

Manufacturing back-shoring and sustainability: a literature review

Received
10th January 2019

Revised
10th July 2019

Accepted
5th August 2019

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Abstract

Purpose of the paper: *In recent years, companies are often rethinking their production localization decisions; among different alternatives, they are also considering the relocation of manufacturing activities at the home country (i.e. back-shoring). The purpose of this work is to verify the relationships between the decision to repatriate production (independently of the adopted governance mode) and two of the pillars of sustainability, namely the environmental and the social one.*

Methodology: *Authors implemented an explorative approach based on an extensive literature review of 105 articles and book chapters indexed on Elsevier Scopus and published up to August 2018. The selected documents have been analyzed conceptualizing environmental and social sustainability under three different perspectives, namely motivation/driver, result/outcome and barrier/enabling factor for back-shoring strategies.*

Results: *Results show a growing interest of back-shoring scholars on sustainability issues, with respect to both, the social and the environmental pillar. While these elements have been mainly conceptualized as back-shoring motivations, more recently sustainability has been also considered as a barrier/enabling factor for back-shoring strategies.*

Research limitations: *Due to the explorative nature of the study, generalizability of the results is limited.*

Practical implications: *The paper provides insights to policy makers who may implement policies to support back-shoring which also enhance environmental and social sustainability of manufacturing. The paper also offers some useful insights for managers, and suggest them to take into count of environmental and social sustainability when implementing backshoring decisions. Lastly, the paper contributes to the academic debate showing some avenues for future research.*

Key words: back-shoring; reshoring; environmental sustainability; social sustainability; off-shoring

1. Introduction

Sustainability has been defined as the possibility to cope with the needs of the current generations without compromising those of future ones. The sustainability concept has been conceptualized as organized in three different pillars: environmental, social and economic. They represent the “triple bottom line” mentioned in the “Brundtland Report” which also identifies them as “planet”, “people” and “prosperity” (Brundtland *et al.*, 1987). Environmental sustainability is the ability to avoid the depletion of

non-renewable resources and to reduce the pollution created by human activities. Social sustainability concerns the ability to spread at the worldwide level the social well-being. Finally, the economic pillar refers to the equitable and efficient distribution of resources at a global level.

It has been widely recognized that productive activities have an impact on all three dimensions of sustainability (Sutherland *et al.*, 2016). Therefore, decisions regarding the place where production activities take place have a significant impact on the firms' sustainability. Based on this evidence, various scholars investigating the off-shoring and global sourcing issues have focused their attention on the sustainability issues interconnected with the delocalization of manufacturing activities (Jia and Jiang, 2018). However, these authors have mainly focused their attention on the economic sustainability issue and have investigated almost exclusively headquartered in economically developed countries.

Authors *under discussion* agree that off-shoring and global sourcing are radically changing the geographical distribution of production activities having heavy environmental impacts (Akyelken and Keller, 2014). More specifically, numerous polluting industries are shifting their production activities into geographical contexts where environmental legislation is less severe (Sawhney and Rastogi, 2015). In other words, as increasingly stringent European regulations are reducing contaminating emissions in Europe, global emissions are growing due to off-shoring and the creation of longer supply chains. Scholars have, therefore, invited managers to pay more attention to the implications of their carbon footprint and to the social impact of their procurement decisions (Christopher *et al.*, 2011). In other words, it is pointed out that a positive result from an economic point of view is not necessarily combined with a positive impact in terms of social and environmental sustainability. In this sense, it must be taken into account that decisions for off-shoring and global sourcing can also lead to an increase in income disparities in the world (Milberg, 2008). At the same time, it has been verified that companies select their suppliers also according their profile in terms of social responsibility, usually obtain better financial performance (Thornton *et al.*, 2013).

Less attention has been given to the study of the possible impact the different dimensions of sustainability may have on the choice of a company to relocate production in the country of origin (back-shoring). However, since the beginning back-shoring scholars highlighted that "heightened emphasis on sustainability [...] drove firms to re-consider the appropriate 'shoring' decision" (Tate, 2014, 66). More recently, Heikkilä *et al.*, (2018b, 382) have shown that sustainability and ethics in the supply chain are increasingly important reasons for the relocation of production. More specifically, the authors believe that the negative environmental impacts and the violation of human rights - increasingly widespread in the countries of delocalization - induce manufacturers to reconsider the location of their productive activities. Finally, Orzes and Sarkis (2019) highlighted that "the relationship between reshoring, or global supply chain reconfiguration, and environmental sustainability is relatively unexplored", adding that this issue is relevant not only for scholars but also for practitioners and policy makers.

The purpose of this article is to shed new light on the link (if any) between sustainability and back-shoring. In this respect, authors present and discuss results of an in-depth literature review, based on Elsevier Scopus indexed articles and book chapters published up to December 2018. Starting with 96 documents found through the use of specific keywords, authors identified 33 (around one-third of the total sampled literature) that address - in a more or less thorough manner - the issue of sustainability in back-shoring strategies.

Having in mind the previously-mentioned “triple bottom line”, it has been recognized that the economic pillar represents a prerequisite for the other two, the social and the environmental ones (Gualandris *et al.*, 2014). Therefore, the authors decided to focus their attention on only these last two elements: social and environmental sustainability. This is also consistent with the request by Sirilertsuwan *et al.* (2018), which - in their literature review on “proximity production” (i.e. near the place of consumption) - indicates in these two pillars the most neglected issue in previous studies.

The rest of the article is structured in five sections, of which the first summarizes the state of the art of knowledge on the back-shoring phenomenon and proposes the three research questions to which the authors intend to respond. The following section is focused on methodological aspects and illustrates the criteria used for the selection of the analyzed literature. Findings arising from the structured literature review, are discussed in Section four, while hypotheses for future research are presented (Section 5). The concluding section contains final reflections in terms of implications for practitioners and policy makers, as well as the limitations of the present study.

2. Manufacturing back-shoring: state of the art and research questions

Location-decisions regarding production activities have been extensively analyzed in international business and supply chain management studies. Many theoretical approaches have been used, including: Internationalization Process Model (Johanson and Vahlne, 1977; Johanson and Wiedersheim-Paul, 1975; Johanson and Vahlne, 1977, 1990); Resource Based View (RBV) (Barney, 1991; Wernerfelt, 1984); Dynamic Capabilities (Teece *et al.*, 1997; Teece, 2007); Transaction Cost Economics (TCE) (Williamson, 1975); Dunning’s “eclectic paradigm” (1980, 1988); Resource Dependence Theory (RDT) (Pfeffer and Salancik, 1978); and Contingency theory (Lawrence and Lorsch, 1967; Pennings, 1992). These approaches, and in particular the Internationalization Process Model proposed one, conceptualize the *firm’s* internationalization process as a linear process. In other words, the presence of a company abroad can only grow over the time. However, some scholars have suggested that firms can use different combinations of entry and exit strategies in international markets (Axinn and Matthyssens, 2002) and/or may have periods of rapid internationalization followed by periods of consolidation and even downsizing (Bell *et al.*, 2001, p. 177). In this respect, Vissak

(2010) introduced the concept of nonlinear internationalization according to which phases of increase in the international presence of a company are followed by phases of reduction (see also: Vissak and Francioni, 2013; Vissak *et al.*, 2012). Based on this framework, Fratocchi *et al.* (2014a, b; 2015) proposed a two-steps internationalization process of firm's production activities: the first concerns the off-shoring decision - that is, the decision to locate production abroad, regardless of the governance model adopted (in- vs. out-sourcing); the second concerns the possible revision of the initial offshoring decisions. In this sense, companies may choose one of the following alternatives:

- a) "back-shoring": a company headquartered in the country A (home country) relocates at the country of origin manufacturing activities earlier offshored in the country B (host country);
- b) "near-shoring": a company headquartered in a country A (home country) decides to relocate offshored production previously offshored in the host country B in a second host country C located in its home region;
- c) "further off-shoring": a company headquartered in a country A (home country) decides to relocate offshored production previously offshored in the host country B in a second host country D located further away.

Among the three alternatives, back-shoring is the one that has been most extensively investigated by scholars (Stentoft *et al.*, 2018; Wiesmann *et al.*, 2017; Barbieri *et al.*, 2018) but also more discussed by policy makers (De Backer *et al.*, 2016; Guenther, 2012, Livesey, 2012). More precisely, the interest of the scientific community in back-shoring manufacturing has been growing since 2007, the year of publication of the article by Kinkel *et al.* focused on the phenomenon of back-sourcing in Germany (for a more detailed analysis, see the following paragraph). In the following years, attention to the subject has steadily increased; in 2018, over 20 publications have addressed it. Analyzing the contents of the publications issued so far on the back-shoring manufacturing, it emerges that the academic community have been used different terms to identify the phenomenon of relocation at the home country, including: *reshoring*, *re-shoring*, *back-shoring*, *backshoring*, etc. (Wiesmann *et al.*, 2016). Such relocation decisions have been implemented by both, large enterprises and small and medium enterprises (SMEs), operating in a differentiated set of manufacturing industries (Stentoft *et al.*, 2016a). Scholars pointed out the back-shoring decision is complex and can be influenced simultaneously by numerous elements (Wiesmann *et al.*, 2016); while the drivers of the phenomenon have been extensively analyzed over the years, the analysis of the barriers has received less attention (Engström *et al.*, 2018 a, b). As far as drivers are concerned, Stentoft *et al.* (2016a) identify seven different categories: (i) costs, (ii) quality, (iii) time and flexibility, (iv) access to skills and knowledge, (v) risks, (vi) market and (vii) other factors. Fratocchi *et al.* (2016) suggest back-shoring motivations may be classified according the environment they belong to (internal vs external) and the company strategic aims (value creations vs cost reduction). Finally, Barbieri *et al.*, (2018) point out back-shoring decision making is one of the less investigated issues and suggest future research should specifically address

such an issue. At the same time, the growth of interest in the back-shoring issue has led to the publication so far of three literature reviews between 2016 and 2018 (namely, Wiesmann *et al.* (2016), Stentoft *et al.* (2016a) and Barbieri *et al.* (2018)). However such documents have a “generalist” nature and are not specifically focused on the sustainability issue. Furthermore, the most recent of these literature reviews (Barbieri *et al.*, 2018) analyses articles published up to September 2017, thus excluding a relevant number of more “recent” publications. Consequently, in this paper authors develop a structured literature review of the back-shoring literature focusing attention on the possible roles of environmental and social sustainability pillars. More specifically, such pillars may influence all the three elements of the decision-making process:

- a) motivation/driver: by this term we refer to the possibility that environmental and social sustainability may generate the back-shoring decision;
- b) result/outcome: under this perspective we want verify whether the choice to repatriate productive activities - regardless of the reasons that generated it - has a (plausibly positive) effect on the firm’s environmental and social sustainability;
- c) barrier/enabling factor: in this sense, the research aim aims to understand whether environmental and social sustainability can represent an obstacle or, on the contrary, may support the decision to relocate production activities at the home country.

Based on this conceptualization, the article aims to answer the following research questions (RQ):

RQ1) Has the back-shoring literature analyzed whether and how environmental and social sustainability can be a motivation/driver for strategies of relocation of productive activities in the home countries?

RQ2) Has the back-shoring literature analyzed whether and how environmental and social sustainability can represent an outcome of the strategies of relocation of productive activities in the home countries?

RQ3) Has the back-shoring literature analyzed whether and how environmental and social sustainability can represent a barrier/enabling factor for the relocation strategies of productive activities in the home countries?

3. Research methodology

In order to answer the three research questions earlier described, an exploratory approach was adopted based on a structured literature review. As known, such a research methodology represents “a systematic, explicit, and reproducible design for identifying, evaluating, and interpreting the existing body of recorded documents” (Fink, 2005, p. 6). The review was carried out considering scientific articles indexed on Elsevier Scopus and published up to December 2018. To select, analyze and classify the extant literature, the analytical framework proposed by Seuring and Gold (2012) has been implemented. It has already been adopted in other literature reviews on the back-shoring phenomenon (Stentoft *et al.*, 2016a; Barbieri *et al.*, 2018)

The first phase of the structured literature review conducted according to the Seuring and Gold (2012) scheme is defined as “material collection”. Authors implemented it by focusing on scientific articles indexed on Elsevier Scopus, since it has been recognized as one of the most important databases for scientific literature in the managerial field (Greenwood, 2011). More specifically, the analysis was focused on the documents, published up to December 31st 2018, which met the following research criteria:

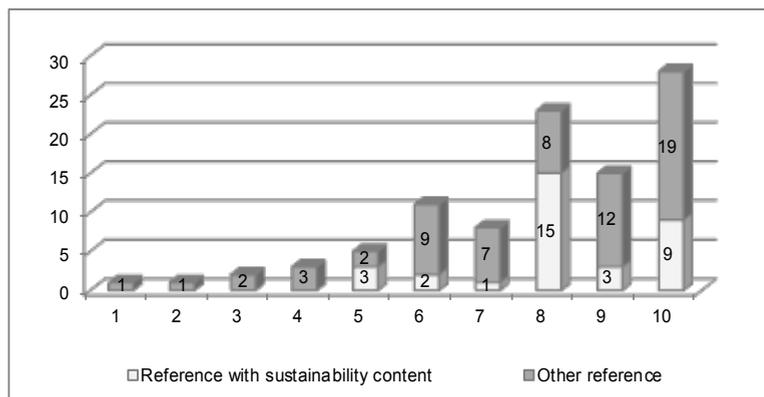
- a) peer-reviewed articles, because this makes it possible to increase the quality of the literature review (Wiesmann *et al.*, 2017);
- b) written in English language;
- c) published in academic journals;
- d) belonging to the following Scopus categories: 1) Business Management and Accounting; 2) Decision Science; 3) Economics, Econometrics and Finance; 4) Engineering (only Industrial and Manufacturing); 5) Social Science; and 6) Arts and Humanities.

Articles have been selected through the following keywords in the title, in the abstract or in the keywords (in brackets the number of documents extracted): “reshor*” (83 articles), “reshoring” (89), “re-shor*” (15), “re-shoring” (14), “backshor*” (137), “backshoring” (29), back-shor*” (18), “back-shoring” (6), “backsour*” (21), “backshoring” (17), “back-sour*” (5) e “back-sourcing” (1).

A total number of 96 documents were found. After carefully reading the entire text of the selected documents, authors selected the ones specifically addressing the social and environmental sustainability issue. A total number of 33 documents were then selected (see Appendix I).

The second phase of the analytical framework proposed by Seuring and Gold (2012) concerns the descriptive analysis, that is, the evaluation of the formal characteristics of the sampled documents. Collected data clearly show that the interest of back-shoring scholars in sustainability issues is quite recent and not homogeneously distributed over the years (Figure 1).

Fig. 1: Bibliography on back-shoring: subdivision by year of document publication



Source: own elaboration on Elsevier Scopus data

While the first article on relocation of manufacturing activities at the home country was published in 2007, the theme of sustainability appeared in the in back-shoring literature only in 2013. In 2016 the sustainability issue acquired the greater relevance in the academic debate, since 15 of the 23 articles published in that year addressed the topic. More in general, the trend of publications regarding back-shoring and sustainability is certainly growing.

The 33 sampled documents primarily belongs to the Operation Management and Supply Chain Management area, while the International Business and Business Strategy ones are much less represented (Table 1). This finding confirms previous research conducted on the back-shoring phenomenon as a whole (Barbieri *et al.*, 2018).

Tab. 1: Back-shoring publications: breakdown by scientific journal (for articles only)

Scientific journal	Area of interest	Number of documents
Operations Management Research	OM/SCM	6
Journal of Global Operations and Strategic Sourcing	OM/SCM	2
Journal of Manufacturing Technology Management	OM	2
Journal of Physical Distribution and Logistics Management	SCM	2
Journal of Purchasing and Supply Management	SCM	2
Journal of Supply Chain Management	SCM	2
World Review of Intermodal Transportation Research	SCM	2
Supply Chain Forum: An International Journal	SCM	2
The International Journal of Logistics Management	SCM	2
Business Horizons	Management/IB	1
CIRP Annals - Manufacturing Technology	Operations	1
European Business Review	Management/IB	1
International Journal of Production Research	Operations	1
Journal of Engineering Manufacturing	Operations	1
Journal of Operations Management	Operations	1
Journal of Textile and Apparel Technology and Management	Management/OM	1
Journal of the Academy of Marketing Science	Marketing	1
Journal of the Textile Institute	Management	1
Strategic Direction	Management	1
Strategy and Leadership	Management	1
Total		33

Source: own elaboration

When considering theoretical framework adopted in the sampled literature, it emerges many articles (20 out of 33) lack a specific theoretical anchorage. This is consistent with previous findings by Barbieri *et al.*, (2018) for back-shoring literature and Mugurusi and de Boer (2013) for the offshoring one. However, it is worth nothing some of the selected documents are based on a plurality of doctrinal references, which are largely attributable to the most well-known organizational and managerial theories, as well as to those of international business (Table 2).

Tab. 2: Publications on back-shoring: subdivision by theoretical reference model (if applicable)

	Author(s)	Year	Model(s)/theory(ies) of reference
1	Abbasi	2016	Vernon's life cycle model
2	Ashby	2016	Social Network Theory
3	Barbieri <i>et al.</i>	2018	n/a
4	Bals <i>et al.</i>	2016	Transaction cost economics Research Based Theory Dynamic capabilities Organizational learning Organizational buying behavior Contingency theory Critical Incident technics Resource dependence theory Relational view Absortive capacity
5	Denning	2013	n/a
6	Di Mauro <i>et al.</i>	2018	n/a
7	Ellram <i>et al.</i>	2013	Dunning's Oils Paradigm
8	Engström <i>et al.</i>	2018a	n/a
9	Engström <i>et al.</i>	2018b	n/a
10	Fel and Griette	2017	n/a
11	Foerstl <i>et al.</i>	2016	Transaction cost economics Organizational buying behavior
12	Fratocchi <i>et al.</i>	2016	Dunning's Oils Paradigm Transaction Cost Economics Resource Based Theory Internalization Theory
13	Fratocchi	2018	n/a
14	Grappi <i>et al.</i>	2015	Consumer behavior
15	Gray <i>et al.</i>	2013	Dunning's Oils Paradigm Internalization Theory Hymer's approach
16	Gray <i>et al.</i>	2017	Dunning's Oils Paradigm Resource Based Theory Uppsala model
17	Heikkilä <i>et al.</i>	2018	n/a
18	Moore <i>et al.</i>	2018	n/a
19	Moradlou and Backhouse	2016	n/a
20	Pal <i>et al.</i>	2018	n/a
21	Presley <i>et al.</i>	2016	n/a
22	Robinson and Hsieh	2016	Other supply chain theories
23	Sirilertsuwan <i>et al.</i>	2018	n/a
24	Srai and Ané	2016	Dunning's Oils Paradigm Transaction Cost Economics Internalization Theory Strategic management theories
25	Stentoft <i>et al.</i>	2015	Other supply chain theories
26	Stentoft <i>et al.</i>	2016a	n/a
27	Stentoft <i>et al.</i>	2016b	n/a
28	Sutherland <i>et al.</i>	2016	n/a
29	Tate	2014	n/a
30	Tate <i>et al.</i>	2014	n/a
31	Uluskan <i>et al.</i>	2017	n/a
32	Wiesmann <i>et al.</i>	2017	Dunning's Oils Paradigm Transaction Cost Economics Internalization Theory Dynamic capabilities
33	Zhai <i>et al.</i>	2016	n/a

Source: own elaboration

The third phase of the process is the category selection one, that is, the identification of analytical categories to classify the contents of the documents taken into consideration. Given the research objectives of this contribution, the two sustainability pillars (environmental and social) and the three research questions (sustainability as motivation, outcome and/or enabling/barrier factor) were chosen as reference categories. Consequently, each document has been classified in relation to these two sets of variables. Collected data (Table 3) clearly show that while the documents refer in a homogeneous way to the two pillars of sustainability, less attention is devoted to sustainability as an enabler/barrier factor.

Tab. 3: Publications on back-shoring: subdivision by category selection criteria

Research question	Environmental sustainability	Social sustainability
1 Motivation / Driver	26	20
2 Outcome	8	6
3 Barrier / Enabling factor	8	8

Source: own elaboration

The final phase of the model proposed by Seuring and Gold (2012) is the material evaluation step which consists in reading, analyzing and coding all the documents according to the two selection criteria (type of sustainability and impact on the back-shoring decision-making process). In implementing this methodological step, authors compared their evaluation (researcher triangulation) in order to increase the process correctness. Results will be presented and discussed in Section 4.

4. Results of the literature review

As already mentioned, the analysis of the selected references was carried out according to two criteria: the specific type of sustainability (environmental or social) and the research questions to which the document responds (drivers, outcome, barriers/enabling factors of the back-shoring decision making process). As far as the first criterion (type of sustainability) concerns, sampled articles gave equal attention to the two pillars. More specifically, 28 out of 33 collected documents refer to environmental sustainability, 25 to social sustainability and while 22 consider both). On the contrary, when considering how the documents support the three research questions, the results are quite differentiated. More specifically, the documents that consider sustainability as a motivation are 26 out of 33, while only 10 consider the barrier/enabling factor perspective and nine the outcome one. These findings confirm the idea that back-shoring literature mainly addressed the analysis of the motivations *behind this phenomenon* (Barbieri *et al.*, 2018; Stentoft *et al.*, 2016a; Wiesman *et al.*, 2017).

Focusing attention on the first research question (sustainability as motivation/driver) (Tables 4 & 5), it emerges that 15 of the 33 documents refer to both environmental and social sustainability. At the same time, while seven articles specifically consider environmental sustainability,

only four are focused on social sustainability. On the basis of these findings, it can be concluded that scholars have usually conceptualized sustainability as a motivation, considering it in a general way, while less attention has been paid to more specific elements such as the adoption of carbon footprint certifications or the role of consumers and suppliers in production sustainability.

Even if the documents relating to these detailed aspects are inferior, interesting results emerge from sampled documents. In order to develop a more detailed analysis, it is possible to divide them into groups based on the following criteria:

- a) documents that refer to sustainability as a business strategy;
- b) documents that assess the role of actors outside the company (e.g., suppliers, consumers, trade unions);
- c) documents that refer to the legislation in the country of origin.

As far as the first group concerns (sustainability as a strategy), six out of the 33 sampled documents specifically refers to the implementation of environmental standards (such as the carbon footprint) and to the strategic aim of not taking advantage of the mildest environmental legislation in off-shoring countries. While considering the social pillar, similar issues (e.g. the decision to pay more attention to workers' rights and occupational safety) are investigated in only four documents.

When considering the actors who are outside the company, it merges four documents refer to the role of suppliers and consumers for environmental sustainability. With reference to the role of suppliers, it is interesting to mention Ashby (2016) who highlights the critical issue - for the positive implementation of a back-shoring strategy - of "socially complex, long range term relationships" with these actors. More specifically, the author analyzes the case of a British company that has implemented a ten-year project to create a "100% UK" supply chain, including in the project the reintroduction of a native sheep species to produce a specific type of merino wool. During the decade in question, the company implemented several relocations according to a "progressive reshoring" approach, both in terms of procurement of materials (e.g. polyester and Merino wool) and in relation to production activities. Other two documents specifically highlight the role played by consumers in terms of both environmental and social sustainability. Finally, a single document specifically refers to the role of the legislation in the off-shoring country regarding the reduction of pollution and the working conditions of employees, clearly showing the limited influence of this driver, which seems to have less importance for companies, in contrast to the adoption of specific environmental (e.g. the analysis of the carbon footprint).

Four articles belonging to the social pillar, analyze the relationship between the firms and external; among them, a special note deserve the issue of unemployment reduction in the home country. On the contrary, no document makes explicit reference to social certifications, such as OHSAS (Occupational Health and Safety Assessment Series). To sum up, the attention of back-shoring scholars to social and environmental sustainability as a motivation/driver in its infancy, since half of the analyzed documents generically refer to the two pillars of sustainability.

Tab. 4: Publications on environmental sustainability as a back-shoring motivation

Publication number (in Appendix)	Motivation/Driver											
	Sustainability (without further specifications)	Business objectives in environmental and social sustainability	Environmental and social sustainability	Eco-sustainability	Environmental problems	Implementation of environmental and ethical standards	Carbon labeling	Carbon footprint	Need to stop taking advantage of the less restrictive foreign environmental regulations	Adoption of CSR strategies that lead to select suppliers that are more environmentally friendly and socially responsible	Cleaner production processes performed by the suppliers of the host countries	Increase customers' awareness of environmental problems
1												
2												
3		X										
4												
5												
6			X									
7					X						X	
8	X											
9	X											
10										X		
11			X									
12												
13				X								
14									X			
15			X									
16												
17	X											
18	X											
19	X				X							X
20	X											
21	X											
22												
23												
24												
25	X											X
26												
27												
28	X											
29	X											
30	X											
31	X											
32	X				X							
33	X				X							
Tot.	12	1	4	1	6	1	1	3	1	1	1	2

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Tab. 5: Publications on social sustainability as a back-shoring motivation

Publication (number in Appendix)	Sustainability (without further specifications)	Business objectives in terms of environmental and social sustainability	Environmental and social sustainability	Need to stop labor exploitation in underdevel oped countries	Motivation/Driver							
					Labor rights	Implementation of environmental and ethical standards	Occupational safety (e.g. accidents at work, work-related illnesses)	High unemploy ment rates in the country of origin	Pressure from trade unions in the country of origin	Increased awareness of social problems by customers		
1												
2		X										
3												
4												
5			X									
6												
7	X											
8	X											
9												
10												
11			X									
12												
13												
14			X									
15												
16												
17	X											
18	X											
19												
20	X											
21												
22												
23												
24												
25	X											
26			X									
27												
28												
29	X											
30	X											
31	X											
32	X											
33												
Tot.	10	1	4	1	1	1	1	1	1	1	1	2

Source: own elaboration

The few articles investigating more specific issues (for example, the adoption of standard environments and certifications and the role of external actors), clearly show that corporate sustainability strategies need to be developed according to a systematic approach that also includes stakeholders (in particular suppliers and consumers).

As far as the back-shoring literature, it is necessary to highlight that the few scientific articles adopting the outcome perspective (Heikkilä *et al.*, 2018b, Johanson *et al.*, 2018; Stentoft *et al.*, 2018), sustainability is never recognized as a stand-alone result of the relocation. The outcomes highlighted in the literature are mainly represented by performance in terms of cost (e.g. unit costs, production costs and logistics costs) and relating to the operating cycle (e.g. product quality, certainty and delivery time, product quality and process). This can be partially explained, considering that the authors evaluate the benefits derived from the implementation of back-shoring from the companies' point of view and do not take into consideration the point of view of the other external environmental actors (e.g. the communities where the companies are located). In any case, a careful analysis of the documents shows that only nine of the sampled documents take the outcome issue into consideration (Table 6).

In this respect, the two of the most analyzed outcomes concern the possibility for a company to leverage the interdependencies between "made in" effect and sustainability. In this regard, Engström *et al.* (2018a) have pointed out that after having brought production back, Swedish companies also benefited from the "made in Sweden" effect, since this label is intrinsically related to the idea of eco-friendly products. Similarly, two of the documents analyzed showed that consumers view products made at the home country as having a lower environmental impact than those manufactured abroad. For instance, Moore *et al.* (2018) reported a study by Cotton Incorporated, an American non-profit company that provides resources and develops research to help companies develop and market innovative, high quality and profitable cotton products (<https://www.cottoninc.com/>). According to this study, American consumers believe that trendy products made overseas have a greater negative environmental impact than those produced in America. At the same time, Abassi (2016) suggests that American companies relocating their production activities in US have the opportunity to implement a strategy based on garment recycling, due to the availability of an efficient infrastructure for waste collection. This suggestion becomes quite relevant when considering the growing diffusion of "throwaway approaches" in the fashion sector (Ashby, 2016).

Finally, other environmental benefits found in the sampled refer to the reduction of carbon emissions due to the lower amount of transports and the use of clean energy sources (Sirilertsuwan *et al.*, 2018).

When considering the social sustainability pillar, the most cited outcome regards the impact of back-shoring strategies on employment levels. In this regard, it is necessary to investigate such an issue for both the countries, the home and the host ones (Heikkilä *et al.*, 2018a). This issue assumes a specific relevance for both practitioners and policy makers. More specifically, scholars observed that back-shoring decisions do not

always create new jobs at the home country; however they may avoid further redundancies originated by previous processes of delocalization and de-industrialization (Engström *et al.*, 2018a, b).

Tab. 6: Publications on sustainability as a back-shoring benefit/result

Pillar	Outcome/Benefit	Publication (Numbering in the appendix)										Tot.	
		1	2	5	8	9	17	18	19	23	24		
Environmental	Interdependencies between sustainability and the "made in" effect (for example "made in Sweden" is synonymous with sustainable product)				X			X	X				3
	Perception of a lower environmental impact by consumers for products made in the country of origin						X					X	2
	Lower CO2 emissions										X		4
	Less environmental impact due to shorter transports		X										
	Lower gas emissions, in particular due to shorter distances and more efficient production										X		
	Lower gas emissions thanks to the use of filtering technologies and the use of ecological fuels, sources of clean energy										X		
	Opportunity to implement a strategy based on recycling garments given the availability of waste collection infrastructures and low energy costs in the USA	X											
Greater control of environmental impact of production process		X											1
Social	Increase / maintenance of employment levels in the country of origin				X	X							3
	Creation of new jobs and maintenance of employment levels										X		
	Opportunity to contribute to the local economy		X										2
	Economic growth and greater prosperity in the region										X		
	Greater work ethic		X										1
	Perception by consumers of greater corporate social responsibility for production carried out in the country of origin											X	1
Use of skills present in the country of origin			X									1	

Source: own elaboration

In particular, such authors found the impact on employment levels is minimal when back-shoring is associated with the adoption of automated production systems (see also: Ancarani and Di Mauro, 2018; Arlbjørn and Mikkelsen, 2014). On the opposite, back-shoring strategies increase the visibility of working practices and ethical behavior of companies (Ashby, 2016). In this sense, it is worth nothing European countries are economic contexts that are characterized by better working conditions and higher workers' rights. In disagreement with these statements, Hammer and Plugor argue that by analyzing the clothing sector in the United Kingdom, and more specifically, the fast-fashion supply chain, there are numerous cases of undeclared work and informal employment (2016) due to the need to respond effectively to competition from Eastern Europe, parts of the

Middle East and North Africa. Therefore, the authors suggest evaluating the sustainability of back-shoring decisions implemented by English fast-fashion companies within a regulatory and institutional context that is operating at regional and national levels (2016).

Finally, two documents highlight the positive impact of back-shoring decisions on the growth and well-being of the home country (Ashby, 2016; Sirilertsuwan *et al.*, 2018). Based on earlier discussed findings, it may be recognized the relocation of manufacturing activities in the country of origin can produce various advantages for the company and for the local context of reference. Among these, a particular relevance is seen in the reduction of polluting emissions and the maintenance or growth of employment levels. However, none of the analyzed offer quantitative evidence. As far as the third research question concerns (barrier vs enabling factor), the most cited element for both, the social and environmental pillars, is the legislation in both the home and the host country (Table7).

Tab. 7: Publications sustainability as a back-shoring barrier/enabling factor

Pillar	Outcome/Benefit	Publication (Numbering in the appendix)										Tot.	
		4	6	8	9	11	15	20	23	24	27		
Environmental	Legislation of the country of origin on environmental and social issues		X										5
	Environmental laws and regulations in the country of origin included government support for good practices and environmental standards								X				
	Environmental regulations in the country of origin	X				X	X						
	Increased consumer awareness of environmental issues							X		X			2
	Host country's legislation of the on environmental issues relating to the closure of plants			X								1	
Social	Labor market and relative regulation in the country of origin	X											5
	Environmental and social legislation in the country of origin		X										
	Flexicurity (combination of flexibility, social security and labor market programs) in the country of origin				X						X		
	Government support in the country of origin in terms of working conditions								X				
	Social capital available in the country of origin	X											1
	Entrepreneur's desire to avoid redundancies in the off-shoring country				X								1
	Increased consumer awareness of social issues							X		X			2
	Legislation of the host country (fees to be paid to close a plant)			X									1
Effects of the back-shoring decision on off-shoring workers (possibility of sabotage)			X									1	

Source: own elaboration

For instance, Engström *et al.* (2018a) found that the environmental and fiscal legislation of an off-shoring country represented a huge back-shoring barrier for a Swedish company, since such rules impeded the

closure of the foreign country plant. The authors also point out companies wishing to back-shore must carefully evaluate the effects on foreign workers, since they could also decide to carry out sabotage actions. At the same time, attention should be given to flexicurity, a combination of flexibility, social security and labor market support programs that are widespread in some Nordic countries (Engström *et al.*, 2018b; Stentoft *et al.*, 2016b). Finally, Engström *et al.*, (2018b) noted that a Swedish furniture manufacturer postponed several times the back-shoring decisions due to the entrepreneur's sense of social responsibility, which did not allowed him to dismiss German employees. The sample literature also focused on the role played by consumers highlighting their increasing attention to the environmental and social issues. For instance, Gray *et al.* (2013) and Ellram *et al.* (2013) state this element represents a continuously growing factor, which - according to Pal *et al.* (2018) - will encourage manufacturing companies to consider back-shoring.

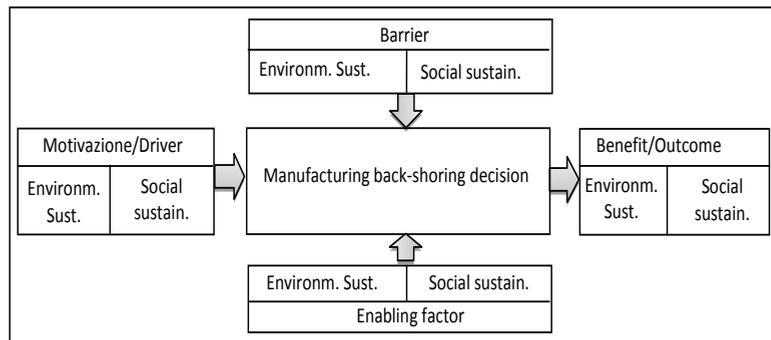
Based on the results discussed, it can be stated that back-shoring decisions are more easier to be kept and implemented when the entrepreneur is attentive to sustainability issues (Ashby, 2016; Engström *et al.*, 2018b). At the same time, a relevant role is played by legislations at both, the home and the host country.

5. Hypothesis for future research

This article aimed to summarize the extant literature on the back-shoring phenomenon by focusing attention on the role of environmental and social sustainability pillars within the back-shoring decision-making process. More specifically, the such a processes has been conceptualized according three levels: a) motivation/driver, b) benefit/outcome, c) barrier/enabling factor.

The analysis earlier conducted clearly showed scholars mainly focused their attention on the driver issue , even though more recent studies consider also the role of environmental and social sustainability as a barrier and/or an enabling factor. Therefore, we suggest future research should be conducted having as a reference the framework summarized in Figure 2.

Fig. 2: Theoretical framework of reference for future research



Source: own elaboration

Based on the proposed framework, it is possible to develop specific future research avenues. In this respect, we suggest to separately investigate the two sustainability pillars (environmental and social ones) (given the different - and sometimes contrasting - impact back-shoring decisions may have on them. For instance, a relocation strategy may have a positive environmental impact at the home country level- due to the reduction of transport and the consequent reduction in CO2 emissions, but also a negative environmental effect at the host country level, due to the reduction of employment levels.

As far as social sustainability, a further distinction should be implemented - in the case of captive offshoring - between relocations including the closure of the firm's offshore manufacturing facility and the ones when such a plant is still active (usually for the local market demand).

A first research avenue concerns the impact (if any) of the adoption of international standards (e.g. carbon footprint and/or OHSAS certifications) on the back-shoring strategies. As already pointed out, this issue has not been investigated in the sampled literature.

A second interesting research topic regards the (re)construction of local supply chains at the home country (see, in this regard, the case investigated by Ashby (2016)). At the same time, the role of consumers and their increased interest in sustainability issues deserves further attention.

Moreover the possible role of home and host country regulations deserves further in-depth study. In effect, regulations relating to environmental and social issues may become both a barrier and an enabling factor for back-shoring decisions. In this respect, findings from Stentoft *et al.*, (2016b) and Engström *et al.*, (2018a, b), suggest a specific attention deserve the labor market legislation. At the same time, further attention should be reserved to the entrepreneur's perception of sustainability issues, and how it affects their choices (Ashby, 2016; Engström *et al.*, 2018a, b).

While implementing the earlier proposed future research avenues, scholars should differentiate the analysis taking into account the company size and industry, as suggested by Bals *et al.*, (2016).

6. Additional implications and limitations

In addition to the contribution provided to the academic community through the identification of possible future research themes, this paper offers implications for practitioners and policy makers as well.

Managers should evaluate sustainability strategies as a useful element to improve the financial performance of the company, even if the underlying view of these decisions is usually oriented to the medium and long term (Ashby, 2016). In this sense, the conceptualization of back-shoring as a "progressive" (Ashby, 2016) or "selective" strategy (Baraldi *et al.*, 2018) is extremely important since it makes it possible to "spread" the investments related to production repatriation over several years with a less significant impact on short-term economic and financial performance.

As earlier noted policy makers may play a fundamental role in defining legislation aimed at greater sustainability which, in turn, may influence - and support - firms' back-shoring decisions. Political initiatives aimed

at raising awareness of sustainability issues may be useful especially for SMEs, which generally apply economic and social sustainability strategies only in a limited way (Hörisch *et al.*, 2015). Furthermore, policy makers should pay more attention to the definition of labor market legislation and carefully verify back-shoring decisions are not implemented by resorting to illegal employment and illegal work practices (Hammer and Plugor, 2016, p. 402).

Limitations

The main limitation of the article is related to its exploratory nature which limits its generalizability. This characteristic, however, is consistent with the intention of defining “the state of the art” in order to identify future research avenues. In this respect, it is worth nothing sustainability issues have been suggested as an absolute priority within the scholar debate on manufacturing back-shoring. (Orzes and Sarkis, 2019).

References

- ABBASI M.H. (2016), “It’s not Offshoring or Reshoring but Right-shoring that matters”, *Journal of Textile and Apparel, Technology and Management*, vol. 10, n. 2, pp. 1-6.
- AKYELKEN N., KELLER H. (2014), “Framing the nexus of globalisation, logistics and manufacturing in Europe”, *Transport Reviews*, vol. 34, n. 6, pp. 674-690.
- ANCARANI A., DI MAURO C. (2018), “Reshoring and Industry 4.0: How Often Do They Go Together?”, *IEEE Engineering Management Review*, vol. 46, n. 2, pp. 87-96.
- ARLBJØRN J.S., MIKKELSEN O.S. (2014), “Backshoring manufacturing: notes on an important but under-researched theme”, *Journal of Purchasing & Supply Management*, vol. 20, n. 1, pp. 60-62.
- ASHBY A. (2016), “From global to local: reshoring for sustainability”, *Operations Management Research*, vol. 9, n. 3/4, pp. 75-88.
- AXINN C.N., MATTHYSSENS P. (2002), “Limits of internationalization theories in an unlimited world”, *International Marketing Review*, vol. 19, n. 5, pp. 436-449.
- BALS L., KIRCHOFF J.F., FOERSTL K. (2016), “Exploring the reshoring and insourcing decision making process: toward an agenda for future research”, *Operations Management Research*, vol. 9, n. 3/4, pp. 102-116.
- BARALDI E., CIABUSCHI F., LINDAHL O., FRATOCCHI L. (2018), “A network perspective on the reshoring process: The relevance of the home and the host-country contexts”, *Industrial Marketing Management*, vol. 70, pp. 156-166.
- BARBIERI P., CIABUSCHI F., FRATOCCHI L., VIGNOLI M. (2018), “What do we know about manufacturing reshoring?”, *Journal of Global Operations and Strategic Sourcing*, vol. 11, n. 1, pp. 79-122.
- BARNEY J. (1991), “Firm resources and sustained competitive advantage”, *Journal of Management*, vol. 17 n.1, pp. 99-120.
- BAYRAM M., ÜNGAN M.C., ARDIÇ K. (2017), “The relationships between OHS prevention costs, safety performance, employee satisfaction and accident costs”, *International Journal of Occupational Safety and Ergonomics*, vol. 23, n. 2, pp. 285-296.

- BELL J., MCNAUGHTON R., YOUNG S. (2001), "'Born-again global' firms. An extension to the 'born global' phenomenon", *Journal of International Management*, vol. 7, n. 3, pp. 173-189.
- BRUNDTLAND G., KHALID M., AGNELLI S., AL-ATHEL S., CHIDZERO B., FADIKA L., HAUFF V., LANG I., SHIJUN M., DE BOTERO M.M. (1987), *Report of the World Commission on Environment and Development: Our Common Future*, <http://www.un-documents.net/our-common-future.pdf>
- CHRISTOPHER M., MENA C., KHAN O., YURT O. (2011), "Approaches to managing global sourcing risk", *Supply chain Management: An International Journal*, vol. 16, n. 2, pp. 67-81.
- CRICK D. (2009), "The internationalization of born global and international new venture SMEs", *International Marketing Review*, vol. 26, n. 4/5, pp. 453-476.
- DE BACKER K., MENON C., DESNOYERS-JAMES I., MOUSSIEGT L. (2016), "Reshoring: Myth or Reality?", *OECD Science, Technology and Industry Policy Papers n. 27*, OECD Publishing, Paris, France.
- DENNING S. (2013), "Why Agile can be a game changer for managing continuous innovation in many industries", *Strategy and Leadership*, vol. 41, n. 2, pp. 5-11.
- DI MAURO C., FRATOCCHI L., ORZES G., SARTOR M. (2018), "Offshoring and backshoring: A multiple case study analysis", *Journal of Purchasing and Supply Management*, vol. 24, n. 2, pp. 108-134.
- ELLRAM L.M., TATE W.L., PETERSEN K.J. (2013), "Offshoring and reshoring: an update on the manufacturing location decision", *Journal of Supply chain Management*, vol. 49, n. 2, pp. 14-22.
- ENGSTRÖM G., HILLETFOTH P., ERIKSSON D., SOLLANDER K. (2018a), "Drivers and barriers of reshoring in the Swedish manufacturing industry", *World Review of Intermodal Transportation Research*, vol. 7, n. 3, pp. 195-220.
- ENGSTRÖM G., SOLLANDER K., HILLETFOTH P., ERIKSSON D. (2018b), "Reshoring drivers and barriers in the Swedish manufacturing industry", *Journal of Global Operations and Strategic Sourcing*, vol. 11, n. 2, pp. 174-201.
- FEL F., GRIETTE E. (2017), "Near-reshoring your supplies from China: a good deal for financial motives too", *Strategic Direction*, vol. 33, n. 2, pp. 24-26.
- FINK A. (2005), *Conducting Research Literature Reviews: From the Internet to Paper*, Sage Publications, London, UK.
- FOERSTL K., KIRCHOFF J.F., BALS L. (2016), "Reshoring and insourcing: drivers and future research directions", *International Journal of Physical Distribution and Logistics Management*, vol. 46, n. 5, pp. 492-515.
- FRATOCCHI L. (2018), "Additive manufacturing technologies as a reshoring enabler: a why, where and how approach", *World Review of Intermodal Transportation Research*, vol. 7, n. 3, pp. 264-293.
- FRATOCCHI L., ANCARANI A., BARBIERI P., DI MAURO C., NASSIMBENI G., SARTOR M., VIGNOLI M., ZANONI A. (2015), "Manufacturing back-reshoring as a nonlinear internationalization process", in Van Tulder R., Verbeke A., Drogendijk R. (Eds), *The Future of Global Organizing. Progress in International Business Research (PIBR)*, Emerald, Bingley, pp. 367-405.
- FRATOCCHI L., ANCARANI A., BARBIERI P., DI MAURO C., NASSIMBENI G., SARTOR M., VIGNOLI M., ZANONI A. (2016), "Motivations of manufacturing reshoring: an interpretative framework", *International Journal of Physical Distribution and Logistics Management*, vol. 46, n. 2, pp. 98-127.
- FRATOCCHI L., DI MAURO C., BARBIERI P., NASSIMBENI G., ZANONI A. (2014a), "When manufacturing moves back: concepts and questions", *Journal of Purchasing and Supply Management*, vol. 20, n. 1, pp. 54-59.

- FRATOCCHI L., LAPADRE L., ANCARANI A., DI MAURO C., ZANONI A., BARBIERI P. (2014b), "Manufacturing Reshoring: threat and opportunity for East Central Europe and Baltic Countries", in Zhuplev A. (a cura di) *Geo-Regional Competitiveness in Central and Eastern Europe, the Baltic Countries, and Russia*, IGI Global, Hershey, PA, pp. 83-118.
- GRAPPI S., ROMANI S., BAGOZZI R.P. (2015), "Consumer stakeholder responses to reshoring strategies", *Journal of the Academy of Marketing Science*, vol. 43, n. 4, pp. 453-471.
- GRAY J.V., ESENDURAN G., RUNGTUSANATHAM M.J., SKOWRONSKI K. (2017), "Why in the world did they reshore? Examining small to medium-sized manufacturer decisions", *Journal of Operations Management*, vol. 49, n. 2, pp. 37-51.
- GRAY J.V., SKOWRONSKI K., ESENDURAN G., JOHNNY RUNGTUSANATHAM M. (2013), "The reshoring phenomenon: what supply chain academics ought to know and should do", *Journal of Supply chain Management*, vol. 49, n. 2, pp. 27-33.
- GREENWOOD M. (2011), "Which business and management journal database is best?", <https://bizlib247.wordpress.com/2011/06/19/which-business-and-management-journal-database-is-best/>
- GUALANDRIS J., GOLINI R., KALCHSCHMIDT M. (2014), "Do supply management and global sourcing matter for firm sustainability performance? An international study", *Supply chain Management: An International Journal*, vol. 19, n. 3, pp. 258-274.
- GUENTHER G. (2012), "Federal Tax Benefits for Manufacturing: Current Law, Legislative Proposals, and Issues for the 112th Congress", *Congressional Research Service Report for Congress*, 7-5700 www.crs.gov, R42742.
- HAMMER N., PLUGOR R. (2016), "Near-sourcing UK apparel: value chain restructuring, productivity and informal economy", *Industrial Relations Journal*, vol. 47, n. 5-6, pp. 402-416.
- HEIKKILÄ J., MARTINSUO M., NENONEN S. (2018a), "Backshoring of production in the context of a small and open Nordic economy", *Journal of Manufacturing Technology Management*, vol. 29, n. 4, pp. 658-675.
- HEIKKILÄ J., NENONEN S., OLHAGER J., STENTOFT J. (2018b), "Manufacturing relocation abroad and back: empirical evidence from the Nordic countries", *World Review of Intermodal Transportation Research*, vol. 7, n. 3, pp. 221-240.
- HÖRISCH J., JOHNSON M.P., SCHALTEGGER S. (2015), "Implementation of sustainability management and company size: A knowledge-based view", *Business Strategy and the Environment*, vol. 24, n. 8, pp. 765-779.
- JIA F., JIANG Y. (2018), "Sustainable Global Sourcing: A systematic literature review and bibliometric analysis", *Sustainability*, vol. 10, n. 3, pp. 595.
- JOHANSON J., VAHLNE J.E. (1977), "The internationalization process of the firm—a model of knowledge development and increasing foreign market commitments", *Journal of International Business Studies*, vol. 8, n. 1, pp. 23-32.
- JOHANSON J., VAHLNE J.E. (1990), "The mechanism of internationalization", *International Marketing Review*, vol. 7, n. 4, pp. 11-24.
- JOHANSSON M., OLHAGER J. (2018), "Comparing offshoring and backshoring: The role of manufacturing site location factors and their impact on post-relocation performance", *International Journal of Production Economics*, n. 205, pp. 37-46.

- JOHANSSON M., OLHAGER J., HEIKKILÄ J., STENTOFT J. (2018), "Offshoring versus backshoring: Empirically derived bundles of relocation drivers, and their relationship with benefits", *Journal of Purchasing and Supply Management*, vol. 25, n. 3, p. 100509.
- JOHANSON J., WIEDERSHEIM P.F. (1975), "The internationalization of the firm-four swedish cases", *Journal of Management Studies*, vol. 12, n. 3, pp.305-323.
- LIVESEY F. (2012), "The Need for a New Understanding of Manufacturing and Industrial Policy in Leading Economies", *Innovations: Technology, Governance, Globalization*, vol. 7, n. 3, pp. 193-202.
- MILBERG W. (2008), "Shifting sources and uses of profits: Sustaining US financialization with global value chains", *Economy and Society*, vol. 37, n. 3, pp. 420-451.
- MOORE M.E., ROTHENBERG L., MOSER H. (2018), "Contingency factors and reshoring drivers in the textile and apparel industry", *Journal of Manufacturing Technology Management*, vol. 29, n. 6, pp. 1025-1041.
- MORADLOU H., BACKHOUSE C.J. (2016), "A review of manufacturing reshoring in the context of customer-focused postponement strategies", *Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture*, vol. 230, n. 9, pp. 1561-1571.
- MUGURUSI G, DE BOER L. (2014), "Conceptualising the production offshoring organisation using the viable systems model (VSM)", *Strategic Outsourcing: An International Journal*, vol. 7, n. 3, pp.275-298.
- ORZES G., SARKIS J. (2019), "Reshoring and environmental sustainability: An unexplored relationship?", *Resources, Conservation and Recycling*, vol. 141, pp. 481-482.
- OVIATT B.M., MCDUGALL P.P. (1994), "Toward a theory of international new ventures", *Journal of International Business Studies*, vol. 25, n. 1, pp. 45-64.
- PAL R., HARPER S., VELLESLU A. (2018), "Competitive manufacturing for reshoring textile and clothing supply chains to high-cost environment: A Delphi study", *The International Journal of Logistics Management*, vol. 11, n. 1, pp. 79-122.
- PFEFFER J., SALANCIK G. (1978), *The External Control of Organizations: A Resource Dependence Perspective*, Harper & Row, New York.
- ROBINSON P.K., HSIEH L. (2016), "Reshoring: a strategic renewal of luxury clothing supply chains", *Operations Management Research*, vol. 9, n. 3/4, pp. 89-101.
- SAWHNEY A., RASTOGI R. (2015), "Is India specialising in polluting industries? Evidence from US-India bilateral trade", *The World Economy*, vol. 38 n. 2, pp. 360-378.
- SEURING S., GOLD S. (2012), "Conducting content-analysis based literature reviews in supply chain management", *Supply chain Management: An International Journal*, vol. 17 n. 5, pp. 544-555.
- SIRILERTSUWAN P., EKWALL D., HJELMGREN D. (2018), "Proximity manufacturing for enhancing clothing supply chain sustainability", *The International Journal of Logistics Management*, vol. 29, n. 4, pp. 1346-1378.
- SRAI J.S., ANÉ C. (2016), "Institutional and strategic operations perspectives on manufacturing reshoring", *International Journal of Production Research*, vol. 54, n. 23, pp. 7193-7211.
- STENTOFT J., MIKKELSEN O.S., JENSEN J.K. (2016b), "Flexicurity and relocation of manufacturing", *Operations Management Research*, vol. 9, n. 3-4, pp. 1-12.

- STENTOFT J., MIKKELSEN O.S., JOHNSEN T.E. (2015), "Going local: a trend towards insourcing of production?", *Supply chain Forum: An International Journal*, Taylor and Francis, vol. 16 n. 1, pp. 2-13.
- STENTOFT J., OLHAGER J., HEIKKILÄ J., THOMS L. (2016a), "Manufacturing backshoring: a systematic literature review", *Operations Management Research*, vol. 9, n. 3/4, pp. 53-61.
- STENTOFT J., MIKKELSEN O.S., JENSEN J.K., RAJKUMAR C. (2018), "Performance outcomes of offshoring, backshoring and staying at home manufacturing", *International Journal of Production Economics*, vol. 199, pp. 199-208.
- SUTHERLAND J.W., RICHTER J.S., HUTCHINS M.J., DORNFELD D., DZOMBAK R., MANGOLD J., ROBINSON S., HAUSCHILD M.Z., BONOUE A., SCHÖNSLEBEN P., FRIEMANN F. (2016), "The role of manufacturing in affecting the social dimension of sustainability", *CIRP Annals*, vol. 65, n. 2, pp. 689-712.
- TATE W.L. (2014), "Offshoring and reshoring: US insights and research challenges", *Journal of Purchasing and Supply Management*, vol. 20, n. 1, pp. 66-68.
- TATE W.L., ELLRAM L.M., SCHOENHERR T., PETERSEN K.J. (2014), "Global competitive conditions driving the manufacturing location decision", *Business Horizons*, vol. 57, n. 3, pp. 381-390.
- TEECE D.J., PISANO G., SHUEN A. (1997), "Dynamic capabilities and strategic management", *Strategic Management Journal*, vol. 18, n. 7, pp. 509-533.
- TEECE D.J. (2007), "Explicating dynamic capabilities: the nature and microfoundations of (sustainable) enterprise performance" *Strategic Management Journal*, vol. 28, n.13, pp. 1319-1350.
- THORNTON L.M., AUTRY C.W., GLIGOR D.M., BRIK A.B. (2013), "Does Socially Responsible Supplier Selection Pay Off for Customer Firms? A Cross-Cultural Comparison", *Journal of Supply Chain Management*, vol. 49, n. 3, pp. 66-89.
- TUCZEK F., CASTKA P., WAKOLBINGER T. (2018), "A review of management theories in the context of quality, environmental and social responsibility voluntary standards", *Journal of Cleaner Production*, vol. 176, pp. 399-416.
- ULUSKAN M., GODFREY A.B., JOINES J.A. (2017), "Impact of competitive strategy and cost-focus on global supplier switching (reshore and relocation) decisions", *The Journal of The Textile Institute*, vol. 108, n. 8, pp. 1308-1318.
- VISSAK T. (2010), "Nonlinear internationalization: a neglected topic in international business research", in Devinney T., Pedersen T., Tihanyi L. (a cura di), *The Past, Present and Future of International Business and Management*, Emerald, Bingley, pp. 559-583.
- VISSAK T., FRANCONI B. (2013), "Serial nonlinear internationalization in practice: a case study", *International Business Review*, vol. 22, n. 6, pp. 951-962.
- VISSAK T., FRANCONI B., MUSSO F. (2012), "MVM's nonlinear internationalization: a case study", *Journal of East-West Business*, vol. 18, n. 4, pp. 275-300.
- WERNERFELT B. (1984), "A resource-based view of the firm", *Strategic Management Journal*, vol. 5, n. 2, pp. 171-180.
- WIESMANN B., SNOEI J.R., HILLETOTH P., ERIKSSON D. (2017), "Drivers and barriers to reshoring: a literature review on offshoring in reverse", *European Business Review*, vol. 29 n. 1, pp. 15-42.
- WILLIAMSON O. E. (1975), *Markets and hierarchies*, Free Press, New York.
- ZAHARA S.A. (2005) "A theory of international new ventures: A decade of research", *Journal of International Business Studies*, vol. 36, n. 1, pp. 20-28.

ZHAI W., SUN S., ZHANG G. (2016), “Reshoring of American manufacturing companies from China”, *Operations Management Research*, vol. 9, n. 3/4, pp. 62-74.

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Manufacturing back-shoring and sustainability: a literature review

Appendix 1 Back-shoring and sustainability: list reference (section A)

#	Author(s)	Year	Journal/ Book chapter	Environ, sustainability	Social sustainability
1	Abbasi	2016	Journal of Textile and Apparel Technology and Management	X	
2	Ashby	2016	Operations Management Research	X	X
3	Barbieri <i>et al.</i>	2018	Journal of Global Operation and Strategic Sourcing	X	X
4	Bals <i>et al.</i>	2016	Operations Management Research	X	X
5	Denning	2013	Strategy and Leadership	X	X
6	Di Mauro <i>et al.</i>	2018	Journal of Purchasing and Supply Management	X	X
7	Ellram <i>et al.</i>	2013	Journal of Supply chain Management	X	X
8	Engström <i>et al.</i>	2018a	Journal of Global Operation and Strategic Sourcing	X	X
9	Engström <i>et al.</i>	2018b	World Review of Intermodal Transportation Research	X	X
10	Fel and Griette	2017	Strategic direction	X	X
11	Foerstl <i>et al.</i>	2016	Journal of Physical Distribution and Logistics Management	X	X
12	Fratocchi <i>et al.</i>	2014b	Book chapter	X	X
13	Fratocchi <i>et al.</i>	2015	Book chapter	X	X
14	Fratocchi <i>et al.</i>	2016	Journal of Physical Distribution and Logistics Management		X
15	Fratocchi	2018	World Review of Intermodal Transportation Research	X	
16	Grappi <i>et al.</i>	2015	Journal of the Academy of Marketing Science	X	X
17	Gray <i>et al.</i>	2013	Journal of Supply chain Management	X	X
18	Gray <i>et al.</i>	2017	Journal of Operation Management	X	X
19	Heikkilä <i>et al.</i>	2018	Journal of Manufacturing Technology Management	X	X
20	Moore <i>et al.</i>	2018	Journal of Manufacturing Technology Management	X	X
21	Moradlou and Backhouse	2016	Journal of Engineering Manufacturing	X	
22	Pal <i>et al.</i>	2018	The International Journal of Logistic Management	X	X
23	Robinson and Hsieh	2016	Operations Management Research	X	X
24	Sirilertsuwan <i>et al.</i>	2018	The International Journal of Logistic Management		
25	Srai and Ané	2016	International Journal of Production Research	X	X
26	Stentoft <i>et al.</i>	2015	Supply chain Forum: An International Journal	X	X
27	Stentoft <i>et al.</i>	2016a	Operations Management Research	X	X
28	Stentoft <i>et al.</i>	2016b	Operations Management Research	X	X
29	Tate	2014	Journal of Purchasing and Supply Management	X	X
30	Tate <i>et al.</i>	2014	Business Horizons	X	X
31	Uluskan <i>et al.</i>	2017	Journal of the Textile Institute	X	X
32	Wiesmann <i>et al.</i>	2017	European Business review	X	X
33	Zhai <i>et al.</i>	2016	Operations Management Research	X	
Total				28	25

Appendix 1 Back-shoring and sustainability: list reference (section B)

#	Author(s)	Year	Journal/ Book chapter	RQ 1 (Driver)	RQ 2 (Result/ Outcome)	RQ 3 (Barrier/ Enabling factor)
1	Abbasi	2016	Journal of Textile and Apparel Technology and Management		X	
2	Ashby	2016	Operations Management Research		X	
3	Barbieri <i>et al.</i>	2018	Journal of Global Operation and Strategic Sourcing	X		
4	Bals <i>et al.</i>	2016	Operations Management Research			X
5	Denning	2013	Strategy and Leadership		X	
6	Di Mauro <i>et al.</i>	2018	Journal of Purchasing and Supply Management	X		X
7	Ellram <i>et al.</i>	2013	Journal of Supply chain Management	X		
8	Engström <i>et al.</i>	2018a	Journal of Global Operation and Strategic Sourcing	X	X	X
9	Engström <i>et al.</i>	2018b	World Review of Intermodal Transportation Research	X	X	X
10	Fel and Griette	2017	Strategic direction			
11	Foerstl <i>et al.</i>	2016	Journal of Physical Distribution and Logistics Management	X		X
12	Fratocchi <i>et al.</i>	2014b	Book chapter	X		
13	Fratocchi <i>et al.</i>	2015	Book chapter	X		
14	Fratocchi <i>et al.</i>	2016	Journal of Physical Distribution and Logistics Management	X		
15	Fratocchi	2018	World Review of Intermodal Transportation Research	X		
16	Grappi <i>et al.</i>	2015	Journal of the Academy of Marketing Science	X		
17	Gray <i>et al.</i>	2013	Journal of Supply chain Management	X		X
18	Gray <i>et al.</i>	2017	Journal of Operation Management	X		
19	Heikkilä <i>et al.</i>	2018	Journal of Manufacturing Technology Management	X		
20	Moore <i>et al.</i>	2018	Journal of Manufacturing Technology Management	X	X	
21	Moradlou and Backhouse	2016	Journal of Engineering Manufacturing	X	X	
22	Pal <i>et al.</i>	2018	The International Journal of Logistic Management	X		X
23	Robinson and Hsieh	2016	Operations Management Research	X		
24	Sirilertsuan <i>et al.</i>	2018	The International Journal of Logistic Management		X	X
25	Srai and Ané	2016	International Journal of Production Research	X	X	X
26	Stentoft <i>et al.</i>	2015	Supply chain Forum: An International Journal	X		
27	Stentoft <i>et al.</i>	2016a	Operations Management Research	X		
28	Stentoft <i>et al.</i>	2016b	Operations Management Research	X		X
29	Tate	2014	Journal of Purchasing and Supply Management	X		
30	Tate <i>et al.</i>	2014	Business Horizons	X		
31	Uluskan <i>et al.</i>	2017	Journal of the Textile Institute	X		
32	Wiesmann <i>et al.</i>	2017	European Business review	X		
33	Zhai <i>et al.</i>	2016	Operations Management Research	X		
	Total			26	9	10

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Manufacturing back-
shoring and sustainability: a
literature review



sinergie

italian journal of management

ISSN 0393-5108

DOI 10.7433/s109.2019.07

pp. 119-143



Italian Society of
MANAGEMENT