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**“Towards a survival capabilities framework: Lessons
from the Portuguese Textile and Clothing industry”**

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Towards a survival capabilities framework: Lessons from the Portuguese Textile and Clothing industry

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1 Introduction

Influenced dramatically by the financial crisis and the European sovereign debt crisis, many European industries are now struggling with the new international division of labour that compels the shift of manufacturing to lower labour cost countries. These decisive global challenges underline the need to investigate why some firms can *survive* such crises while many others fail. Grounded in this narrative, 'survival' can be regarded as a period of the firm's growth and change over time, where it faces a crisis and stiff competition. This view is different from the one that defines the concept of 'business survival' as the second stage of the firm's lifespan, after birth and before success, where it has obtained certain customers having their demanded products or services delivered (Lewis & Churchill, 1983).

Survival is of essential significance for the firm since a desirable performance over the surviving period enables eventual success, whilst a poor performance precipitates failure and shutdown (Box, 2008; Korunka, Kessler, Frank, & Lueger, 2010; Naidoo, 2010). Although the literature is well developed on the structural determinants of firm survival, mostly related to firm age and size, less is known about certain internal capabilities the firm needs to develop in order to compensate for resource scarcity and financial restrictions caused by a crisis or other environmental disruptions. This reinforces the need to provide a more detailed clarification of the concept of 'business survival' and explore the *capabilities* that are vital to the survival of firms in times of struggle.

One of the industries worth analysing in the context of business survival is the Portuguese textiles and clothing. After joining the European Communities in 1986, Portugal experienced a large current account deficit in the late 1980s and early 1990s, which led to a decrease in investment and an increase in private saving. Manufacturing industries were particularly affected negatively by this crisis for a lack of investment in new technologies (Blanchard, 2007). After the termination of the Agreement on Textiles and Clothing (ATC) by the World Trade Organisation (WTO) in 2005 that led to the entrance of low-cost producers from low-wage countries to the Europe's textiles

and clothing, the Portuguese textile industry that has also survived the financial and European debt crises, is struggling to keep the production localised and pursue a product differentiation strategy (Eiriz, Gonçalves, & Areias, 2017; Fernandes, 2017). Portuguese textile companies are now facing stiff competition from two sides. On the one side, major international clothing-retail corporations (e.g., H&M, C&A, and Primark) who mainly adopt the cost-leadership strategy; and on the other side, various brands of the large, old established textile manufacturer, like the Inditex Group, who have adopted a spatial division of labour, transferring a considerable portion of the manufacturing functions to certain low-wage countries. Although the booming sales figures of these retail and manufacturing companies reinforced the idea of overseas manufacturing, Portuguese textile companies that survived are those that actually kept producing domestically. The success of the Portuguese textile industry in maintaining domestic production has led to a significant rise in this industry's share of value added in Portugal's manufacturing sector from 10.52% in 2008 to 15.13% in 2014 (The-World-Bank, 2017). Given the success of the Portuguese textile industry in maintaining domestic manufacturing, our research tries to address the question of what are the capabilities upon which the Portuguese textile companies drew to survive in times of crises and external disruptions.

Understanding the survival capabilities of successful Portuguese textile companies is important for theoretical and practical applications. From a theoretical perspective, it may help revitalise research on business survival from a viewpoint other than that of the firm's life-cycle. The shift of focus towards external disruptive changes emanating from globalisation allows the identification of capabilities by which the firm can survive such disturbances. These capabilities, by nature, are not restricted to a specific cohort of firms that exist in a particular stage of the life-cycle, but rather apply to any enterprise that faces a disruptive external challenge. Practically speaking, the owner/managers of such enterprises can draw on the lessons learnt from the success story of companies that survive crises, and focus their efforts on developing the required capabilities.

To underpin the research findings from data analysis and frame the interpretation of the results, we apply the dynamic capabilities view of the firm. This perspective is well-suited for our research on the grounds that it tries to grapple with the question of why some firms survive in highly volatile environments and aims therefore to identify the key determinants of long-term business survival (Wilden, Devinney, & Dowling,

2016). To do so, it takes special account of the role of the 'external environment' in determining the durability of firms over time (Ambrosini & Bowman, 2009). As explicitly and forcefully stressed by scholars, the dynamic capabilities perspective focuses on how a firm can create future precious resources or refresh the current ones in order to better respond to environmental variations (Teece, Pisano, & Shuen, 1997; Wang & Ahmed, 2007). Another basic premise of this perspective that makes it appropriate for our research is the notion that resources leading to sustainable competitive advantages are only those that are valuable, rare, imperfectly imitable, and non-substitutable (VRIN) (Ambrosini & Bowman, 2009; Eisenhardt & Martin, 2000). Resting on the notion that firms need to focus more on capabilities (the ability or qualities required to survive) than resources (the supply of physical assets a firm owns) in order to better respond to external changes and survive (Zhang, Li, & Ziegelmayer, 2009), we therefore confine our research to identifying survival capabilities that obey the VRIN criteria.

This article is organised as follows. In section 2, a review of the theories on the concepts of business survival and survival capabilities is presented. At the end of section 2, the findings of the literature review are presented in a Table (Table 1) that provides an initial set of survival capabilities for manufacturing companies. Section 3 describes the research methods followed by Section 4 that deals with the data analysis of the interviews carried out in Portuguese textiles and clothing. Section 4 ends with the research framework as the final template derived from the data analysis. Section 5 accordingly provides a discussion of the findings with a synthesis of previous research followed by practical implications for Portuguese textile companies. The paper finally ends with some research limitations and future directions.

2 Theoretical background

In this section, we first discuss the concept of business survival and review the studies that, often implicitly, identify capabilities by which a firm can cope with external disruptive changes. Acknowledging the view that the most effective way to define and conceptualise an organisational capability hinges upon the research question and empirical setting (Argote, 2012), we adopt the definitions that have been developed by reference to the textile manufacturing industry and dynamic capabilities perspective.

2.1 Business survival

The literature on business survival is considerably devoted to studies built upon the organisational life-cycle theory (Dunn & Cheatham, 1993; Lester, Parnell, & Carraher, 2003; Lewis & Churchill, 1983). The mainstream arguments in the literature thereby fail to recognise survival as an attempt to withstand disturbances caused by a crisis, globalisation or other environmental shocks. A substantial body of research overlooks the fact that firm survival might be the case for any stage of the life-cycle. That being said, a mature, full-grown business undergoes the same external shock as a start-up and the survival therefore applies to both cases regardless of their current growth phase. Such an appreciation of firm survivorship is consistent with the finance literature, according to which, the survival of an organisation is the probability of keep operating longer than a given amount of time after an event (e.g., crisis) (Evrensel, 2008). In this definition, firm age or size is not of interest to the study. This explains why firm age and size are not controlled in our survival analysis.

In fact, survival and failure are the two sides of the coin of each growth stage and the shift to the next stage of growth, therefore, signifies survival in the previous stage. This conception of firm survival is especially useful for our research as the suggested survival capabilities are not supposed to be restricted to a specific subset of the enterprise lifespan. Following this critique, we define business survival as the firm's ability to withstand environmental disruptive changes that threaten its existence and growth. This definition ties in with a stream of literature holding that a firm survives when it carries on operating in the same industry handling turbulent market situations and stiff competition, while the alternative is to discontinue and exit (Banbury & Mitchell, 1995; Korunka, et al., 2010; S. Li, Shang, & Slaughter, 2010).

As outlined in the literature, to survive, a firm must achieve a number of objectives that distinguish a surviving firm from non-survivors. First and foremost, a survivor retains the main source of value, i.e., customers (Yu, Ramanathan, & Nath, 2014). Customer retention strategies, even extravagant in the short-run, can bring sustainable competitive advantages in long-term (Chaston, Badger, & Sadler-Smith, 2001). Profitability is another essential quality of a survivor. Those who can maintain the sources of revenue are more likely to counteract external disruptive changes and recover from the crisis. The ability to read the situation and learn from the changing

environment is another key task the companies competing on the edge should never fail to perform (Eisenhardt & Brown, 1998). Finally, it is undeniable that real survivors are those who develop critical capabilities which enable them to achieve the best reaction in time of radical external shock. The following paragraphs are devoted to pointing out several firm survival capabilities.

2.2 Firm survival capabilities

2.2.1 Product development

It is evidently recognised that the firm, in a critical condition, needs to keep generating revenue to secure the financial capital necessary for investments that allow the firm to counter the effects of environmental disruptions (A. C. Cooper, Gimeno-Gascon, & Woo, 1994). Poor sales performance is reported as one of the pre-exit characteristics of firms (S. Li, et al., 2010). The assumption that revenue generation is a function of product and market (Greiner, 1972) reinforce the notion that enterprises with better *product development* and *marketing* capabilities are more likely to survive from external stresses and pressures. This subscribes to a line of research highlighting the role of new product development upon firm survival: “new product introduction is vital to a firm’s survival and growth” (Başog, Işkın, Aydınog, & Öztürk, 2012, p. 93). Through product development, as a dynamic capability, managers are able to actively integrate resources, and their skills and experiences in order to better produce and, in consequence, generate revenue (Eisenhardt & Martin, 2000). Commercial success is to a large degree dependent on product superiority (Cooper & Kleinschmidt, 1986). The rapid and continual introduction of new products can be key to success in meeting environmental challenges (Deeds, DeCarolis, & Coombs, 2000). Indeed, companies who outrival their competitors in introducing new products capture a greater market share, making dissolution much less likely (Banbury & Mitchell, 1995). In particular, a strand of research focuses on the different stages of the new product development *process* to better explain the successful new product program (Cooper & Kleinschmidt, 1986). Cooper (1990)’s Stage-gate approach is widely followed, decomposing the new product development process into different stages that can be condensed into idea generation, screening and assessment, prototyping, technical and customer testing, and market launch. A strong product development capability is therefore a function of the fulfilment of each of these stages.

2.2.2 Marketing

Marketing capability is considered important for firms facing threats to their survival as it enables the effective transformation of input resources into desired financial outputs (S. Li, et al., 2010). This capability is highlighted in firm survival literature and scholars draw upon the 4 Ps of the marketing mix to echo the view that excellence in product, pricing, promotion, and placement strategies increase the chances of surviving in an economic downturn (Naidoo, 2010). That is, making improvements on different features of the bundle of products in terms of design, quality, brand, packaging, price, and after-sales services has the potential to keep the company attractive to its customers and counter the effects of environmental disruptive changes. The customer has gained a central role in the marketing discipline, given the fact that “to survive in the future, every business will have to be customer-focused” (Webster Jr, 1994). This has led to a shift of attention from the producer’s 4 Ps to the customer’s 4 Cs (customer solution, customer cost, convenience, and communication) (Kotler, 1999), and the survival literature has directed the marketing capability focus towards customers’ needs and demands which determine the *marketing sense* (Yu, et al., 2014). In line with Chaston, et al. (2001), a more frequent communication with customers guarantees the survival of firms who encounter volatile environment and/or intense competition. Accordingly, the key to survive includes paying attention to the questions of what customers want and need, how much they are willing to pay for the offerings, how much convenience the customers are experiencing by buying from the company, and how often the company interacts with its customers.

2.2.3 Corporate foresight

Another determining factor of firm existence (Heiko, Vennemann, & Darkow, 2010; Rohrbeck, 2012) is the ability to analyse current trends of the market, detect signals of future environmental changes, anticipate possible new trends, and develop long-term strategies to better grasp future opportunities and mitigate threats (Battistella, 2014; Rohrbeck, 2012). This capability, termed as “corporate foresight”, has gained increasing attention from strategic management scholars and is key to the organisation’s ability to adapt to environmental changes (Rohrbeck, 2011). The importance of information in today’s knowledge-based economy explains why many firms fail to survive as a result of poor corporate foresight (Heiko, et al., 2010). As

argued by Rohrbeck (2012), corporate foresight activities create different types of value by identifying likely future changes, finding new valuable resources, improving strategic decision-making, developing a mental model that supports strategic planning, promoting an organisational culture that brings all the members round to future orientations, and finally by effective configuration, deployment and implementation of new resources that, in turn, increase openness to change. In recent years, corporate foresight has been regarded as a dynamic capability (Battistella, 2014; Rohrbeck, 2012) leading to the idea that to adapt to a changing environment, firms need to frequently assess and interpret future trends and generate innovative solutions in advance. Rohrbeck (2011, p. 194), in his seminal theoretical contribution to the field, presents a process used for describing foresight projects. The process begins with setting the objectives and areas for data extraction, then proceeds to target the proper information resources. After choosing the best method, data is collected and analysed. After the interpretation of the findings, decisions are made to take appropriate actions in a sufficiently timely manner.

2.2.4 Organisational learning

Learning capability is defined as the ability to improve the organisation's memory through the creation (acquiring knowledge from external and internal sources), retention (preventing the acquired knowledge from being lost), and transference (distributing the acquired and maintained knowledge across the organisation) of knowledge by experience (Argote & Miron-Spektor, 2011). This capability, in particular, is widely regarded as a dynamic capability (Ambrosini & Bowman, 2009; Teece, et al., 1997) enabling the organisation to provide its employees with the skills which are difficult to imitate, and in turn, gain competitive advantages (Chaston, et al., 2001).

As suggested in the literature, those who have enhanced the learning capability of their employees to analyse the new, challenging situation and find optimal solutions are more likely to handle change and differentiate from competitors (Chaston, et al., 2001). This capability equips the firm with a better information management system facilitating innovative activities which, in turn, maximise its odds of survival (Chaston, et al., 2001). Firms can benefit from different learning mechanisms. The trial-and-error method of learning is especially regarded as determining the evolution of dynamic capabilities within the manufacturing firm (Eisenhardt & Martin, 2000). Besides,

experiential learning, termed also as 'learning-by-doing' is regarded as more effective in volatile environments than the traditional didactic learning (learning-before-doing) (Eisenhardt & Martin, 2000).

The theories of organisational memory and management information systems (MIS) explain the fact that the organisational learning capability goes beyond the individual learning and the long-term competitive advantages of learning derive from the effective storage, integration, and transfer of the acquired knowledge (Argote & Miron-Spektor, 2011). The literature supports the finding that a frequent and effective maintenance and update on an organisation's memory leads to better new product development performance in volatile business environments (K. Lee, Kim, & Joshi, 2017). So, in addition to individual learning by employees, the organisation should make sure it puts in place the necessary systems and activities, making sure the acquired knowledge is communicated, evaluated, stored and made retrievable so that it can be put into practice as required.

2.2.5 R&D

Another factor reported as significantly reinforcing the possibility of firm survival (Korunka, et al., 2010; Pérez, Llopis, & Llopis, 2004) is the research and development (R&D) capability, defined as the firm's ability to acquire technological knowledge for generating ideas about new products or extending the current ones, ahead of competitors (Feng, Morgan, & Rego, 2017; Lukas & Bell, 2000). It is generally agreed that investment in R&D activities can occasion growth in revenue and profit, and ensure future growth figures (Feng, et al., 2017; Morbey & Reithner, 1990). As is common in the R&D capability literature, scholars emphasise two main aspects, namely exploration (the search for new products or processes) and exploitation (the extension of the current products or processes) and recognise them as determining the growth in sales and market share respectively (Lukas & Bell, 2000). Another commonly shared explanation for the relationship between R&D expenditure and survival is the role of *innovation*. Accordingly, the more R&D oriented a firm is, the more the firm is likely to come up with innovative solutions (Morbey & Reithner, 1990). Given that surviving firms emphasise innovative practices more than failed firms (S. Li, et al., 2010), it can be further implied that, in times of struggle, when the firm faces a disruptive external change, innovative measures resulting from R&D projects can help the firm overcome difficulties and outstrip its competitors. Viewing R&D as an

input-process-output system provides a better understanding of the main activities involved (Schumann Jr, Ransley, & Prestwood, 1995). Drawing on the OECD (2015) classification, a typical R&D process comprises three types of activity: basic research (research to obtain general knowledge about a given subject), applied research (detailed investigation into a particular area of the subject), and experimental development (using the acquired knowledge from experiments to introduce new products or to improve the existing ones).

2.2.6 Networking

The last survival capability we include in our study as reported in the literature is the networking capability, defined as the ability to establish and sustain a strong relationship with major entities in the market to reach an optimal resource configuration (Mu, 2013). Recognised as one of the most important sources of competitive advantage, scholars regard this capability as a dynamic capability to explain why some firms survive while others do not (De Vaan, 2014). Based on the findings of Watson (2007), for example, those SME owners who enjoy a stronger social capital (a more participative involvement in network ties) are more likely to obtain the required knowledge for survival in a more cost-effective manner. Chen, Zou, and Wang (2009) find this capability highly beneficial for growth as it provides better access to external resources that compensate for internal resource deficiencies. The role of network ties is especially underlined in industries where both continuous and disruptive technological changes determine high levels of firm entry and exit (De Vaan, 2014). Despite the advantages of a broad network of partners (Watson, 2007), in case of fierce competition for scarce resources, however, it is more efficient for the firm to yield and maintain an optimal *configuration* and *composition* of its network ties (De Vaan, 2014; Moran, 2005). In this sense, two factors are highlighted in investigating the role of inter-firm networking on business survival, namely the network *structure* and *strength* (De Vaan, 2014). Accordingly, regarding network structure, it is believed that, in most cases, a cohesive and closed network engenders strong social capital, trust, and shared identity to the members. Sometimes, however, the existence of certain structural holes (absence of close ties) among the members allows the capture of diverse, non-redundant information that increases the possibility of survival within a market (Burt, 1995; De Vaan, 2014). The same discussion applies to the dichotomy of strong versus weak ties, according to which, despite the benefits of a network of strong

relationships with other actors, in some cases, weak ties bring about new, diverse ideas, whereas the output of strong ties is only redundant information (Granovetter, 1977). The argument above stresses the point that a haphazard expansion of the firm's network and building strong relationships with all the members is not an effective networking strategy. Rather, it is important to build and maintain relationships with those who add significant value to the organisation.

2.3 Findings from the literature review

The literature review carried out above led us to identify an initial set of survival capabilities for manufacturing companies that are shown in Table 1. We used the identified capabilities to design the interview questions and to obtain as relevant and accurate information as possible from the participants.

Table 1. Survival capabilities identified in the literature review

Survival capabilities	<i>Sub-capabilities</i>
Product development	Idea generation Screening and assessment of new generated ideas Prototyping Testing Market launch
Marketing	Sensing customers' needs and desires Raising customers' willingness to pay Enhancing customers' convenience Engagement with customers
Corporate foresight	Promoting a future-oriented organisational culture Undergoing the corporate foresight process: Analyse current trends in the market Detect signals of future environmental changes Develop long-term strategies Find new valuable resources Effective configuration, deployment and implementation of new resources
Organisational learning	Knowledge creation Knowledge retention Organisational memory Knowledge transference Trial-and-error Experiential learning
R&D	Basic research Applied research Experimental development
Networking	Network structure Network strength

3 Research Methods

The overall objective of this study is to explore the survival capabilities of Portuguese Textile companies. To achieve this goal, the research question is formulated as follows: what are the capabilities upon which the Portuguese Textile companies can survive in times of crises and external shocks? Given the importance of epistemological assumptions when framing the research questions in the field of business and management (Bryman & Bell, 2011), we take the *postpositivism* stance in researching survival capabilities of Portuguese textile companies. This perspective helps us align our results with the theories used in this study and contextualise our findings in the textile industry. According to our research question, we used the qualitative approach. Concerning the inductive-deductive continuum, our research is closer to the deduction pole taking into account the role of previous theories in building our research framework (Bitektine, 2008). As such, we conducted qualitative interviews with CEO/Co-CEOs of Portuguese textile companies.

Given the specific topic of this research, the target population includes the Portuguese Textile companies who have been in existence at least since 1986, when the country joined the European Communities. This way, the sample would entail companies that have survived major crises, namely the Eurozone, financial, and European debt crises. The unit of analysis is set to the CEOs or co-CEOs of the mentioned companies. The research designs calls for non-probability sampling, applying a combination of two purposive sampling strategies - intensify and snowball sampling. As such, we adopted the intensify sampling on the grounds that it allows the inclusion of “cases that manifest sufficient intensity to illuminate the nature of *success* or *failure*” (Patton, 2002, p. 234). This sampling technique involves recruiting cases that appear to be the most well-known and prominent, yet not extreme or unusual informants of the given phenomenon (H. Suri, 2011). That is, in qualitative business management research, the intensity sampling appears to be particularly efficient in studying successful companies. We used the two official reports on the progress of the industry from the Portuguese Association of Textile and Clothing (ATP)¹ (ATP, 2017) and AICEP Portugal Global² (AICEP, 2013) to detect the intense cases (i.e., major successful Portuguese Textile survivors). In addition, the snowball sampling is

¹ Associação Têxtil e Vestuário de Portugal (<http://www.atp.pt>)

² <http://www.portugalglobal.pt>

used on grounds of its advantage in situations where the most information-rich key informants in the population can be distinguished and accessed by the researcher. The next best-informed informants thereafter can be reached as suggested by the former study subject (Patton, 2002). This technique is particularly useful for our research as some Textile survivors might not have been reported in official records and the word-of-mouth recommendations of detected intense cases therefore can diminish the error in sampling. Adopting this approach to sampling, we asked the interviewed CEOs to guide us to whom should we interview next, in order to be able to grasp the success story of the industry. A mixed of these two sampling methods is used over the data collection process which came to an end when we realised that a theoretical saturation is achieved as the same ideas were repeated by the new participant over and over (Gupta & Awasthy, 2015). All in all, 11 participants were recruited from different Portuguese textile companies. A summary of the profile of the participating companies is presented in Table 2 below.

Table 2. Sample profile

<i>Participants</i>	<i>Age of the company</i>	<i>Size</i> ³	<i>Products</i>	<i>Marketing strategy</i>
Participant N1	21	Medium-sized	Women's clothing	B2B
Participant N2	90	Large	Yarn dies, Home Textiles, Garment	B2B
Participant N3	37	Medium-sized	Bedroom Linens	B2C
Participant N4	58	Medium-sized	Bedroom linens, Home textiles, accessories	B2B and B2C
Participant N5	36	Small	Fabric, home textiles, technical textiles, garment	B2B
Participant N6	32	Medium-sized	technical textiles for military and firefighting	B2B
Participant N7	45	Large	Men's and women's underwear	B2B and B2C
Participant N8	20	Small	Garment	B2B
Participant N9	29	Large	Garment, leather, and accessories	B2B
Participant N10	49	Medium-sized	Clothes for babies	B2B
Participant N11	24	Large	Jeans for men and women	B2C

³ Our definition of firm size is based on the European Commission's staff headcount, according to which, a small firm is the one with less than 50 employees, a medium-sized firm with between 50 and 250, and a large firm with more than 250 employees.

To gather the data, we used in-depth semi-structured interviews for two major reasons. On the one hand, the set of predetermined questions in the interview guide helps keep focus on the topic and check over the relevance of the capabilities highlighted in previous studies, and on the other hand, the interviewees are granted leeway to digress and go beyond the expected answers (Bryman & Bell, 2011), so that the new, not yet addressed factors determining the survival of firms are more likely to be raised. Interview questions were refined over the data collection process based on the feedback from participants. Carried out in English, and lasting from thirty minutes to about two hours, all interviews were conducted face-to-face, tape-recorded and then transcribed. The interview transcripts afterwards were arranged in a single structure and style (to enable the auto-coding function in NVivo) and then imported into the software to set off the data analysis process. We used NVivo 11 Qualitative Software Package (QSR-International, 2017) to further organise and examine the data. This software is of particular use for thematic analysis (King, 2004) as used in this study.

Concerning the coding method, after an initial review of the interviews' transcripts, we decided to apply the *structural coding* method. The *question-based* nature of this method (Namey, Guest, Thairu, & Johnson, 2008) manifests its application for exploring our research questions. *Theoretical thematic analysis* using *templates* (King, 2004) is applied to further interpret the data by identifying, analysing and reporting patterns of meaning (themes). This technique, suggested to be readily compatible with structurally coded data (Saldaña, 2013) is particularly suitable for our research as the theoretical convictions, derived from previous literature, play an important role in our research and steer the analysis away from non-relevant information over the course of the analysis (Braun & Clarke, 2006).

4 Results

Following the coding manual by Saldaña (2013, pp. 84-87) and Namey, et al. (2008), and using the auto-coding function of NVivo, we created separate structural codes for each of the central and related research questions to further explore each survival capability and their determining factors. Thereafter, calculating the frequencies of the number of themes in response to the questions about capabilities, we identified which factors were common in determining each capability. The results of running the code frequency query in NVivo are shown in Table 3 below.

Table 3. Word frequency query results (initial template)

<i>Nodes assigned to each interview question (Level-one codes in the initial template)</i>	<i>Most common words mentioned by participants* (Level-two codes)</i>
Firm success	Products (20); value (07); countries (05); South Asian (04)
Survival capabilities	Change (24); flexibility (22); products (19); customers (16); quality (14); needs (10); control (06); orders (06); quick (06)
Product development	Customers (35); testing (27); ideas (22); prototype (17); selling (12); design (10); after-sale services (10)
Marketing	Know (27); customers (24); competitors (15); products (10); brand (7); monitor (6)
Corporate foresight	Future (28); Changes (13); opportunity (11); products (09); trends (08); customers (06)
Networking	Partnership (20); supply chain (11); universities (10); products (8); customers (5); suppliers (3)
R&D	Products (37); brand (29); resources (20); financial (16); process (10); customers (10); human (9); suppliers (4); competitors (3)
Organisational learning	Training (24); work (22); staff (19); team (18); information (16); share (16); project (11); acquire (10); knowledge (10)

**Notes: Non-relevant/important words are excluded from the results; for grouping in NVivo, we used the "With word stemmed" option.*

The word frequency results helped us to build the initial template that comprises eight level-one codes assigned to each interview question sub-divided into a number of two-level codes extracted from Table 3. To revise the initial template, we took a closer look at the sections of transcripts where the level-two codes were extracted from. Employing four types of modification (insertion, deletion, changing scope, and changing classification) suggested by King (2004), we built a more developed form of the template displayed in Figure 1. A description of the modifications we applied is provided in the following sections, each explaining the improvements on the sub-codes of the initial eight highest-level codes.

4.1 Firm Success sub-codes

The first highest-level code is 'Firm Success' addressing the questions we asked from the interviewees about their definition of firm success, how they describe a successful company in the Textile industry, and the major challenges/crises they have faced thus far. These questions allowed us to obtain a clearer picture of the Textile industry and identify the other survival capabilities we did not explore from the literature. In the initial template, four level-two codes were extracted under the 'Firm Success' code, namely: products; value; South Asian countries; and customers. Using NVivo, a deeper scan of the sections where the codes 'products' and 'value' were generated from revealed

that, to be successful in today's' Textile industry, it is essential to offer added-value products to customers.

For me, success is creating value by producing products [Participant N2]. Growth (in terms of the number of employees) does not determine the success of a firm, but the added value is a better indicator of success ... If you can add more value with the same number of employees, you are successful [Participant N4].

The other two extracted sub-codes, i.e. 'countries' and 'South Asian' indicate two major factors influencing the success of Textile companies. First, the participants stress the importance of foreign markets as the importation of low-priced products has contracted domestic demand. Some of them admit to their low performance at exploring and reaching overseas markets:

Our main difficulty is that we don't export enough. 95% of our products are sold in Portugal. And now, that cheap products are coming from South Asian countries, we need to export more. We are searching for new markets and we plan to have our products sold in Spain and France soon [Participant N3]. Cheap production from South Asian countries is one of our biggest challenges because they have an unlimited production capacity and produce with minimum costs. It makes it difficult for us to compete against them [Participant N10].

Secondly, most of the participants point to the 'New international division of labour' and its challenges for their businesses. They, however, firmly wave aside the scenario of moving the production to low-cost labour countries. Alternatively, in their view, it is vital to maintain domestic production, increase the quality, and penetrate new, foreign markets.

Some years ago, many textile companies directed their production to South Asian countries ... they made a mistake and exited the industry ... they lost the survival of their brands and their independence ... If you do the production in South Asian countries, you cannot control the quality of the production well [Participant N7]. I think the best indicator of our survival is that we have managed to deal with the global division of labour and survived, unlike the other companies that failed [Participant N4]. The main crisis/challenge for us occurred in 2000 when we lost 85% of our turnover mainly because our clients moved the production to South Asian countries [Participant N9].

The analysis above instructed us to improve upon the sub-codes of the 'Firm Success' code in the initial template and change them to five new sub-codes, viz. 'value-added products', 'exporting', 'new international division of labour', 'domestic production', and 'quality control' (see Figure 1).

4.2 Survival capabilities sub-codes

As the second interview question, we asked the participants about the major capabilities by which they can tackle and survive the ever-present external shocks of the textile industry. This question allowed the participants to freely and extensively state which capabilities, in their opinion, are most important in their survival experiences. As illustrated below, apart from the capabilities emphasised in the literature, participants highlight the shift from mass-production to *mass-customisation*. We therefore defined a new code, called '*mass-customisation*', as the second level-one code in the developed template with several sub-codes (See Figure 1) substituting for the 'survival capabilities' code:

Our most important goal is to make jeans that are most fitted to our customers so they can feel an extreme degree of comfort wearing the jeans [Participant N11].

Identifying the sub-codes of the '*mass-customisation*' code, we realised that the two sub-factors of 'flexibility to customers' demands' and 'quick response' to their requests are emphasised by the participants as capabilities for dealing with the high rate of changes in the Textile industry:

In this industry, many things change very quickly ... It is very important for us to be flexible ... [Participant N1]. Once they order a new style, we make the solution and respond to them quickly. Because in today's highly competitive world that competitors from low-wage countries can make the products cheaper, not with better quality, we have to be flexible and quick [Participant N4]. Fast response to the placed orders is very important for us ... One of our advantages over the rivals is that it takes only 24 hours for us to ship the orders to our clients in these three countries (Spain, France, and Italy) [Participant N10].

The other sub-factors highlighted by the interviewees are the need for producing *low-volume*, yet *highly varied* (different designs and styles) collections:

Nowadays, it's not beneficial to order massive quantities of clothes from South Asian countries ... it takes at least six months to have the ordered products here and the delivered collections therefore are out of fashion [Participant N7]. If our clients want to buy the products from Asia, they have to order large quantities and wait long to receive them. Although we offer a higher price, the quality is higher too and they don't need to buy large quantities, but few amounts of varied products and they receive their orders much more quickly [Participant N4].

4.3 Product development sub-codes

A general analysis of the participants' responses to this section's questions reveals that the participating companies, in order to better compete against the retailers and survive, have decided to pursue a *product differentiation strategy* over the cost leadership strategy which is being adopted mostly by the retailing corporations:

We prefer staying in this small niche (underwear and lingerie) and produce high-quality products than working in different niches and making medium-quality products [Participant N7]. To compare with our competitors, we don't change the price, because we focus on quality and the price is supposed to be higher [Participant N8]. To outsell our competitors, we will never decrease the price, rather we will raise the quality [Participant N11].

Referring to all the stages of the new-product launch process, our participants also pointed out the ways/means of achieving the goals inherent in each stage. Relatedly, to generate new ideas about new products, they regularly visit fashion exhibitions, read fashion magazines (print and online), and check the websites of famous brands. The feedback from customers, partners, and employees on the current products are also recognised as a rich source of new product ideas. Concerning the assessment of new generated ideas, the feasibility of implementing the new product ideas is assessed by looking at the costs and technological requirements:

We evaluate the feasibility of the ideas by looking at the machines and equipment needed to implement that idea [Participant N5].

For testing the prototype, besides technical tests such as colourfastness, it is also important to present the prototype to close customers and have their feedback before launching. As for market launch, most of the participating companies have incorporated a business-to-business (B2B) strategy. One of the participants, however, pointed to the advantages of selling to the consumer and spoke of the company's parallel commercialisation profile, namely B2B and B2C:

Sometimes we sell with our private labels to the end-user in our shops, and sometimes we sell to other shops. In case of the former, we sometimes go to our shops to have the end-users' feedback [Participant N4].

Drawing on the analysis above, we defined six level-two and two level-three codes under the product development theme in the developed template (Figure 1).

4.4 Marketing sub-codes

A review of the participants' responses to the marketing questions indicates the central role of the customer's 4 Cs in shaping their marketing strategies allowing us to maintain the 4 Cs as four level-two sub-codes under the marketing theme in the developed template. A further data analysis however led us to arrive at two other important factors. First, in the participants' opinions, the scope of marketing activities is not restricted only to customers but includes also the *competitors*. Competitors, from well-established textile incumbents to new disruptive entrants should be monitored as a source of knowledge for innovation:

We visit fashion exhibitions because our competitors are there and this way we can understand what they are doing [Participant N2]. It is important to know the competitors, because we need to know what they are producing and at how much is the price of their products [Participant N3]. We monitor our competitors through our marketing team members that check out the competitors' activities like their campaigns, social media, influencers, roll-out, etc. [Participant N11].

The second factor highlighted by the interviewees is the *brand management* capability. The participants' frequent references to brand and branding induced us to further ask the next interviewees about their brand strategy. It turned out that most of the participating companies have been faced the choice between the manufacture's brand strategy and the *retailer own-label strategy*⁴. Although admitting to the importance of branding, the participants however approve of the retailer own-label strategy as a plausible response to worldwide expansion of favourable textile-retail companies:

... the thing is that a lot of retailers like IKEA have recently entered the Home Textile market and it's not worth any longer to sell products under our own brand [Participant N2]. Of course. I prefer selling products labelled with our own brand because it improves our sustainability [Participant N6].

The statements above suggested defining and adding two level-two codes i.e. 'monitoring competitors' and 'brand management' to the other four pre-defined sub-codes under the 'Marketing' theme in the developed template (see figure 1).

⁴ Making products that are labelled with the name of the retailer rather than with the name of the manufacturing company

4.5 Corporate foresight sub-codes

All the participants appreciated the importance of having a future-oriented outlook and developing long-term business strategies in order to survive:

Portuguese Textile companies need to always think about future and plan for long-term growth... Portuguese Textile companies need to plan for next five or ten years [Participant N9].

The most common words mentioned by participants in this section such as ‘future’, ‘changes’, or ‘opportunity’, do not imply any new theme or sub-themes we can add to the template. A further analysis of the transcripts, however, confirms the importance of implementing the five-stage corporate foresight process we captured from the literature (see Table 1). For instance, the CEOs addressed the need to have a consistent picture of the future products’ characteristics, e.g. colour, material, design, and so on:

... there was a show in which we participated last year in Paris, and from the questions visitors were asking, we figured that there will be a desire for organic yarns in future to make products more sustainable [Participant N2]. ... we’ve noticed the discomfort of wearing a typical underwear and we think future underwear products are better to be made with natural fabrics ... in some cases, we predicted the popular colour for next season underwear and we applied it in production [Participant N7].

This led us to modify the first stage of the suggested corporate foresight process and change the relevant sub-code to ‘Analyse current trends of the *products’ characteristics*’ (see Figure 1).

Another foresight-related capability is the ability to develop an awareness of the current economic and political trends. Our data analysis indicates that the executives of the Portuguese textile companies are required to stay updated with economic and political changes in the external world. Our participants’ references to the outcome of the 2016 US presidential election and the UK vote to leave the EU (Brexit) reveals that the foresight to prepare in case of economic and political changes is beneficial to textile companies.

The last sub-code identified here addresses the importance of the fashion trend forecast companies that provide manufacturers with up-to-date information on changes and trends in textiles so they can grasp future opportunities ahead of competitors:

We have subscribed to some fashion trend forecasting companies like WGSN, or MHA. They provide us monthly reports to inform us of the fashion trends [Participant N11].

4.6 Organisational learning sub-codes

The results of the data analysis in this section were supposed to be presented within three sub-themes of knowledge creation, retention, and distribution, identified from the literature review presented earlier. We however defined another sub-theme named 'sources of knowledge' as a result of the participants' frequent references to *customers* and *stakeholders* (suppliers and partners) as valuable sources of knowledge.

... through our customers and other stakeholders, we try to find out the areas in which we should invest [Participant N2]. We always try to learn by making the best use of the Internet, and also the feedback from our customers [Participant N5].

Regarding the creation of knowledge, according to the participants' statements, rather than formal training courses, the participating companies are more focused on *problem-solving groups* and *project teams* to acquire knowledge.

We don't make formal training programs. Our new staff usually learn by working with the others ... We encourage our staff to work together so they can learn from each other [Participant N5].

On reflection, we changed the sub-themes of 'knowledge creation' to the two level-three sub-codes of 'problem-solving groups' and 'project teams' (see Figure 1). Concerning the knowledge retention sub-theme, the analysis reveals that not any specific method is applied to prevent the acquired knowledge from being lost. As an exception, however, one of the CEOs mentioned the use of computer-based tools in maintaining and sharing the acquired knowledge:

We use a software package to record everything about an order, like the time, volume, etc. and the information is shared among the personnel via that software [Participant N5].

As to retention, knowledge distribution is mostly performed traditionally through communication among personnel and the participants stress the need to increase the speed and flow of information among members of staff.

We make daily meetings, very quick, stand-up meetings for sharing information [Participant N6]. ... the personnel try to share the information by communicating with each other. But we have to improve internal communication and communicate more [Participant N4].

Drawing on the analysis above, two level-three sub-codes are defined and added to the developed template. First, the 'use of information systems' such as MIS, EDP, and DSS as determining both the 'knowledge retention' and 'knowledge distribution' sub-themes. Secondly, the 'interaction among staff members' and 'use of computer-assisted tools' sub-codes for 'knowledge distribution' (see Figure 1).

4.7 R&D sub-codes

A first-glance analysis of the word frequency results (Table 3) suggests that the sub-codes determining the R&D capability overlap with other codes, especially with those of the organisational learning capability. A deeper review of the conversations however signals the unique aspects of the R&D capability. First, the focus here is on the *products* and *technology*, so that the research activities aim directly at detecting cutting edge technologies required for either introducing new products or extending the current ones:

New technologies are very important for us. We always try to use new machines to be the best in the market [Participant N3].

As a result, we add a new code called 'textile machinery' as a level-three sub-code under the 'applied research' theme, identified earlier from the literature review. As defined earlier, the 'applied research' theme refers to a detailed investigation into a particular area of the subject. The data analysis, accordingly, suggests that the particular subject for researching in textiles can be the machinery required for producing new, different products.

4.8 Networking sub-codes

As expected from the literature review, all the participants subscribe to the importance of inter-organisational collaboration in the survival of their companies. The word frequency results point out that supply chain members, in terms of upstream suppliers and downstream buyers are regarded as the main players in the manufacturer's network structure. This led us to add two level-three sub-codes, namely 'suppliers' and 'buyers' under the network structure sub-theme (see figure 1). The frequent references to the *universities* also indicate the role universities play to provide textile manufacturers with the technical know-how for making different, unique products:

We recently made a partnership with a number of universities and developed a new gadget to use in the firefighters' clothes that monitors and reports their health status.

This new gadget has brought us a good reputation [Participant N6].

Concerning the 'network strength' sub-theme, identified from the literature review, the analysis suggests that the participating companies, rather than increasing the number of network ties, try to strengthen their relationship with those who, on the one hand, share more similarities in goals and objectives, culture, and attitudes towards change and, on the other hand, produce complementary products:

Networking is important, but not in the way it's written in the books and theories. Because, in nowadays' real word, each company fights for their own goals and it's difficult to find companies with common goals. Potential conflicts might arise [Participant N7]. Our partners have to have the same view and outlook as we have, so we can speak the same language. Like us, they have to be very open to new designs and projects [Participant N9]. First, our partners have a similar structure to us, because they are a family business like us and so we have similar characteristics. And secondly we are producing complementary products [Participant N4].

This led us to add two level-three codes in the developed template, namely compatibility and complementarity as determining the 'network strength' sub-theme (Figure 1).

1 Firm Success

- 11 Value-added products
- 12 Exporting
- 13 New international division of labour
- 14 Domestic production
- 15 Quality control

2 Mass-customisation

- 21 Flexibility to customers' demands
- 22 Quick response to customers' orders
- 23 Low-volume production
- 24 Varied collections

3 Product Development

- 31 Product differentiation strategy
 - 311 Focusing on small market niches
 - 312 Raising quality
 - 313 Setting a competitive price
- 32 Idea generation
 - 321 Visiting fashion exhibitions
 - 322 Reading fashion magazines
 - 323 Checking websites of famous brands
 - 324 Feedback from customers, partners, and employees

33 Screening and assessment of new generated ideas

- 331 Feasibility study
 - 3311 Costs
 - 3312 Technology (machinery)
- 332 Brainstorming

34 Prototyping

35 Testing

- 351 Technical tests
- 352 Customer feedback

36 Market launch

- 361 B2B
- 362 B2C

4 Marketing

- 41 Sensing customers' needs and desires
- 42 Raising customers' willingness to pay
- 43 Enhancing customers' convenience
- 44 Engagement with customers
- 45 Monitoring competitors
- 46 Brand management

5 Corporate Foresight

- 51 Promoting a future-oriented organisational culture
- 52 Undergoing the corporate foresight process
 - 521 Analyse current trends of the products' characteristics
 - 522 Detect signals of future environmental changes
 - 523 Develop long-term strategies
 - 524 Finding new valuable resources
 - 525 Effective configuration, deployment, and implementation of new resources
- 53 Awareness of the current economic and political trends
- 54 Subscribing to fashion trend forecast companies

6 Organisational Learning

- 61 Sources of knowledge
 - 611 Customers
 - 612 Stakeholders
- 62 Knowledge creation
 - 621 Problem-solving groups
 - 622 Team projects
- 63 Knowledge retention
 - 631 Use of information systems (MIS, EDP, and DSS)
- 64 Knowledge distribution
 - 641 Interaction among staff members
 - 642 Use of computer-assisted tools

7 R&D

- 71 Basic research
- 72 Applied research
 - 721 textile machinery
- 73 Experimental development

8 Networking

- 81 Network structure
 - 811 Suppliers
 - 812 Buyers (retailers)

813 Universities
82 Network strength
821 Compatibility
822 Complementarity

Figure 1. Developed template

4.9 Final template

The developed template shown in Figure 1 presents major survival capabilities and determining factors derived from data analysis and literature review. Here, developing a deeper analysis of the data with a synthesis of the survival capabilities theories, we try to further revise the template and construct the final template.

To refine the template, we decide that it would be more straightforward if the main themes are assigned only to survival capabilities. Therefore, the first defined theme in the template, i.e. 'Firm Success' and 'Mass-customisation' should be either converted into new survival capabilities or placed under pre-defined survival capabilities of the template. Accordingly, regarding the 'Firm Success' theme, we found that the two sub-themes of 'Value-added products' and 'Domestic production' would fit better as sub-categories of the 'Product differentiation strategy' sub-theme, which is the first sub-theme of the 'Product Development' theme. These modifications can be justified by the premises inherent in the Porter (1985)'s competitive advantage theory, according to which, firms can differentiate from competitors by offering unique products valuable to customers (p. 119). Moreover, correspondent to another premise that "differentiation encompasses quality" (p. 124), the same classification change applied to the 'Quality control' sub-code. However, since this sub-code is repeated in the 'raising the quality' sub-code of the product 'Product Development' theme, we removed it from the final template. Now that only two sub-themes of 'Exporting' and 'New international division of labour' remain under the 'Firm Success' theme, we realised that it is worth paying more attention to the capabilities that address the firm's ability to exploit international markets. A review of the literature suggests that the *internationalisation capability* represents this ability of successful global companies. That is, we added a level-one theme named 'Internationalisation capability' to the final template (see Figure 2).

Internationalisation - in business management - refers to the extent to which a firm engages in foreign markets (Chakrabarty & Wang, 2012; Oly-Ndubisi, Shamsuddoha, Yunus Ali, & Oly Ndubisi, 2009). Therefore, a low or high degree of internationalisation

means that the firm focuses more on domestic or foreign marketplace, correspondingly. A review of definitions employed for internationalisation shows the tendency to specify different types/modes of this strategy. These modes can be classified into two general categories, viz. non-equity versus equity activities (Schwens, Eiche, & Kabst, 2011). In the context of textiles, the former comes with a low control on the whole arrangement of international activities mainly presented by exporting to other countries where the textile products are marked and sold with other stores' brands, while in the latter, the manufacturer has the authority in the host country to sell the products in its stores and labelled under its own name. Based on the argument above, we added two sub-themes under the 'Internationalisation capability' theme in the final template, namely the non-equity (e.g. exporting) and equity-based strategies (operations in foreign countries).

The second remaining level-one theme which did not represent a capability was the 'Mass-customisation' theme. Our participants' emphasis upon the importance of minimising the delay between the placement of order and delivery of the product (lead time) led us to search the literature for manufacturing solutions. Our literature review suggests that *Quick Response Manufacturing (QRM)* is one of the most effective techniques to minimise the lead time in a company's operational processes (R. Suri, 2010). As highlighted by Suri (p. 23), the implementation of QRM is in line with low-volume production, inventory reduction, waste elimination, more product variety, higher quality, more customisation of products, and competitive prices. That is, we decided to define QRM as a level-one theme and remove the 'Mass-customisation' since it is repeated in the sub-themes of the 'Marketing' theme. As a result, two sub-themes of 'inventory reduction' and 'production waste reduction' are added under the QRM theme in the final template.

Another modification we made to the template was on the 'Brand management' sub-theme of the 'Marketing' theme. The importance of branding strategies in textiles (Kwon, 1990; Malinowska-Olszowy, 2005) hinted that a more detailed study of branding is required in our analysis. As mentioned earlier, the participants pointed out the two main branding strategies, viz. the *manufacturer's brand* strategy and the *retailer own-label* strategy. Looking more closely at the data we discovered another branding strategies i.e. 'ingredient branding' which seems to be useful in particular for Portuguese textile companies. The following statements are from one of the participants making this salient point:

I think it is a mistake if you say that having your name on your products is necessary for success in the Textile market. Gore-tex is a good example of a successful company that we aim to be like them. It offers products with other companies' names, but the clothes made by Gore-tex are known to be special and of high-quality. So, the customers do not care about the label of their clothes, but rather it is important for them to buy clothes with Gore-tex garments [Participant N9].

From the analysis, it can be implied that this participating company find the *ingredient branding* a useful strategy to secure its long-term sustainability on the one hand, and work with clothing-retail companies on the other hand. Drawing on the analysis above, we added three sub-themes, namely 'manufacturer's brand strategy', 'retailer own-label strategy', and 'ingredient branding' under the 'brand management' sub-theme of the 'marketing' theme.

The last modification we made to the final template is moving the 'monitoring competitors' sub-theme of the marketing capability to the sub-themes of the R&D capability and redefining it as the "competitor intelligence" capability as conceptualised in the literature (see Figure 1). Introduced initially by Fuld (1985) as inspired by the work of Porter (1980), this capability is defined as the firm's ability to scan and analyse the actions, behaviours, and progression of competitors, either the leaders of the market or the new standout entrants (Choo, 1999; W. S. Li, 2018).

Drawing on the modifications described above, the final template is presented in the Figure 1 below. The template, as illustrated in this figure, highlights eight major capabilities, accompanied by their determining factors, essential to business survival in textiles.

1 Internationalisation capability

- 12 Non-equity strategies
- 13 Equity-based strategies

2 Quick Response Manufacturing (QRM)

- 21 Flexibility to customers' demands
- 22 Quick response to customers' orders
- 23 Low-volume production
- 24 Varied collections
- 25 Inventory reduction
- 26 Production waste reduction

3 Product Development

- 31 Product differentiation strategy
 - 311 Domestic production
 - 312 Focusing on small market niches

- 313 Value-added products
- 314 Raising quality
- 315 Setting a competitive price
- 32 Idea generation
 - 321 Visiting fashion exhibitions
 - 322 Reading fashion magazines
 - 323 Checking websites of famous brands
 - 324 Feedback from customers, partners, and employees
- 33 Screening and assessment of new generated ideas
 - 331 Feasibility study
 - 3311 Costs
 - 3312 Technology (machinery)
 - 332 Brainstorming
- 34 Prototyping
- 35 Testing
 - 351 Technical tests
 - 352 Customer feedback
- 36 Market launch
 - 361 B2B
 - 362 B2C

4 Marketing

- 41 Sensing customers' needs and desires
- 42 Raising customers' willingness to pay
- 43 Enhancing customers' convenience
- 44 Engagement with customers
- 45 Brand management
 - 451 Manufacture's brand strategy
 - 452 Retailer own-label strategy
 - 453 Ingredient branding

5 Corporate Foresight

- 51 Promoting a future-oriented organisational culture
- 52 Undergoing the corporate foresight process
 - 521 Analyse current trends of the products' characteristics
 - 522 Detect signals of future environmental changes
 - 523 Develop long-term strategies
 - 524 Finding new valuable resources
 - 525 Effective configuration, deployment, and implementation of new resources
- 53 Awareness of the current economic and political trends
- 54 Subscribing to fashion trend forecast companies

6 Organisational Learning

- 61 Sources of knowledge
 - 611 Customers
 - 612 Stakeholders
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 - 621 Problem-solving groups
 - 622 Team projects
- 63 Knowledge retention
 - 631 Use of information systems (MIS, EDP, and DSS)
- 64 Knowledge distribution
 - 641 Interaction among staff members

642 Use of computer-assisted tools
7 R&D
71 Basic research
72 Applied research
721 Textile machinery
722 Competitor intelligence
73 Experimental development
8 Networking
81 Network structure
811 Suppliers
812 Buyers (retailers)
813 Universities
82 Network strength
821 Compatibility
822 Complementarity

Figure 2. Final template

Drawing on the final template we developed from data analysis, the research framework is depicted in Figure 3 below.

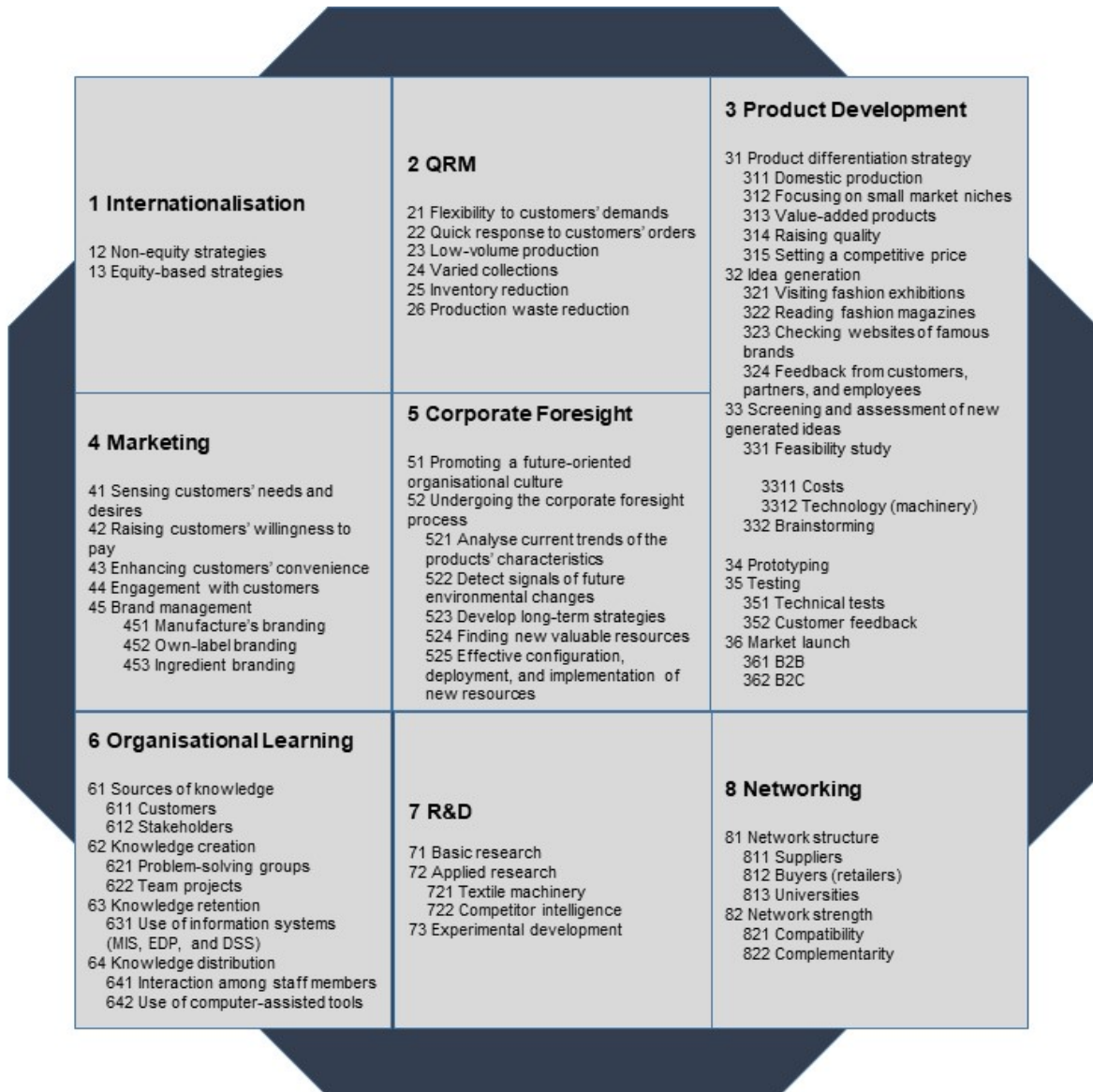


Figure 3. The firm survival capabilities framework

5 Discussion and Conclusions

We have tried in this study to identify the capabilities upon which the Portuguese textile companies can survive in times of crises and external disruptions with intense competition. A selective literature review and data analysis of the interviews with CEOs/Co-CEOs of nine well-established Portuguese textile companies led us to identify eight major survival capabilities. The following paragraphs therefore are devoted to each capability, linking the findings to the literature and to practice.

5.1 Internationalisation

The first capability we discovered from interviews is the internationalisation capability, referred - as earlier mentioned - to a firm's ability to engage in foreign markets. We therefore propose that internationalisation is vital to surviving in textiles. This is consistent with the view presented in previous studies (e.g. H. Lee, Kelley, Lee, & Lee, 2012), according to which, internationalisation improves the likelihood of firm survival. There are even more relevant studies corroborating this finding. Serra, Pointon, and Abdou (2012), for instance, highlight the importance of internationalisation in the context of export propensity for Portuguese textile and clothing firms. Given the two sub-themes of internationalisation identified from the data analysis, namely the non-equity and equity-based strategies, the *equity-based internationalisation* strategy (explained earlier) is recommended for Portuguese textiles. It is relevant here to note that Spain and France are regarded as easy-to-enter markets for Portuguese textiles, as one of the participants highlighted:

... we need to export more. We are searching new markets and we plan to have our products sold in Spain and France soon [Participant N3].

Interestingly, a simple look to overseas Portuguese clothing stores indicates that these two countries - which are well-known for their fashion, clothing, and textile expertise - are the main destinations for famous Portuguese brands. Taking Salsa Jeans⁵, for instance, their main foreign target markets are Spain (over 100 stores) and France (nine stores)⁶. Zara (major Spanish clothing brand), by comparison, has penetrated the markets of other foreign countries such as Brazil (56 stores), the UK (64 stores), or Russian Federation (100 stores) which might be interesting for Portuguese companies to enter. It is notable that flagship Portuguese textile manufacturers like the IVN group (clothing manufacturer of the brand Salsa) have discovered high-end fashion markets in Southwest Asia for luxury products which might be worth entering for other Portuguese companies who have adopted the differentiation strategy. Salsa Jeans, for example, has five stores in the United Arab Emirates signalling the potential for made-in-Portugal products in such countries.

⁵ salsajeans.com

⁶ <https://www.salsajeans.com/en/about-the-brand/stores/?id=162>

5.2 Quick Response Manufacturing

The second survival capability we captured from the data analysis is Quick Response Manufacturing (QRM) that improves the flexibility to customers' demands; minimises the lead-time and, in turn, enables quick responses to customers' orders; reduces inventory costs and production wastes; and above all, is aligned with the two aspects of the product differentiation strategy, namely low-volume production, and varied collections. QRM - as a survival capability - is implicitly acknowledged in the literature. Upton (1995), for example, stresses the need of manufacturing flexibility for the survival of SMEs (small and medium-sized enterprises). In their view, the ability to quickly adjust production systems to produce different products enhances SMEs' competitive positions. The implementation of QRM, therefore is highly recommended for Portuguese textile companies. From the existing QRM implementation models, we find the 'road map for QRM Implementation' by R. Suri (2010, pp. 163-190) practical for Portuguese textiles. The principals and steps embedded in this road map can considerably augment Portuguese textile firms' ability to implement the QRM.

5.3 Product development

Product development is the third survival capability we initially identified from the literature review and further developed its determining factors from the data analysis. 'Product differentiation strategy' is one of the sub-themes we captured as being frequently cited during the interviews. We found that those successful Portuguese textile companies who have survived crises and environmental disruptions, are pursuing a product differentiation strategy. Conducting domestic production with a focus on small market niches (e.g., underwear), they try to offer value-added, high quality products. That is, to survive in today's textile market that is replete with retail companies working with low-cost producers or well-established manufacturers that have dominated the mainstream clothing market, there is no place for late entrants. This is in line with previous research on Portuguese textiles (Dhillon & Caldeira, 2000) that side with the strategy of differentiation against cost leadership.

It is worthwhile here to suggest several non-traditional textile niches for Portuguese companies who want to benefit from the product differentiation strategy. A quick penetration and consolidation of these markets can essentially enhance their

competitive position. Some practical information resources are also suggested for those who want to enter or improve in such niches:

- Smart textiles, also known as intelligent or electronic textiles, is a growing sector that is predicted to become more prevalent soon. The integration of fashion and technology has institutionalised brilliant, fresh ideas such as a complete suit for men (long-sleeved shirt, waistcoat, jacket, and formal trousers) that can be worn in hot climates for those who want to dress in formal suit even when the weather is hot and humid. Another clever idea for home textiles could be curtains with heating and cooling capabilities. Smart textiles, beyond any doubt, has a lot of potential developments for the future. Several information resources as guidebooks are introduced in the last paragraphs of this article which cover a fair range of aspects of smart textiles.

- Athletic sportswear is another niche that, although not new, seems to have potential. Given that modern-day athletes forever seek to enhance their performance level, there is always space for state-of-the-art sportswear producers. The guidebook of 'Textiles in sport' edited by Shishoo (2015) can be a practical source of information for those who want to enter or improve in this area. Another source suggested for practitioners in sportswear manufacturing is the book of 'Materials and technology for sportswear and performance apparel' by Hayes and Venkatraman (2015).

- Industrial textiles (clothes for industrial and manufacturing uses) also known as 'technical textiles' has a wide range of niches each of which offers many opportunities for Portuguese textile companies. As claimed by Kumar (2014), 'industrial textiles' is one of the three central pillars of the textile and clothing industry, along with the clothing and home textiles. The guidebook of 'Textiles for Industrial Applications' by this author is a compendium of the facts and figures on industrial textiles. The 'Handbook of technical textiles' edited by Horrocks and Anand (2016) is a practical guide tool that covers a broad range of issues from related raw materials, i.e. technical fibres, yarns, and fabrics to manufacturing processes of garments used in different places like vehicles (cars, buses, trains, etc.).

- Protective textiles: this high-specialised segment is about the design and production of protective clothing. Here there are many opportunities for making high-quality clothes that are protective of cold, heat, UV, etc. Military, police, and

firefighting are major target groups in this sector. The guidebook of 'Textiles for protection' edited by Scott (2005) is suggested as a guide providing helpful information and explicit instructions.

- Medical textiles: the constant progress in medical science proves the need to up-to-the-minute medical garments that improve the effectiveness of hospital/medical treatment. The work of Zhong (2013) entitled 'An introduction to healthcare and medical textiles' paints a concise picture of the sector. For a more comprehensive description of medical textiles we recommend two publications by the Woodhead Publishing, namely 'Handbook of medical textiles' edited by Bartels (2011) and 'Advances in smart medical textiles' edited by Langenhove (2015).

- The highly customised clothing niches have not yet been filled by large, well-established textile companies. This sector features the design and production of clothes that are made for each individual client to be best fitted. The clothes offered by major brands are traditionally limited to certain clothing sizes (from XXS to 3XL) or Waist/Length inch figures. But what if a customer wishes a piece of cloth out of these pre-defined sizes so to have the most fitted clothes. This requires that the textile manufacturer should provide a situation in which the sizes of each individual customer can be measured and applied to produce the clothes with a perfect size. This niche seems promising as it has not yet occupied by the dominant clothing manufacturers and retailers. Portuguese textile companies therefore can get the most out of it by raising the willingness-to-pay of the customers.

The other proposed sub-themes of the product development capability in this study are the different stages of the product development process, namely idea generation, screening and assessment of new generated ideas, prototyping, testing, and market launch. The findings from our data analysis suggest certain activities required for an effective product development. Accordingly, to be able to generate ideas about new styles and collections, textile firms need to keep track of updates on raw materials (e.g. yarns, fibres, or fabrics), cutting-age technologies, and state-of-the-art machinery. This is achievable by staying updated on the latest developments in textiles. All of our participants support this conclusion by referring to their routine check of fashion magazines and websites, and regular visits of textile exhibitions. This can also be achieved through customers feedback gathered by the marketing unit. One of our participants from a home textile company, for instance, referred to her experience, in

which, one of their customers complained of the difficulty of ironing the bed sheets after washing. The company thereby embarked on a new production system for making crease-resistant, no-need-for-ironing bed sheets. Feasibility study, prototyping and testing activities are also recognised as important sub-themes of the product development capability. In one of the participating companies, for instance, we observed a well-equipped laboratory with high-tech equipment for testing and controlling various aspects of the production process, such as dyeing. Regarding the last sub-theme of the product development capability, i.e. 'market launch', we found the two major commercialisation strategies in the Portuguese textiles in terms of B2B and B2C. Our data analysis indicates that the choice between these two markets is contingent on many factors and circumstances. Although textile manufacturers can take advantage of direct interaction with the end-user by having their own shops, the B2C scenario might be risky for those manufacturers who have been working in B2B markets, as their clients (the intermediaries) might see them as a threat to their existence and stop buying their products. That is, either of the two strategies can bring effective solutions in different situations.

5.4 Marketing

Marketing is the fourth identified survival capability in this study. The 4C elements captured from the literature review and confirmed in the interviews indicate that firm survival in Portuguese textiles is achievable by sensing customers' needs and desires ahead of competitors. Pointed out by one of our participants, the marketing unit of a successful textile company should inform the clients of the company's suggested new collections for next season. Moreover, it is important to convince the customers that the higher prices of made-in-Portugal products stem from raising the quality, creating new, different designs, and increasing the variety. The buyer's experience should also be as pleasant as possible. Stressing the importance of customers' convenience, one of our participants referred to one of the company's experiences of making a valuable contract for selling a broad bundle of products to a foreign client and that the company provided the client a week stay in Portugal so that the buying company's delegates could get familiar with various categories of products, the manufacturing processes, and the standards of production in the host company. This engagement with

customers not only increases the likelihood of purchase, but also might help the textile vendor come up with ideas for new collections through the clients' feedbacks.

Apart from the 4Cs we captured from the literature review and further developed by the data analysis, the 'Brand management' sub-theme was derived from the interviews and added to the framework. This capability is of key importance in Portuguese textiles on the grounds that the product differentiation strategy is recommended for survival in this industry. This ties in with the well-known study of Wood (2000) on 'brand equity' that holds the view that "brands should be managed as valuable, long-term corporate assets" (p. 666). During the interviews, the CEOs frequently referred to the relative contribution of long-term strategies to survival in textiles. That is, to be able to survive and thrive in such highly competitive market, an effective branding strategy is required to be developed by Portuguese textile companies.

As highlighted in the research framework (Figure 3), three major brand strategies applicable to Portuguese textiles are identified: (I) manufacturer's brand strategy, (II) retailer own-label, and (III) ingredient branding. A snapshot of the present textile and clothing industry suggests that the survival of Portuguese textile companies cannot be secured through the retailer own-label strategy. This is because giant textile and clothing-retail companies that are supplied by low-cost manufacturers based in low-wage countries have dominated the own-brand markets. Thus, for those textile manufacturers that have been functioning with the retailer own-label strategy and sell their products to intermediary companies, it might be more beneficial to upgrade to the ingredient branding or even the manufacturer's brand strategy by launching their own outlets. This secures the long-term chances of survival in textiles, provided they develop the necessary marketing and networking capabilities.

5.5 Corporate foresight

Corporate foresight is the fifth survival capability we captured from the literature review and further developed throughout the interviews. Although admitting to the critical importance of forecasting future trends, the participants' responses to the question of 'how do you predict the future?' reveals that they do not employ any specific functional method to further explore future opportunities. This implies that allocating certain people in small enterprises or an individual unit in larger companies to undergo the five-stage corporate foresight process (see figure 2) by Rohrbeck (2011) can enhance

the Portuguese textile companies' corporate foresight capability and, in turn, their survival chances. We recommend that this process can specially guide them to detect the characteristics of future demanded products. This is in line with recent studies that highlight the contribution of the mentioned foresight activities to the survivors' improvements in strategic decision-making and future opportunity recognition (J. Lee, Kim, & Shin, 2017). Rohrbeck (2011) provides useful instruments, real examples, techniques, and practices of corporate foresight which are strongly recommended for Portuguese textile companies.

5.6 Organisational learning

Organisational learning is the sixth survival capability addressing the firm's ability to create, maintain, and distribute knowledge both from internal (e.g., employees) and external (e.g., customers) sources. Regarding knowledge creation, based on our data analysis, Portuguese textile companies are recommended to enhance their *problem-solving* and *team project-based* learning capabilities. This is consistent with previous research such as the seminal work of Goh and Richards (1997) on benchmarking the organisational learning capability that recognises these learning strategies as key measures of the capability and attests to the notion that the organisational learning capability is key to surviving in highly volatile industries (p. 575). Concerning knowledge retention and distribution capabilities, as presented in our research framework (Figure 3), the use of information systems and computer-assisted tools can considerably enhance the learning capability of firms. Relatedly, we recommend Portuguese textile companies to take advantage of management information systems (MIS), electronic data processing (EDP), and decision support systems (DSS) in order to further improve knowledge retention and distribution within the company. They are recommended to employ software-generating companies to develop information management software packages that are compatible with their operational systems.

5.7 R&D

R&D is our seventh proposed survival capability that we defined from the literature review as the firm's basic and applied research activities followed by experimental development practices (OECD, 2015). Regarding basic research activities, our data analysis indicates that the R&D executives of the Portuguese textile companies are

required to stay updated with general developments in textiles like the new products of the leading competitors. The applied research practices, however, require a deep scan and analysis of technological advances happening in textiles. As can be seen in our research framework (Figure 3), the applied research activities of the Portuguese textile companies are recommended to be focused on textile machinery, and competitor intelligence. Textile machinery is essential to implement the product differentiation strategy, mentioned earlier to be of critical importance for survival in this industry. The R&D unit therefore is responsible for detecting new technologies and equipment required for producing different, value-added products such as smart clothes or athletic sportswear. This is in line with previous research on textiles, according to which, the technological features of this industry are constantly changing and technical innovations can be achieved even with low investment (Nordås, 2004). Therefore, the faster a company can develop different products via technological solutions, the greater the likelihood of survival.

Competitor intelligence is the second sub-survival capability of R&D practices proposed in our research framework. Previous research has shown supporting evidence for the importance of competitor intelligence to firm survival. Augusto and Coelho (2009)'s findings imply that the firm's competitor intelligence capability raises its awareness of the emerging technologies required for introducing highly innovative products, and in turn, increases the likelihood of survival. From current practical models of competitor intelligence, we recommend the 'analytical framework for competitor analysis' by (W. S. Li, 2018, p. 102) to Portuguese textile companies as it outlines the key components of an effective competitor analysis and steps needed to achieve each component.

5.8 Networking

The last proposed survival capability in this study is the networking capability that describes the firm's ability to build and maintain a sustainable relationship with those of suppliers and buyers (retailers) who add value to its supply chain. The strategic importance of networking to firm survival is widely highlighted in the literature (e.g., De Vaan, 2014; Watson, 2007). A more focused insight into research on the Portuguese textiles also reinforces the role of networking. Dhillon and Caldeira (2000) suggest that Portuguese textile companies that engage more in inter-organisational electronic data

interchange (EDI) systems, get further access to information systems and information technology resources and ensure their competitive position in the global turbulent textile and clothing industry. Eiriz, et al. (2017) find how dyadic network ties contribute to inter-organisational knowledge creation and distribution in the Portuguese textile and clothing industry.

Collaborative practices with universities are also recommended for Portuguese textile companies. Our interviews revealed that some of the interviewing companies - who compete in more mainstream markets - have never engaged in joint/collaborative partnerships with universities. By contrast, the rest of the participating companies who have embarked upon product differentiation practices frequently collaborate with universities on a win-win, mutual advantage basis to come up with ideas on new, different products. The fact that almost all Portuguese textile and clothing manufacturing companies are located in northern Portugal, they are recommended to build a closer relationship with universities placed nearby such as the University of Porto or the University of Minho.

Another two important factors determining the networking capability are compatibility and complementarity. Broadly discussed in the literature, these two factors are critical to a successful partnership. More relevantly, in research on textiles, Y. Tao and Fu (2007), studying the China's textile industry, confirm the contribution of the compatibility of the focal firm with its supply chain members to its exportation performance. Taking another example, De Loecker (2007), researching on the Belgian textile industry, stress the importance of complementarity for Belgian textile firms that manufacture different products. In line with the argument provided, Portuguese textile companies are recommended to take into account the compatibility (in goals, objectives, values, and organisational culture) and product complementarity when engaging in inter-firm collaboration.

5.9 Managerial implications, research limitations and future directions

It is important here to touch upon some publications and information sources on textiles and clothing we found highly practicable for Portuguese textile companies. We start first with the two publishing companies that have been prolific in the dissemination of knowledge about textiles and clothing:

(I) The Woodhead Publishing⁷ has produced numerous publications on textiles and clothing. The practical and straightforward documentation of issues in the Woodhead Publishing's publications offers particular advantages for those who want to successfully compete in this industry.

(II) CRC Press⁸ is another publisher of practical resources on textiles and clothing. We found the publications of this publisher on textiles and clothing (from 2007 to now)⁹ of valuable interest to those who want to exploit less-crowded niches of the textile industry.

(III) The 'Handbook of Sustainable Apparel Production' edited by Muthu (2015) is a rich source of information about various aspects of textiles – from eco-friendly raw materials and manufacturing technologies to consumption behaviour with a representational focus on sustainability. Documented in 23 chapters and authored by 33 contributors, the handbook provides practical and technical skills to achieve sustainability in textile firms' operations. In chapter 16, for instance, a comprehensive catalogue of internationally recognised test methods (e.g. fibre, yarn, fabric tests) and consumer safety standards in textiles and clothing is presented in the minutest details.

(IV) The 'Textile Science and Clothing Technology' is another prolific series of 26 books edited by Muthu (Muthu, 2014-2018) covering a broad range of topics on the production, manufacturing, supply chain, technology, engineering, green textiles, nanotextiles, sustainability, social and environmental effects and many other aspects of the industry. Providing practical and technical solutions to productivity and eco challenges in textiles, the detailed guidelines and clear roadmaps can help textile companies to implement effective and efficient strategies and improve their competitive position.

(V) Smart textiles and clothing, as mentioned earlier is one of the fastest growing interests in textile manufacturing and consumption. We here therefore suggest several publications that, in our view, are comprehensive introductions to this newly emerging sub-field of textiles. First, the book 'Smart Textiles; Fundamentals, Design, and Interaction' by Schneegass and Amft (2017) that is arranged in 17 chapters and authored by 47 scholars caters for textile manufacturers who take advantage of the product differentiation strategy. The book incorporates many practical insights and

⁷ <https://www.elsevier.com/books-and-journals/woodhead-publishing>

⁸ <https://www.crcpress.com>

⁹ <https://www.crcpress.com/engineering-industrial-manufacturing/textile-manufacturing>

practices, such as the manufacturing process of intelligent clothing from raw material production to electronic integration techniques. For more background information in smart textiles, the two publications 'Intelligent textiles and clothing' by Mattila (2006) and 'Smart fibres, fabrics and clothing: fundamentals and applications' by X. Tao (2001) are recommended.

(VI) The Textile Institute¹⁰ is a textile association offering various services to textile and clothing practitioners and researchers. Apart from the vast number of practical publications on the field, the institute offers education and training programmes following specialised qualifications. It also has offered a membership worldwide to facilitate professional collaboration between members.

(VII) EURATEX¹¹ (the European Apparel and Textile Confederation) is an institution providing European textile companies with innovative solutions to enhance their performance. Reports, publications, and projects undertaken and supported by this institution e.g. 'European Technology Platform for the Future of Textiles and Clothing: A Vision for 2020' (EURATEX, 2004) have attracted research attention from both the academia and industry (e.g. De Brito, Carbone, & Blanquart, 2008).

(VIII) WGSN¹² is one of the most well-known fashion trend forecast companies that provides its clients with periodic reports on the current fashionable clothing styles and the probable future of the apparel industry. As highlighted by one of the participants of this study, the information provided by such these companies can guide the manufacturers explore what is next in textiles.

Here, at the end of this paper, it is worth mentioning some of our research limitations and ideas for future research. First and foremost, our sample does not include some major flagship manufacturers of Portuguese textiles. Further research on Portuguese textiles thereby is recommended to include such well-established companies such as the manufacturing groups of ~~Salsa-jeans~~ and Tiffosi brands. Moreover, quantitative studies are recommended to be carried out for a twofold contribution: first to test and validate the proposed research framework on firm survival capabilities; and secondly to cover a wider range of Portuguese textile companies. The scope of this study did not allow us to further focus on 'firm survival' as an individual variable. Future research can be done to clarify this concept and measure it in the light of its dimensions and

¹⁰ <https://www.textileinstitute.org>

¹¹ <http://euratex.eu>

¹² <http://wgsn.com>

scale items. Finally, the issue of textile and clothing *recycling* cannot be left aside. It is striking to know that textiles and clothing – after the oil is the second industry detrimental to the environment. The exponential growth of the harmful branch of this industry is a result of two distinct effects. On the one side, the clothing-retail companies adopt the *fast fashion* strategy and offer new, yet low-quality collections very quickly through employing low-cost manufacturers based in low-wage countries that follow mass production. On the other side, however, the consumerism and impulsive buying behaviour stemming from mindless emotions and feelings encourages buyers to purchase the new collections whilst the clothing they already have functions just fine and is still in good condition. Three research topics therefore are suggested: first to identify and suggest alternatives to the fast fashion strategy; secondly to discuss how to raise the buyers' awareness of the harmful environmental effects of the industry and encourage them to decrease the frequent purchase and consumption of supernumerary clothes; and finally to further study the textile recycling industry to contribute to the understanding of how to recycle old or unwanted clothes in a most effective and environmental-friendly way.

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