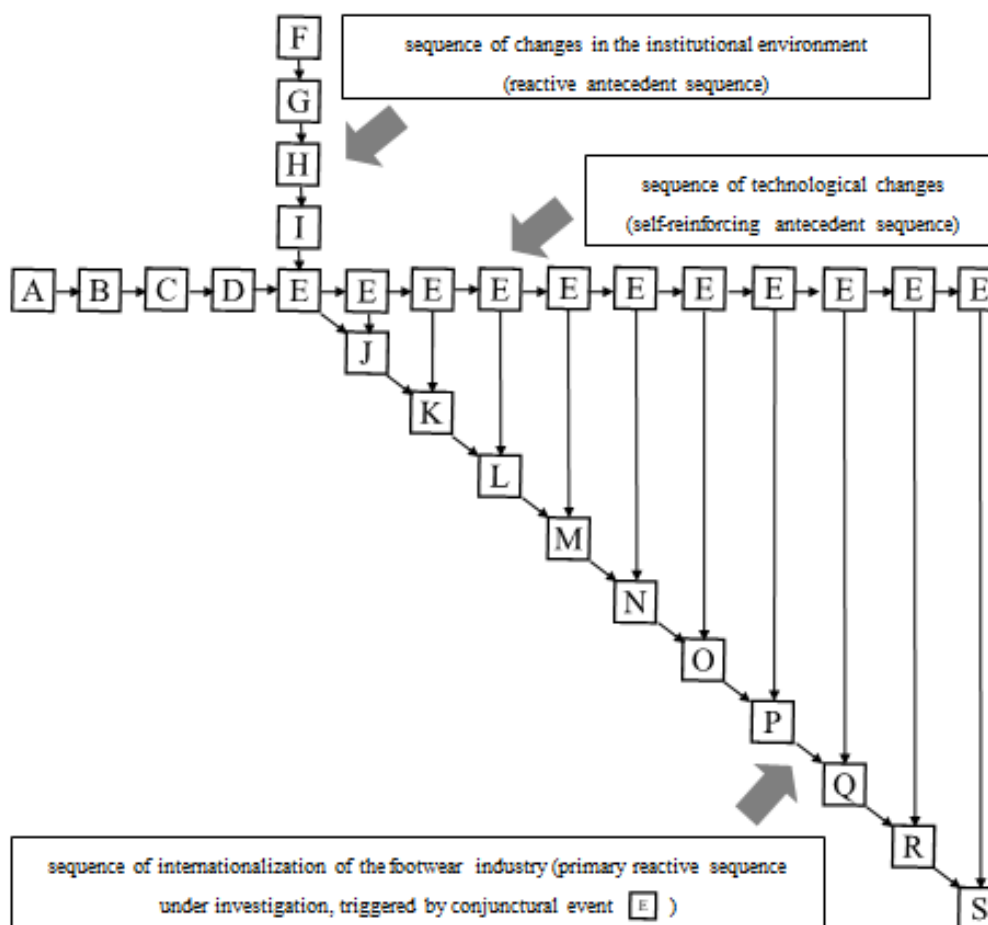
Analyzing the path taken by Ômega, it is clear that decisions are not taken simply on the basis of current facts, but that there is a historical element, which often diverges from what would appear to be the most rational decision, as proposed by Mahoney (2000) and de Vasconcellos et al. (2012). It can be observed that the path passes through a series of complementary concomitant decisions, which triggered a series of innovations at Ômega, and this is in line with the view presented by Mahoney (2000) with relation to the evolutionary nature of the decision-making process, in which previous decisions influence present decisions and trigger future decisions, which is compatible with path dependence.

Based on the reports from interviewee INT-1, it is understood that the firm positioned itself opportunely in response to each innovation that emerged along its path, changing itself and creating the conditions for the new decisions to lead to fulfillment of its growth targets. When the firm realized that its growth was the result of its own

efforts, but was subject to control by the export agents, it perceived a limitation in terms of product development and sales. It reacted, launching the Delta brand in 1986, which brought with it the decision to invest in the domestic market that, in turn, obliged it to initiate a process of product development. It is assumed that organizational, marketing, and process innovation all took place, which is in line with the views of Mahoney (2000), with regard to the study of management choices, based on past experiences that lead to the formation of organizational structures.

These decisions enter into a sequence of self-reinforcement of prior decisions. As time passes, this can bring benefits and also problems, which become ever greater as continuous adoption amplifies or limits the scope of future options. It is clear that there was a point of rupture along the path of Ômega which, since its foundation, had always been dependent on third parties for development of its models and also to sell them. At this point, the firm chose a different route to the rest of the footwear industry which, in general, was still increasing its international sales via international export agencies, although competition from Chinese production was already making price negotiations difficult (EXT-2 and 3). It can be concluded that Ômega was heading in a direction that would increase its range of future options for continuing sales, this time with a proprietary brand (Figure 1).

According to interviewee INT-2, after it launched the Delta brand, the firm began to work on a sequence of innovations. The rapid increase in sales under the Delta brand encouraged the firm to focus on the distinctive qualities of its product and so, in 1990, it set up its own R&D department, which, in turn, triggered further innovations and the brand became consolidated (Figure 1). It should be noted that, initially, there was product innovation, involving production processes, to increase and diversify the collection.



Key elements:

- A – Shoes as a colonial inheritance
- B – Development of the footwear manufacturing cluster
- C – Government incentives for footwear exports
- D – Participation in European trade fairs
- E – Brazil integrates into the Global Footwear Value Chain**
- F – Handmade production
- G – Scalable production
- H – Technical schools are founded
- I – Learning technical vocabulary at fairs
- J – Emergence of export agencies
- K – Production focused on private labels
- L – Concentration of production for export to United States
- M – Technical innovations to maintain prices competitive
- N – China starts production
- O – Migration of factories to Northeast Brazil
- P – Succession of exchange rate crises (1994, 1998, 2002)
- Q – Attempts to launch higher added value products
- R – Efforts to develop domestic proprietary brands
- S – Efforts to develop global proprietary brands

Source: Adapted from Mahoney (2000)

Figure 1. Explanation of the Reactive Sequence of Internationalization of the Brazilian Footwear Industry

According to Mahoney (2000), reactive sequences are chains of events in a temporal sequence that are causally connected. This is what took place at this firm, since the decision to launch the proprietary brand was a determinant event and, from this event onwards, each subsequent event was a reaction, demonstrating dependence on prior steps, as illustrated in Figure 1.

To engage in a deeper reflection on the changes in the economic environment that interfered in the decision-making at Ômega, in this study we draw on an investigation by Goldstone (1998), used by Mahoney (2000), who explained how a sequence of events is triggered by decisions taken in response to given contingent event, while discussing the causes of the English Industrial Revolution, founded on the coal industry. Drawing on that study, Figure 1 explains the reactive logical sequence in the internationalization path of the footwear industry, triggered by a causative event originating in a contingent breakpoint, which are common in dynamic environments that oblige organizations to constantly reconfigure their resources (Girod & Whittington, 2017).

According to Mahoney (2000), there are three main types of sequences: independent sequences of events, when two sequences do not affect each other; sequences that intersect at certain points, but without major consequences for the paths of the events involved; and sequences that intersect and affect each other's paths. In the case of the path followed by the footwear industry and the single case Ômega, there was a change of path, which fits the definition of a self-reinforcing sequence, and resulted in Ômega deciding to supply the international market.

Figure 1 illustrates the changes in the economic environment (i.e., external) that interfered in Ômega's decision making. There is a reactive antecedent sequence, comprising changes in the institutional environment, a self-reinforcing sequence, comprising the sequence of technological changes in the footwear industry, and the primary reactive sequence under investigation, triggered by conjunctural event E, integration of Brazil into the global footwear value chain, which occurs at the intersection of the first two sequences. The manner in which the firm acted proactively, anticipating other possible dependencies (such as dependence on selling via export companies), merits closer attention, since it reflects the

decision-making process within the firm, which is the focus of this paper, when faced with innovations and situations triggered by the external environment. This sequence is made up of the events that led the firm to grow in a different manner, and in line with its objectives (INT-1).

Of particular note in Figure 1 is that the decision-making sequence was set off by contingent event E, integration of Brazil into the global footwear industry value chain, which, in turn, resulted from a conjunction between the sequence of changes in the institutional environment and development of the footwear manufacturing cluster (B), which triggered events C and D, leading to contingent point E. In turn, the sequence of technological changes that comprise events F, G, H, I demonstrate properties of self-reinforcement because they are the results of antecedent events that are causally linked. Intersection of the first two (event D with event I) produces the major conjunctural event E, internationalization of the Brazilian footwear industry. It can be observed that here a historical contingent event triggered a subsequent sequence that followed a relatively deterministic pattern, as proposed by Mahoney (2000).

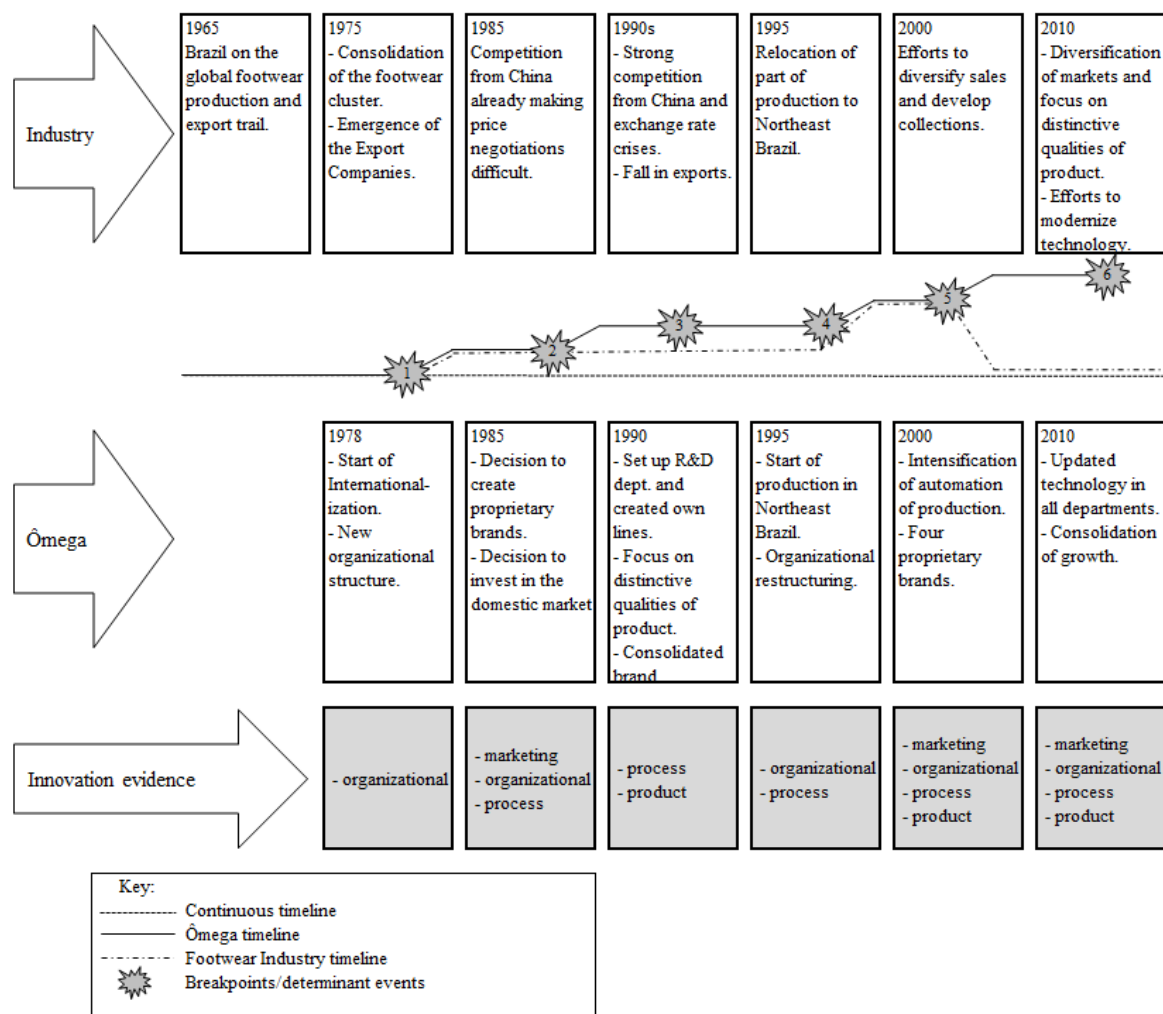
Figure 2 was drawn up to illustrate how the firm reacted to the external phenomena. The evidence of path dependence in the evolution of Ômega's international business can be observed in the timeline, where the gradual cycle of innovations that impacted on the path taken by Ômega that diverged from that followed by the Brazilian footwear industry can be observed. The upward displacements represent the extent to which the firm was able to decouple from the previous model, dependent on the American importers, primarily by anticipating and taking decisions that gave it greater control over its own business.

It can be observed that before Event 1, Ômega did not have an organizational structure and had limited control over its own business. After the determinant Event 1, there is a breakpoint and the firm organizes itself to supply the international market, a determinant organizational innovation at the start of the internationalization process. After this event, the firm gradually increased the added value of its product, constituting an improvement path, and worked to reduce its dependence on those buying from it. In contrast, the footwear industry as

a whole remained dependent on third-parties for its sales.

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Source: Produced by the authors from study data.

Figure 2. Evidence of Path dependence at Ômega

At Events 2 and 3, Ômega went through additional processes of organizational, marketing, and product innovation, taking the decision to create its own proprietary brands and develop its own collections, consolidating its growth trajectory. In general, the other firms in the area were still tied to the importers and the problems increased gradually, as described by the external interviewees. At Event 4, there was another determinant event affecting both Ômega and the footwear industry in general, with relocation of a

proportion of production to the Northeast. This created the possibility of increasing sales, which only occurred at Ômega, because it had greater control over its own business and had the capacity to win orders. Soon after, the other firms realized the limitations preventing them from multiplying business, and it was only at this point that they began to make attempts to develop products and diversify sales, including to the domestic market. While Ômega was consolidating its growth, at Event 5, the footwear industry in general was

unable to overcome the constraints of the earlier decisions taken in the cluster (de Vasconcellos et al., 2015) and remained dependent on firms that designed their collections, even for sale on the domestic market.

At Event 6, it will be noted that there is a larger distance between Ômega and the footwear industry, because the firm was in the position to take advantage of opportunities in the market it had already mastered, including on the international market, whereas the majority of firms in the industry were limited by deficiencies that had been created over the course of time, inherited from their dependence on sales and development of product built up in previous periods. According to Johanson and Vahlne (1977), events in the macro-environment and the decision paths followed by firms can create constraints on future decisions that limit the evolution of business. In the analysis illustrated in Figure 2, it is notable how, at Ômega, path dependence influenced the decision-making process when faced with important facts, whether generating innovations or generated by innovations. The hypotheses ventured by Mahoney (2000) about the impact of initial occurrences on subsequent development, forming a successive, connected chain of events, are confirmed. As stated by de Vasconcellos et al. (2015) and de Vasconcellos et al. (2012), this entire cycle of path dependence created by decision-making defines the strategies and organizational changes that, in turn, will determine the evolution of international businesses, which is also true of the decisions on which entry strategies will be adopted (Sun et al., 2018).

7 Final comments

The primary objective of this study was to understand how path dependence is established in the evolution of the international business of firms faced with circumstances in which innovation presents a challenge. The choice to study the case of a firm that took part in formation and consolidation of a footwear manufacturing cluster provided the opportunity to draw parallels between its internationalization path and that of the other firms in its milieu, in an environment of fierce competitiveness and a constant need to innovate.

Faced with certain circumstances, it was observed that a decision was taken on the basis of past events and that it also led to future path

dependence. This was evident in the decision to export, in the decision to continue supplying the domestic market, the decision to create proprietary brands, the decisions to transfer production to the Northeast of Brazil, and the decision to manage the firm's own sales. The way that the firm dealt with the challenges of innovation was also characterized by decision making influenced by path dependence, which was observed when the events narrated in the interviews at the firm were mapped, in particular in the emphasis that the interviewees placed on the factor of modernizing the firm's products.

Reflecting on the sequence of innovations at Ômega, it is assumed that the firm learned to produce higher quality footwear when exporting and then transferred this know-how to production of its proprietary brand for the domestic market. Over time, it accumulated learning that enabled it to take advantage of each innovation that appeared in its path and to create the conditions for continuity and evolution of its positioning. The subsequent decisions therefore led to further actions, which drove more innovation, creating a positive cycle around the principles that had been established, culminating in the ability to export under its own proprietary brand. In this scenario, each management decision was influenced by the previous steps and influenced the strategies chosen to advance further.

This paper contributes to the literature on international business and innovation, primarily by calling attention to path dependence as a factor that inhibits implementation of internationalization strategies. The history of the firm matters, as does the history of its context, whether because of the prism of the cluster in which a firm is embedded, or whether because of the industry in which it does business.

This paper also has implications for management practice, since it discusses the combined effects of path dependence on decision-making on the levels of the organization and the industry. On the industry level it provides insights into the interconnections between decisions taken within an organization, which can affect the future decisions of the other firms in the industry. On the level of public policies, it enables understanding of cognitive processes that relate past and future decisions, influencing migration of industries from one region to another.

This study is subject to certain limitations.

Considering situations specific to Ômega, there is a limitation affecting the analysis of performance. For internal strategic reasons, the firm studied chose not to share its revenue figures, which limits the analysis. As a study that relates path dependence and innovation in the footwear industry, it is also limited by having analyzed only one firm. The historical data are subject to the limitations of human rationality and may therefore lack elements of perception relate to the period of time elapsed since the events described occurred.

It is believed that this paper can contribute academically to further research into the subject of decision-making by attempting to understand the process of co-evolution that occurs between a firm's international business and its need to innovate in order to remain competitive internationally. It is also believed that understanding the decision-making process is one of the essential items on the agenda of academic courses in management. The decision-making process involves all of the factors analyzed to make choices. However, not all of those factors are known because of the limits of rationality itself (Simon, 1957), leading to situations in which those decisions that appear to be the most obvious are not taken (Mahoney, 2000).

In view of the conclusions presented and also the limitations acknowledged, gaps emerge to be filled in future studies. First, this study could be replicated in other institutional environments to analyze decisions, comparing industries, countries, periods. Second, a quantitative study could be conducted at a footwear firm of a similar level, in order to enable measurement of the rational factor in decision-making and to enable a comparative study. This context could provide different answers to similar questions, enabling identification of how decisions were affected by or affect the innovation process in firms. Finally, conducting a wider-ranging, multi-case study, taking in the diversity of decisions taken in similar situations, could enable a more complex analysis of the results obtained. This could also better demonstrate the degree of impact of path dependence on the decision-making process in different firms.

In general, this study identified how decisions were taken in the firm studied and how they were affected by or affected the innovation process, which was or was not affected by the influence of path dependence. However, as was perceived in the study itself, rationality is also

limited when analyzing data. It is impossible to completely understand how decisions follow on from one another, but, despite this limitation, it is believed that the objectives were, to a great extent, achieved.

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