

# **What do we want to know about reshoring?**

## **Towards a comprehensive framework based on a meta-synthesis**

### **Abstract**

This study aims to develop a framework for reshoring research, specifying the aspects encompassing a full case description. The article reports an analysis of existing case based research focusing on reshoring and the previous offshoring events, with the aim to advance the knowledge within the field through an accumulation process. The selected methodology to achieve this purpose is meta-synthesis, a type of meta-analysis applied to the analysis of qualitative data. The analyzed data are retrieved from a sample of 14 articles including cases of offshoring and subsequent reshoring processes. The sample represent the total population of articles published in peer-reviewed sources. By focusing on the analysis on the article level and the findings generated by the original authors, the study allowed to build a comprehensive framework to lead future reshoring research, as well as to demonstrate the suitability of the methodology in achieving knowledge accumulation even if the articles have different characteristics in terms of theoretical perspectives, unit of analysis, number of cases and context. In doing so, this study contributes to the field of reshoring and more widely to the operations and supply chain management field. Furthermore, this research generates many practical implications, by condensing all the evidences about reshoring so far collected in one single study, thus providing examples of challenges and best-practices.

**Keywords:** Manufacturing relocation, Offshoring, Backshoring, Meta-synthesis

## **1. Introduction**

Reshoring of manufacturing as a means for international firms to optimize their global manufacturing footprints has gained increasing attention in academia. Being quite a recent phenomenon, its magnitude and relevance have been questioned and it has mainly been studied in isolation. However, previous research has recognized a strong path dependency of decisions connected to manufacturing location decisions (Wan et al. 2019), and it is now widely acknowledged that reshoring cannot be pursued unless there has been previous offshoring (Gray et al. 2013). It has even been argued that the reshoring decision can be based on the previous offshoring outcomes, in the sense that less successful offshoring operations may lead to repatriation (Kinkel and Maloca 2009; Di Mauro et al. 2018). Accordingly, researchers have suggested to take a broader perspective and study reshoring in relation to the previous offshoring decision, aiming to understand the complex dynamics behind the interrelated processes forming firms' global manufacturing footprints (Kinkel and Maloca 2009; Barbieri et al. 2018). Reshoring is a relatively new research stream, bringing together scholars from different research fields; with supply chain management, international business and operations management being the most relevant. What unites these fields is that reshoring has primarily been studied conceptually. In fact, a number of frameworks aiming to describe manufacturing relocation have been presented in previous literature. However, these typically only cover relocation in one direction, i.e. offshoring (Mihalache and Mihalache 2016) or reshoring (Bals et al. 2016; Foerstl et al. 2016; Benstead et al. 2017), or consider reshoring as one of several possible subsequent relocation alternatives to offshoring (Joubioux and Vanpoucke 2016). Given that none of the existing frameworks considers the two location decisions together, this study is moving research forward by adding the connection between offshoring and reshoring.

The emerging empirical evidence on reshoring mainly comes from surveys and case studies (Wiesmann et al. 2017). In particular, several case studies have been conducted to gain a deeper understanding of why and how location decisions are made (e.g. Gylling et al. 2015; Martínez-Mora and Merino 2014; Di Mauro et al. 2018). Indeed, case studies have made substantial contributions in a number of fields, but in general, there have been little accumulation of the understanding gained from primary case studies within Supply Chain and Operations Management (Hoon 2013). This is also true for reshoring, serving

as the second major opportunity to move reshoring literature forward, and it has important implications for knowledge development. The rich findings from case studies can reach disparate conclusions, and the knowledge produced tends to stand-alone, while the potential to create cumulative knowledge is being neglected, according to Hoon (2013). Thus, the meta-synthesis (alternatively called qualitative meta-analysis or iterative triangulation) has become essential for the evolution of knowledge in management studies (Combs et al. 2019). Revisiting the findings of other researchers can accelerate the progress of the field by discovering rich complexities and insightful nuances that cannot be obtained from individual case studies (Goldsby and Autry 2011). Starting from there, developing a comprehensive framework encompassing both offshoring and subsequent reshoring, providing guidance on how to study reshoring, can be helpful in setting a common path and reach a full understanding of the phenomenon. The advantage of such a framework, developed by collecting cases from multiple fields, is its general applicability to study the reshoring phenomenon in a multidisciplinary context.

The purpose of this study is thus twofold. Following the suggestion by Benstead et al. (2017), we first aim to develop a framework for reshoring case study research, specifying the elements characterizing a full case description. Second, we will use the meta-synthesis methodology to analyze existing reshoring case research, advancing the knowledge about this phenomenon by gathering insights coming from multiple fields, as suggested by Goldsby and Autry (2011) and Hoon (2013). The collected evidences will set the basis to refine the framework. In this research, we review 14 articles describing offshoring and subsequent reshoring events. Instead of analyzing the primary data derived from the specific cases, we focus our analysis on the article level and the findings generated by the original authors, in line with the meta-synthesis methodology described by Hoon (2013). The main contribution of this study is a framework that can lead empirical research on reshoring in terms of how to provide a full case description.

The paper is structured as follows. First, we discuss the relevant literature, with focus on previously developed frameworks. Second, we describe the research design and the methodology. In the main section, we present the final framework and describe it by using illustrations from existing cases, thus synthesizing and discussing the main findings of the original authors. Finally, based on the gaps in previous literature in relation to the

framework, we give suggestions on further research and provide implications for managers and researches.

## **2. Related literature**

Manufacturing location decisions have a long history of publications in the Operations and Supply Chain Management fields (Jain et al. 2016; Barbieri et al. 2018). In particular, starting from the 1980's, many researchers have focused on the offshoring phenomenon that has been the dominant trend for decades (Mihalache and Mihalache 2016). In their literature review, Mihalache and Mihalache (2016) define offshoring as “the assignment of business activities to locations outside a firm’s national borders in order to support existing business operations” (Mihalache and Mihalache 2016; p. 1105), thus highlighting that the offshoring decision is considered to be a rational choice, based on the assumption that a host country provides a comparative advantage with respect to the home country. As such, the offshoring decision is far from being irreversible (Kotabe et al. 2008; Antelo and Bru 2010). As a consequence, a new phenomenon, which entails the reverse movement from the offshore location to the home country, has started to spread in the last decades. Interestingly, both academia and practice have struggled to find the right terminology, as well as to set the boundaries for this phenomenon (Foerstl et al. 2016; Stentoft et al. 2016a; Wiesmann et al. 2017; Barbieri et al. 2018). In this paper, we will use the term “reshoring”, given that it is the most widespread among recent studies. We adopt the definition of back-reshoring proposed by Fratocchi et al. (2014), defining reshoring as “a voluntary corporate strategy regarding the home country’s partial or total re-location of (in-sourced or out-sourced) production to serve the local, regional or global demands” (Fratocchi et al. 2014; p. 56). Moreover, we will specifically focus on the relocation of manufacturing activities, given that service companies have proven to follow a different pattern, being more flexible towards relocations (Albertoni et al. 2017).

According to Barbieri et al. (2018), previous research in this field strongly focused on the “Why?” (44 articles over the 57 analyzed in their literature review), “What?” (35 articles) and “Who?” (28 articles) questions. The “Why?” question deals with the motivations (or drivers) that induce a company to bring production back to its home country (Barbieri et al. 2018). It has been so widely studied, that there are systematic literature reviews specifically focused on the categorization of drivers (Stentoft et al. 2016b; Wiesmann et al. 2017). The “What?” question concerns the definition and characterization of the

phenomenon. As stated before, this has been a big concern within academia, even if consensus about what reshoring is has been reached nowadays (Barbieri et al. 2018). The “Who?” question deals with the characteristics of firms embarking in the reshoring journey. Here, contingency theory could play an important role, as pointed out by Benstead et al. (2017). Interestingly, the “Where?” – connected to the geographical aspect – “When?” – that entails the duration of the offshoring experience – and “How?” – about the decision-making and implementation – questions appeared to be much more under-researched (Barbieri et al. 2018). Despite the fact that offshoring research is being more developed than the relatively recent reshoring-focused literature, scholars have acknowledged a shallow understanding of the phenomenon (Mol et al. 2005; Bunyaratavej et al. 2007). Mihalache and Mihalache (2016) recognize that the underlying reason is “the fragmentation of existing research due to limited cross-fertilization between the many research fields studying the phenomenon” (Mihalache and Mihalache 2016, p. 1104) that, in turn, has prevented the accumulation of knowledge. Particularly, it has been claimed that the insights from case study research are difficult to accumulate in the field of Operations Management (Barratt et al. 2011). We believe that research on reshoring can still avoid this trap, given its early stage.

As a starting point for this study, we reviewed frameworks from existing literature in order to build on, and consolidate, the knowledge already produced in previous studies. In particular, we searched for frameworks of the reshoring process, since this is the main focus of our study. Thus, frameworks only describing the offshoring process were discarded. We noticed that the frameworks developed in the reshoring field are relatively recent, given that they started to appear in 2016. Interestingly, they all focused on different but concurrent aspects of reshoring. Bals et al. (2016) and Foerstl et al. (2016) firstly provided a characterization of the phenomenon in terms of location and ownership, based on the matrix by Jahns et al. (2006), aiming to provide a holistic picture of possible relocation alternatives. Then, Bals et al. (2016) developed a framework focusing on the reshoring decision-making and implementation process, while Foerstl et al. (2016) presented a framework pinpointing the relationship between drivers and outcomes and the moderating role of contingencies. However, none of them provided empirical support for their frameworks. Fratocchi et al. (2016) developed a theory-based framework of reshoring drivers dividing them into four quadrants depending on two elements, namely if they are either internal or external and oriented either towards cost efficiency or

customer perceived value. This framework has later been applied to four Italian cases in the textile-clothing-leather-footwear industry to study both offshoring and reshoring drivers (Di Mauro et al. 2018). Joubioux and Vanpoucke (2016) developed and empirically refined the only framework encompassing both offshoring and reshoring, thus supporting the relevance of studying the two phenomena together. Although, they consider reshoring only as one of the possible decisions consequent to reshoring. Finally, Benstead et al. (2017) highlight the relevance of contingencies in their framework, by assuming that both drivers and implementation considerations change according to multiple contingent factors (i.e. related to company and industry, product, and behavioral or individual aspects). They developed and empirically refined a framework that start to show comprehensiveness towards the main aspects that need to be considered by a company when reshoring. The same framework has been adapted and used as basis for quantitative analyses of secondary data (Moore et al. 2018). Table 1 summarizes the frameworks retrieved from previous literature that will serve as the starting point for the meta-synthesis.

*Table 1 – Overview of reshoring frameworks*

<b>Source</b>	<b>Framework</b>	<b>Elements included</b>	<b>Relocation directions considered</b>	<b>Applied in empirical research?</b>
Bals et al., 2016	Reshoring and insourcing decision-making and implementation process	Decision-making and implementation	Reshoring	No
Foerstl et al., 2016	Reshoring/insourcing drivers-outcome relationship	Drivers; Contingencies; Outcomes	Reshoring	No
Fratocchi et al., 2016	Motivation for reshoring strategies	Drivers	Reshoring	Di Mauro et al., 2018
Joubioux and Vanpoucke, 2016	Conceptual model for location decision-making	Decision-making; Drivers	Offshoring; Reshoring	Joubioux and Vanpoucke, 2016
Benstead et al., 2017	Conceptual framework for the reshoring process	Drivers; Implementation; Contingencies	Reshoring	Benstead et al., 2017; Moore et al., 2018

### **3. The meta-synthesis methodology**

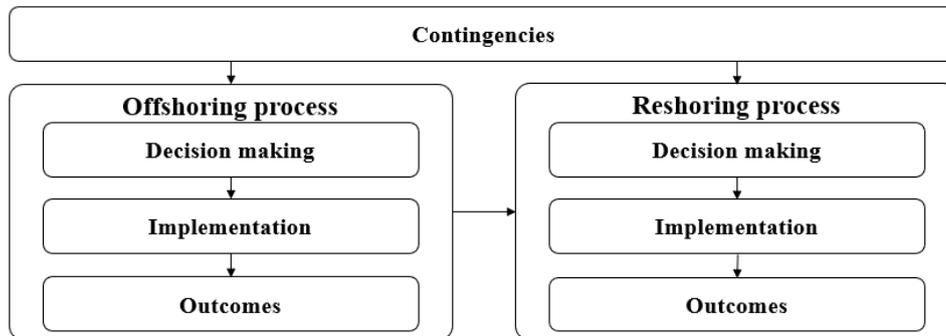
This study follows the meta-synthesis methodology developed by Hoon (2013), which is an exploratory, inductive methodology aimed to make contributions beyond those presented in original primary qualitative case studies (Hoon 2013). Supply Chain

Management (SCM) researches have been encouraged to use meta-analytic techniques to accumulate the evidence from different studies “such that findings can be more confidently extolled to both academic and practitioner constituencies” (Goldsby and Autry 2011, p. 324). But meta-analysis has rarely been used by OM and SCM scholars, and thus the few exceptions provide valuable contributions and have been highly cited (White 1996; Lewis 1998; Nair 2006; MacKelprang and Nair 2010; Cao and Lumineau 2015; Habersang et al. 2019). The meta-synthesis has been described as an “analysis of the analyses”, as it focuses on the insights and interpretations of the original authors, rather than on the firsthand data about the specific cases as obtained from interviews or observations. More specifically, it aims at “extracting, analyzing, and synthesizing qualitative evidence to build theory” (Hoon 2013; p. 523). In this study, we aim to refine theory by developing a comprehensive framework based on existing reshoring case studies. We will use the aggregation synthesis, which refers to the generation of interpretative explanations and accumulation of knowledge by identifying categories and patterns from the studies in focus (Hoon, 2013). In this research we relied on the seven step research design proposed by Hoon (2013). The most relevant steps are described in the following sections.

### *3.1 Conceptual framework development*

In order to guide the research process, we developed an initial conceptual framework by integrating the elements considered by the previous frameworks found in reshoring literature. Previous frameworks include a number of different elements of the reshoring process (see Table 1), primarily focusing on the decision-making and drivers. In addition, the implementation process (Bals et al. 2016; Benstead et al. 2017), contingencies (Foerstl et al. 2016; Benstead et al. 2017) and outcomes (Foerstl et al. 2016) have also been acknowledged as important aspects. Thus, we incorporate all the identified aspects to provide a complete framework. Joubioux and Vanpoucke (2016) provide the only framework considering both offshoring and reshoring. However, they mainly focus on the offshoring activities while reshoring is given minor attention. Even if our purpose is to build a framework for reshoring, we model both offshoring and reshoring with similar processes, in order to understand their relationship and thereby fully understand the reshoring decision. The framework is depicted in Figure 1 and is comprised of the

following key elements: decision making, implementation and outcome of the offshoring and reshoring processes, and contingency factors.



*Figure 1 – Initial conceptual framework*

As a starting point, we used the framework developed by Benstead et al. (2017), which we consider to be the most complete and intuitively accessible framework for the reshoring process in existing literature. However, in our proposed framework we also include the offshoring process, structured identically to reshoring. Reshoring is consequent to offshoring, in line with previous scholars stating that reshoring can only occur if offshoring has occurred previously (Gray et al. 2013). Moreover, in contrast to Benstead et al. (2017), we add an element named decision making, including trigger or tipping point (recently identified by for example Hartman et al. (2017), Benstead et al. (2017) and Boffelli et al. (2018)), drivers and barriers, and other aspects related to the specific decision such as product characteristics, type of activities, etc. Drivers have been investigated in a considerable part of the literature (Barbieri et al. 2018), while barriers were pointed out for the first time by Wiesmann et al. (2017). The implementation element includes all considerations related to the execution rather than the decision, such as ownership mode, process or phases, and the impact on the home country (in case of offshoring) or host country (in case of reshoring) (Bals et al. 2016; Benstead et al. 2017). Following Foerstl et al. (2016), we also add an element related to the outcomes of the operations, in terms of benefits and/or problems (Johansson and Olhager 2018a). In terms of contingencies, we consider all the elements that may have influenced the offshoring and reshoring processes, but without being considered specifically, either in the decision making or in the implementation phase. In addition, we consider time to be an important element. Time has been identified by a number of studies as a relevant factor, since the conditions that made the offshoring decision rational might change over time in favor of domestic production and thus making reshoring a rational decision (Ellram et al. 2013;

Mihalache and Mihalache 2016; Benstead et al. 2017). Moreover, the time passed between the offshoring and reshoring decisions may shed some light on the question whether reshoring is a result of an offshoring failure or of a strategy change (Kinkel 2014; Ancarani et al. 2015; Di Mauro et al. 2018). Ancarani et al (2015) proposed a number of testable propositions regarding factors that affect the duration of the offshore operations, such as firm size and industry, reshoring motive and firm strategy. In Germany for example, the majority of firms reshored production within two to five years after the offshoring operations (Kinkel and Maloca 2009; Kinkel 2014). This implies that reshoring could be a correction of a prior offshoring miscalculation rather than a reaction to slowly emerging developments. In addition, time is relevant to consider in the implementation phase, as ramp up times were significantly longer than expected for the surveyed firms (Kinkel and Maloca 2009). Time is intrinsically part of the conceptual framework, with offshoring preceding reshoring and with the different elements of the two processes being represented as sequential.

### *3.2 Locating relevant research*

In this study we aimed to analyze the two connected events, i.e. reshoring and previous offshoring, with offshoring being considered as an antecedent to reshoring. Thus, in order to identify all relevant literature for our study, we developed a search strategy aimed at finding case study research on the reshoring phenomenon, including descriptions of the preceding offshoring process. We retrieved the sample of potentially pertinent literature from Scopus and Web of Science as we focused on peer-reviewed sources with strong academic contributions that are relevant to synthesize, and not merely providing illustrative examples of manufacturing relocation. The chosen databases had also been used in previous literature reviews on reshoring (Stentoft et al. 2016b; Wiesmann et al. 2017; Barbieri et al. 2018). We discarded unpublished works in order to increase the scientific rigor, generated through a peer-reviewed publication process (Hoon 2013), and we avoided publication bias (Kepes et al. 2012) with a comprehensive and transparent search process (Hoon 2013). We used the search terms “reshoring” and “case study”, as well as related terms (i.e. “backshoring”, “nearshoring”, “onshoring”, “backreshoring”, “backsourcing”, “homeshoring”, “inshoring”, “reinsourcing”), as identified in previous literature. These were applied in the fields *title/abstract/keywords* in Scopus and *topic* in Web of Science. The initial sample consisted of 363 articles. Here, we applied a set of

clearly specified selection criteria (complete list in Table 2) in order to ensure a high validity of the synthesis, which strongly depends on the quality of the primary studies on which it is based (Dalton and Dalton 2008). Particularly, we only included articles from peer-reviewed sources that used case-based methodologies, including both offshoring and subsequent reshoring decisions of manufacturing activities in specific. Thus, conference papers, articles focusing on other activities than manufacturing (e.g. services or IT) and studies not using case-based methodologies were excluded.

*Table 2 – Selection criteria for identified articles*

<b>Characteristic</b>	<b>Selection criteria</b>
Relocation direction	Both offshoring and subsequent reshoring
Constructs	All definitions of reshoring/backshoring/etc.
Governance mode	All governance modes
Type of activity	Only manufacturing
Methodology	Only case-based research
Content	Provide sufficient information to be analyzed
Time	No time delimitations
Research field	Business management and accounting; Decision science; Economics econometrics and finance; Engineering (only industrial and manufacturing); Social science.
Source type	Peer-reviewed sources
Document type	Article, Book chapters
Language	English

After initial screening of titles and abstracts and applying the selection criteria, the sample consisted of 18 articles. This result was triangulated with available systematic literature reviews on the topic (Stentoft et al. 2016b; Wiesmann et al. 2017; Barbieri et al. 2018), and we found an additional 2 articles. Further, we added 3 articles that we were knowledgeable about from previous studies, and we reached a baseline sample consisting of 23 articles. In order to make sure that we had identified all the available reshoring cases in peer reviewed literature, we also run the same search without the keyword “case study” but no further articles were identified, proving the robustness of the search strategy. Individually, both researchers read all the articles and made a preliminary coding based on the initial framework. This process resulted in another round of exclusions, as nine articles did not report enough information to be analyzed. Thus, the final synthesis sample includes 14 articles. All the articles were checked in terms of quality: all of them are based on the methodological standards widely accepted in OM and SCM fields (e.g. the ones provided by Eisenhardt (1989), Voss et al. (2002) and Yin (2009)).

### *3.3 Coding and analysis*

We followed the suggestions by Durach et al. (2017) and developed a coding scheme in two levels; (i) first according to the articles' characteristics, and then (ii) following the main elements in our framework. In particular, for the first level coding the information was retrieved mainly from the introduction and methodology sections of the original articles. For the second level we specifically focused on the findings, discussion and conclusion sections (Hoon 2013). The coding and analysis were done iteratively in two phases, following the recommendations by Hoon (2013). First, we made an initial coding scheme based on the initial framework, aiming to retrieve information about contingencies, decision-making, implementation, outcomes and time. After the first round of coding, we refined the framework based on the evidences in the articles by adding details and new elements that we assessed as relevant. Then, we conducted a second round of coding using an updated coding scheme following the final framework. To keep track of the coding process and to support the data analysis we used the software NVivo Plus 12. In order to avoid any potential bias along the process, two researchers were involved in all the phases and results were discussed after each phase with experienced researchers knowledgeable about the field of study. The two researchers coded the primary studies independently, reaching an interrater agreement of 83%. Then, the two databases were merged and contrasting coding results were discussed with a consensus resolution approach (Larsson 1993). When necessary, experienced researchers were involved as devil's advocates. Involving two coders has been proved to be beneficial for the reduction of mistakes and to avoid the omission of relevant information, as well as to contribute to achieve a better final coding scheme (i.e. the final framework) (Hoon 2013; Miles and Huberman 1994).

Concerning the data analysis, for the first level coding (i.e. characteristics of the articles) we analyzed the characteristics in terms of frequencies. For example, we counted the number of articles adopting different theoretical perspectives (e.g. Transaction Cost Economics, Resource Based View). Analysis of the second level coding was made first through the development of mind-maps for each article (Seuring and Gold 2012), that favored discussion among the researchers, as well as identification of patterns. The mind-maps were used to recall examples and illustrations described in section 5. Secondly, we evaluated the single article coverage of each code, as well as the presence of cross-coding

(namely codes appearing together), with the software NVivo 12 Plus. Finally, as a result of the coding process, we were able to develop the final framework.

#### 4. Meta-synthesis of case-based reshoring research

The studied articles are presented in Table 3. Case study research on reshoring is in its early stages. All studies found with the literature search could be considered to be recent, with the first publication in 2014 and an increasing number of publications each year. The articles are mainly published in OM or SCM journals. Operations Management Research had a special issue in 2016, in which three of the studied articles were published. Only one book chapter was included, given that the study has been considered to have high quality. In addition, it has been conducted by authors contributing to other articles in our sample. In terms of geography, the studied articles are mainly conducted from a European perspective, with only one study conducted outside of Europe (i.e. in the US). There is a strong contribution from the Scandinavian countries, where seven of the 14 case studies are performed (completely or partially). In terms of host countries, many studies include firms that have moved activities to multiple locations, mainly to China or India but also Eastern European countries. Interestingly, in one study activities had been relocated from Denmark to Germany. This study provides a unique study context as activities are moved from developed to developed country. All remaining studies are made in the context of developed to developing country. In terms of authors, the three Norwegian studies are performed by the same research team, and the Italian studies have one author in common. The remaining studies are performed by different authors. Of course, we are aware of the biases that authors characteristics and backgrounds might introduce. They are discussed further in section 7.

*Table 3 – Articles included in the study*

<b>ID</b>	<b>Authors</b>	<b>Journal/Book</b>	<b>No. of cases</b>	<b>Home country</b>	<b>Host country</b>
<b>A</b>	Baraldi et al. (2018)	Industrial Marketing Management	1	Italy	Romania
<b>B</b>	Benstead et al. (2017)	Operations Management Research	1	UK	China
<b>C</b>	Di Mauro et al. (2018)	Journal of Purchasing and Supply Management	4	Italy	Multiple
<b>D</b>	Engström et al. (2018)	Journal of Global Operations and Strategic Sourcing	4	Sweden	Multiple
<b>E</b>	Gray et al. (2017)	Journal of Operations Management	6	US	Asia
<b>F</b>	Gylling et al. (2015)	International Journal of Production Economics	1	Finland	Taiwan
<b>G</b>	Joubioux and Vanpoucke (2016)	Operations Management Research	6	Netherlands and Belgium	Asia

<b>H</b>	Martínez-Mora and Merino (2014)	Journal of Purchasing and Supply Management	14	Spain	China
<b>I</b>	Nujen and Halse (2017)	Breaking up the Global Value Chain	1	Norway	Multiple
<b>J</b>	Nujen et al. (2018a)	Journal of Manufacturing Technology Management	5	Norway	Multiple
<b>K</b>	Nujen et al. (2018b)	Journal of Global Operations and Strategic Sourcing	2	Norway	Multiple
<b>L</b>	Robinson and Hsieh (2016)	Operations Management Research	1	UK	Asia
<b>M</b>	Sayem et al. (2018)	BRQ Business Research Quarterly	3	Sweden and Spain	Multiple
<b>N</b>	Stentoft et al. (2016)	Operations Management Research	2	Denmark	Germany

#### 4.1 Characteristics of the articles

According to Durach et al. (2017), studies within SCM normally reflect different characteristics (e.g. theoretical perspectives, unit of analysis, research methods). This is true also for studies on reshoring, as demonstrated by Barbieri et al. (2018). This challenges the possibilities to compare studies and thus synthesize the empirical evidence within the field, without a structured method. Accordingly, we analyzed the sample articles to understand if we needed to apply a specific contextual lens when comparing results. Table 4 details the characteristics of the articles investigated in this study.

Table 4 – Characteristics of articles

<b>Characteristics</b>	<b>No. of articles</b>
Theoretical perspective	
Multiple	5
None mentioned	3
Resource Based View	1
Contingency Theory	1
Heuristic Decision Making	1
Industrial Marketing and Purchasing	1
Organizational Readiness	1
Supply Chain Strategy	1
Unit of analysis	
None mentioned	7
Firm	3
Decision	2
External network	1
Internal network	1
Research methods	
Multiple case study	7
Single case study	3
Mixed method	2
Action research	1
Longitudinal case study	1

The studied articles do indeed use a plethora of theoretical perspectives. Five studies mention several theories related to reshoring or manufacturing relocation in general (for example Transaction Cost Economy (TCE), Resource Based View (RBV), the eclectic paradigm and/or Internalization theory), but they do not explicitly take a stand and use either of these theories in their analyses. Three studies do not mention any theoretical perspective at all, but only discuss previous offshoring and reshoring studies. Interestingly, the remaining studies use different theoretical perspectives. This indicates that there is no dominant or generally accepted theory for reshoring, which leads the authors to use innovative viewpoints in order to understand the phenomenon. Further, the unit of analysis was not clearly mentioned in as much as 50% of the articles. However, the perceived unit of analysis in these cases was the firm. The decision was used as unit of analysis in two articles, and intra-firm network and external network were studied in one article respectively. Most studies are multiple case studies, with number of cases varying between two and 14 (the average number of cases is 5.1). Five studies only use one case firm. Of these, three are single case studies, one is a longitudinal study, and one is based on action research. Two studies are mixed method studies, using both case study methodology and either survey data or simulation. Investigating the offshoring and reshoring time span, it is clear that firms that have operated offshore for more than ten years represent the majority of studies. Only one study reports a shorter time span, where the offshoring was made during 2007 and 2008 and activities were repatriated in 2010. Quite surprisingly, four out of fourteen studies did not mention the time span between offshoring and reshoring at all.

#### *4.2 Analysis of the analyses and framework refinement*

The second level coding scheme was applied to the analyses of the original authors, i.e. the results, discussion and conclusions sections of the studied articles. The elements included in the final framework are displayed in Table 5, together with the number of articles that provided information about each element as well as the contribution of each article, in terms of number of codes in the article. The elements added to the coding scheme during the iterative coding process are reported in italics.

First, we added the plant operations to code the information about what happens either at the home country plant or at the host country plant during the course of time. In fact, many studies have indicated that changes at the plants in terms of manufacturing technologies, availability of skilled workers or capacity utilization etc. may have an influence on the location decision (see e.g. Gylling et al. 2015; Nujen et al. 2018b). Within offshoring and reshoring decision-making we highlighted the drivers and barriers and the tipping point as separate codes, identified as relevant in the considered articles. Additionally, within offshoring and reshoring implementation, we highlighted the preparation activities that were reported in some of the articles as an initial phase of the implementation process. Finally, we acknowledged, during the coding process, that contingencies, drivers and barriers for offshoring and reshoring included similar items. Therefore, we recognized as useful to identify a set of factors that during time can shift between being contingencies versus being drivers or barriers for the offshoring and reshoring decisions. Each time we identified a contingency, driver or barrier, it was also coded with any of the factor categories, thus specified in more detail. The categorization of factors is inspired by Wiesmann et al. (2017), but the terms are adapted to fit our framework. As an example, we added a category related to firm specific factors at the offshore site, named offshore internal factors. In fact, we used the differentiation between internal and external factors, as suggested by Fratocchi et al. (2016). In the end, the factors categorization reflects the country (i.e., domestic or offshore), the level (i.e., global, supply chain or firm) and the orientation (i.e. internal or external).

Table 5 – Results of coding in terms of number of sentences coded per element, in each article

Elements coded	No. of articles	No. of codes	Contribution per article (number of codes in text)														
			A	B	C	D	E	F	G	H	I	J	K	L	M	N	
Contingencies	14	129	26	9	10	6	1	7	5	35	1	2	3	19	1	4	
Time-Dynamics	14	68	12	8	2	2	1	6	1	9	2	13	4	5	1	2	
<i>Plants operations</i>	<i>Domestic operations</i>	10	44	10	5	5	4	0	0	4	10	0	2	0	2	1	1
	<i>Offshore operations</i>	9	44	5	11	4	0	0	2	1	14	2	0	1	0	4	0
<i>Offshoring</i>	Decision making	12	57	1	2	10	3	10	4	11	7	4	0	2	0	2	1
	<i>Drivers</i>	9	34	2	0	10	3	0	1	6	6	3	0	0	0	2	1
	<i>Tipping point</i>	2	3	2	0	0	0	0	1	0	0	0	0	0	0	0	0
	<i>Barriers</i>	2	2	0	0	1	0	0	0	0	1	0	0	0	0	0	0
	Implementation	8	37	0	4	7	0	2	3	10	5	0	0	2	0	4	0
	<i>Preparation</i>	6	12	0	0	2	0	1	1	6	1	0	0	0	0	1	0
	Outcome	10	39	0	0	6	1	3	0	7	11	1	1	0	2	6	1
<i>Reshoring</i>	Decision making	13	73	13	3	4	3	6	2	4	12	6	2	9	5	0	4
	<i>Drivers</i>	13	119	4	20	17	12	2	7	5	21	0	3	3	6	7	12
	<i>Tipping point</i>	7	12	1	1	0	0	2	2	0	0	0	2	3	1	0	0
	<i>Barriers</i>	7	19	0	0	1	9	0	0	0	0	2	1	4	1	0	1
	Implementation	8	55	14	10	9	0	5	1	0	0	0	3	10	3	0	0
	<i>Preparation</i>	6	66	1	1	0	1	0	0	0	0	7	30	26	0	0	0
	Outcome	7	35	2	4	5	0	2	0	0	0	0	6	13	3	0	0
<i>Factors</i>	<i>Domestic external</i>	9	63	17	5	9	6	0	0	0	10	3	0	3	3	0	7
	<i>Domestic internal</i>	13	124	8	7	14	9	0	7	7	20	6	4	9	16	11	6
	<i>Offshore external</i>	13	109	5	15	11	1	2	6	1	26	7	16	8	0	8	3
	<i>Offshore internal</i>	11	53	1	6	2	7	2	7	3	17	0	0	1	6	0	1
	<i>Supply chain</i>	13	104	19	13	10	9	1	7	7	17	0	1	2	12	4	2
	<i>Global</i>	10	37	0	2	2	5	0	2	4	6	0	1	0	2	11	2
<b>Total</b>	14	1338	143	126	141	81	40	66	82	228	44	87	103	86	63	48	

Note: The letters reported as column headings refer to the article ID numbers reported in Table 3.

While no article discusses all the coded elements, the results show that all the elements in the framework have been discussed by at least two articles in our sample. Time and contingencies were widely discussed in all articles. The drivers for reshoring were also discussed by almost all the articles, which is not surprising since this was the focus in most articles. Interestingly, both the operations at the domestic and at the offshore locations were almost equally discussed. Preparation, implementation and outcome were only moderately discussed for both offshoring and reshoring. The least discussed element was the offshoring tipping point, while a reshoring tipping point was identified in half of the articles. The factors, reflecting either the contingencies or the relocation drivers and barriers were widely discussed. The most commonly cited factor was domestic internal, mentioned in almost all the articles. During the coding we did not find anything that could not be categorized with the coding scheme. Thus, we concluded that the coding scheme is complete, and the framework sufficiently covers everything that is reported in our studied articles.

We also assessed the cross-coding (i.e. how often two codes appeared together), which was possible since we allowed to code the same sentence in a specific article with multiple codes. Table 6 show the percentage of cross-coding for each couple of codes, assessed as the ratio between the number of shared codes and the total number of codes for the least coded element of the two (i.e. the maximum number of shared codes possible to achieve). As an example, the percentage of cross-coding between contingencies and time-dynamics is equal to 13, i.e. the number of sentences coded both as contingencies and time-dynamics, divided by 68 which is the total number of references coded as time-dynamics (as reported in Table 5), the lowest number compared with contingencies (68 compared with 129).

Table 6 - Cross-coding in terms of percentage per codes couples

Elements coded			Plant op.		Offshoring							Reshoring						Factors								
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
Plants operations	1: Contingencies	100%																								
	2: Time-Dynamics	19%	100%																							
	3: Domestic operations	9%	25%	100%																						
	4: Offshore operations	14%	5%	34%	100%																					
Offshoring	5: Decision making	2%	5%	16%	5%	100%																				
	6: Drivers	9%	6%	3%	0%	0%	100%																			
	7: Tipping point	0%	0%	0%	0%	0%	33%	100%																		
	8: Barriers	0%	0%	0%	50%	0%	50%	0%	100%																	
	9: Implementation	8%	8%	5%	14%	8%	0%	0%	0%	100%																
	10: Preparation	0%	0%	0%	8%	17%	0%	0%	50%	50%	100%															
11: Outcome	5%	5%	8%	0%	5%	3%	0%	0%	0%	0%	100%															
Reshoring	12: Decision making	0%	9%	16%	9%	23%	0%	0%	0%	5%	0%	3%	100%													
	13: Drivers	5%	4%	2%	2%	0%	21%	0%	0%	0%	0%	10%	0%	100%												
	14: Tipping point	0%	8%	0%	0%	0%	0%	33%	0%	0%	0%	17%	0%	0%	100%											
	15: Barriers	0%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	16%	0%	100%										
	16: Implementation	2%	5%	14%	5%	0%	0%	0%	0%	11%	0%	3%	9%	0%	0%	0%	100%									
	17: Preparation	0%	11%	30%	0%	0%	0%	0%	0%	0%	0%	0%	2%	2%	0%	11%	9%	100%								
18: Outcome	3%	0%	17%	0%	0%	0%	0%	0%	0%	0%	0%	6%	0%	0%	0%	6%	23%	100%								
Factors	19: Domestic external	52%	5%	2%	5%	0%	18%	0%	0%	0%	0%	3%	0%	32%	0%	42%	2%	0%	3%	100%						
	20: Domestic internal	27%	16%	9%	2%	0%	47%	100%	0%	0%	0%	13%	0%	50%	33%	47%	0%	3%	3%	17%	100%					
	21: Offshore external	19%	1%	0%	9%	0%	18%	0%	0%	5%	0%	3%	0%	15%	8%	16%	0%	0%	3%	16%	6%	100%				
	22: Offshore internal	8%	4%	0%	2%	0%	32%	0%	50%	0%	8%	10%	0%	34%	8%	5%	0%	0%	0%	0%	26%	23%	100%			
	23: Supply Chain	49%	9%	9%	7%	0%	35%	67%	50%	0%	0%	5%	0%	38%	0%	21%	2%	0%	3%	21%	19%	12%	19%	100%		
	24: Global	92%	16%	3%	3%	0%	9%	0%	0%	3%	0%	3%	0%	46%	0%	0%	0%	0%	0%	0%	5%	5%	0%	24%	100%	

The results of the cross-coding provide many insights into the relationships between the elements of the offshoring and reshoring processes. To begin with, contingency factors seem to be very much related to the global environment, and then primarily to the global financial crisis, to the entrance of China in the World Trade Organization or generally to global trends (e.g. fast fashion). Other contingencies are found in the characteristics of the domestic location, such as the presence of an industrial district, the industrial landscape (influencing the type of companies and workforce), and in the supply chain context, i.e. the type of relationships with suppliers and customers, the length of the supply chain or the position in the supply chain. Concerning drivers, the results show that offshoring is driven mainly by domestic internal factors (e.g. firm strategy, efficiency, cost reduction), offshore internal factors (primarily low production cost) and supply chain factors (e.g. relationship with suppliers or commercial agreements). Instead, reshoring is driven by a much wider set of factors, given that the percentage is high with almost all the factors. Domestic internal factors have the highest percentage of cross-coding, indicating that something at the home plant has been prominent in driving the reshoring decision. This could be for example a change in the strategy, the need for higher quality or improved brand image, as well as behavioral elements. Domestic external (e.g. take advantage of the made-in effect, the presence of an industrial district or the government incentives), offshore internal (e.g. problems faced in the offshore plant in terms of low quality, insufficient skills or rising production costs), supply chain (e.g. supply chain risks and disruptions, high transport costs, long lead times) and global factors (e.g. the global financial crisis and generally changes in the cost differentials) have also been highly important for the decision. Concerning the barriers, they were seldom mentioned for offshoring, while for reshoring they were mainly domestic internal (e.g. lack of competences, difficulties in operations re-integration) or domestic external (e.g. lack of political incentives, rigidity and higher costs of the labor market). The results of the cross-coding also reveal that domestic and offshore operations are strongly connected, indicating either a prevalence of insourcing as governance mode or a strong control over the offshore operations. Generally, offshoring and reshoring elements prove to be strongly connected when considering the same element (e.g. offshoring decision making and reshoring decision making). This means that specific phases of offshoring and reshoring are usually discussed together and compared in the studied articles. Instead, the different steps of each process (offshoring or reshoring) result to be only partially

connected with each other, indicating that the articles usually do not achieve a complete understanding of the overall process. Concerning the time element, it appears to be the most connected code, since it is coded together with all the elements except for offshoring tipping point, offshoring preparation and reshoring outcome. Although, with many elements the connection is quite weak, meaning that even if there are some dynamic features, they are not prevalent. The most dynamic (i.e. changing over time) elements, according to the cross-coding table, are the domestic operations, the contingencies and, among the factors, domestic internal, supply chain and global factors.

## **5. Comprehensive framework with illustrations**

Based on the results of the coding, we refined the framework as depicted in Figure 2. The framework is structured in a graphical way that makes it intuitively easy to follow, so to guide the data collection for a full case description in empirical research. Time, and the dynamic nature of manufacturing relocations, emerged as an important factor in the analysis. Therefore, the offshoring and reshoring processes are illustrated as timelines, with the horizontal axis in the framework being the time, while the domestic and offshore operations are depicted on the vertical axis. Influencing factors (i.e. drivers and barriers and contingencies) can be found in the middle. Below the framework, the connections with the elements included in the initial framework are outlined. Each element is better detailed with the information derived from the coding results by analyzing the codes content. In the following, each aspect of the framework is discussed together with illustrations from the studied papers. The section is organized around the headings from the initial framework, aiming at transparently showing how we turned the initial framework into the final one.

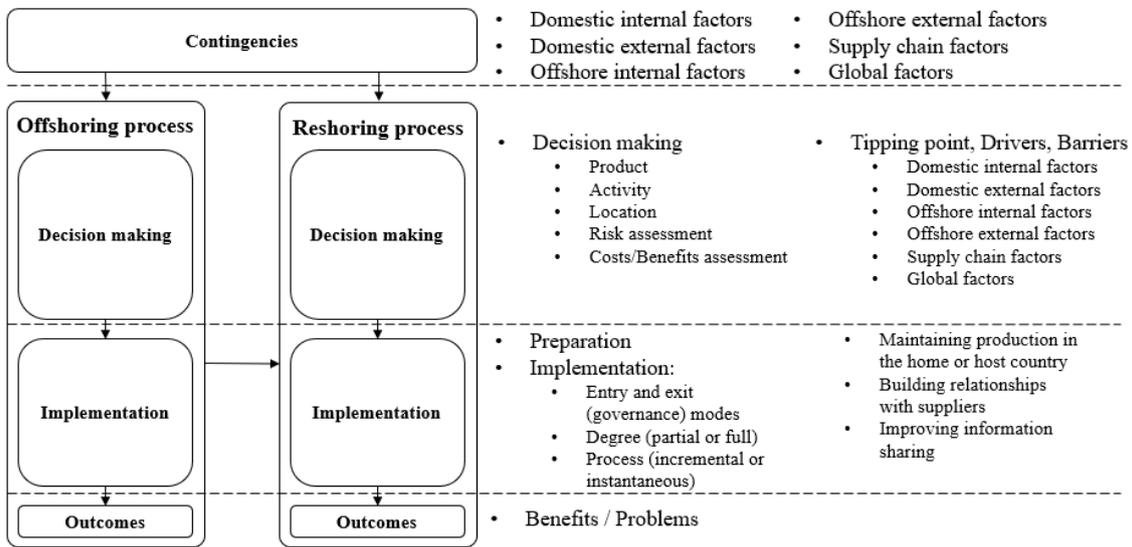
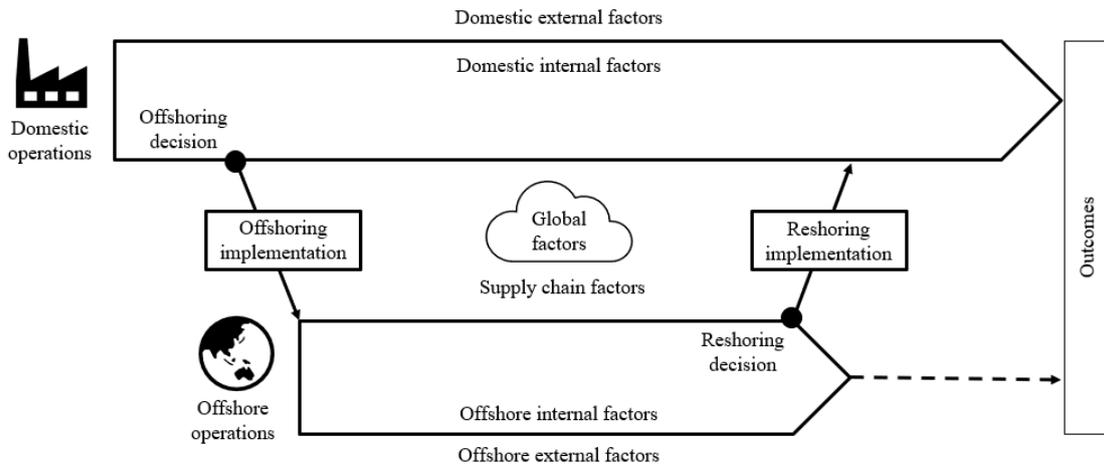


Figure 2 – Refined comprehensive framework of the offshoring and reshoring processes

### 5.1 Decision-making

Decision-making is related to aspects included in the decision, such as the specific product and activities to be relocated, the location decision, and the decision-making process in terms of phases and people involved. It also includes the motivations of the offshoring or reshoring, i.e. the drivers and barriers placed in the center of Figure 2. In the final framework we avoided to refer to these elements as drivers or barriers. Instead, we prefer to use the term factor, thereby acknowledging that they can change over time and turn from drivers to barriers and vice versa. Several of our reviewed papers specifically focused on the reshoring decision making, and the drivers and barriers in particular (Martínez-Mora and Merino 2014; Gylling et al. 2015; Joubioux and Vanpoucke 2016; Benstead et al. 2017; Gray et al. 2017; Di Mauro et al. 2018; Engström

et al. 2018). Only Gray et al. (2017) studied the actual decision making process, from a heuristic decision making perspective. They concluded that decisions usually are based on overly simplified heuristics, including experience and biases, rather than on a rational evaluation of a complete set of information. This view is strengthened by for example Gylling et al. (2015) who state that decisions are based on bounded rationality. Also, emotional factors such as the experience of a “threat to the existence” (Di Mauro et al. 2018) or sense of belonging in the region (Benstead et al. 2017) were relevant drivers of the offshoring and reshoring decisions respectively. As part of the decision-making, firms need to make a risk assessment related to the new location. For offshoring, financial risk and quality issues are considered the main threats (Joubioux and Vanpoucke 2016). For reshoring, the risk of lost know how and access to knowledge needs to be assessed (both within the firm and in the local network), as this could possibly reduce the possibilities to repatriate manufacturing and thus act as a major barrier for reshoring (Joubioux and Vanpoucke 2016; Nujen and Halse 2017; Baraldi et al. 2018). In general, we find evidence that firms find it hard to make correct calculations to base the offshoring or reshoring decision on (Gray et al. 2017; Engström et al. 2018). However, experience from previous offshoring improves the assessment of cost and performance implications, thus implying that there is a positive learning effect. As part of the drivers, we specifically distinguish the tipping point, as it emerged as relevant in several of the studied articles. For offshoring, the tipping points mentioned were requirement from a key customer (Baraldi et al. 2018) and bad profitability at the domestic site (Gylling et al. 2015). For reshoring, negative events at the offshore site (e.g. quality issues or IP violation) (Benstead et al. 2017; Gray et al. 2017), diminished cost differentials (Gylling et al. 2015; Benstead et al. 2017), free capacity at the domestic site (Nujen et al. 2018b), and a new business model (Robinson and Hsieh 2016) triggered the decision. In all of these cases the firms had more than one reason to relocate manufacturing. But each of these reasons were not important enough to drive the decision. Instead, the issues were building up and the firms had to reach a tipping point when one driver made the current situation unsustainable, leading to the decision to repatriate. Our study shows that there is an interplay by several factors, determining the optimal location of manufacturing activities. Things or events can happen in several locations, i.e. at the domestic manufacturing plant, at the offshore plant, in the external environments in both locations (for example in the supplier or partner network, on national level, etc.), in the supply chain and/or in the

global environment that influence the macro economic conditions. These events could happen one at a time or simultaneously. They are not static but change over time, and the longer the offshoring period, the less likely it is that these conditions have remained stable (Nujen and Halse 2017; Baraldi et al. 2018). Thus, drivers and barriers are dynamic and need to be reevaluated on a regular basis, as already pointed out by for example Ellram et al. (2013) and Tate et al. (2014). As part of the decision-making, we also include the product as well as the specific activities to be relocated. Interestingly, Di Mauro et al. (2018) find that the product seems to be interrelated with the location for the offshore activities. The reason is that firms are searching for specific skills and competences related to the product, usually embedded in a region or industry cluster. The activities that are offshored are mainly considered as non-core (Martínez-Mora and Merino 2014; Joubioux and Vanpoucke 2016; Nujen and Halse 2017; Sayem et al. 2018), even though recent literature claims that also core competences are offshored (Jensen and Pedersen 2012). For reshoring, activities are fine sliced, which means that firms are reshoring very specific activities that fit within the current activities at home. In fact, reshoring was in many cases made partially, by keeping some production activities offshore. Baraldi et al. (2018) is referring to “selective reshoring”, indicating that the firm specifically select the activities to repatriate, depending on how well they fit within the local operations.

## *5.2 Implementation*

The implementation process of reshoring is highly unexplored, according to Bals et al. (2016). Among our reviewed articles, only Benstead et al. (2017) explicitly studied how the reshoring decision can be operationalized. We have followed their aspects of the implementation phase, with the only difference that we believe tipping point is part of the decision-making. Thus, we included aspects such as governance mode, degree of relocation, incremental or instantaneous process, maintaining production at the domestic site, information sharing, and preparation activities. Even though they did not explicitly study the implementation process, several studies briefly reported on related aspects. For example, in the studied papers offshoring is implemented gradually, starting with outsourcing, purchasing small batches, and then increasing the magnitude of offshore operations, maybe leading to a partnership or captive operations (Gylling et al. 2015; Di Mauro et al. 2018). It could even be hard to distinguish the boundaries between the decisions (Benstead et al. 2017). On the other hand, some firms are being flexible in terms

of “degree of reshoring” (Gylling et al. 2015; Joubioux and Vanpoucke 2016; Benstead et al. 2017), thus still producing the same products they offshored at home, but in smaller volumes. This strategy provides flexibility and the possibility to shift volumes between locations. In terms of governance mode, offshoring is made in all forms (from outsourcing to joint ventures and fully owned factories). However, Joubioux and Vanpoucke (2016) found that the preferred governance mode for offshoring was outsourcing. Even though it requires extensive control mechanisms, outsourcing reduces the risks and provides flexibility as well as facilitates repatriation since it is considered relatively easy to end the relationship with a supplier. Ending a supplier relationship could be sensitive, though. Re-outsourcing activities to the same supplier in the future could be problematic because of the damaged trust between partners (Engström et al. 2018; Nujen et al. 2018b). Interestingly, three papers out of fourteen were specifically studying the organizational readiness for reshoring, concerning for example how to deal with the shortage of skills and competences. Thus, as part of the implementation process, a preparation phase has been identified. This is a new aspect compared to existing frameworks. As part of the preparation, the assessment of the organizational readiness for reshoring is of a crucial importance (Nujen et al. 2018b). In fact, over time, the previous knowledge base in the home country might be diminished, and neglecting to evaluate the access to skills and knowledge can turn out to be a fatal error for reshoring implementation (Nujen and Halse 2017). In such a context, the management role in identifying existing competences and developing dynamic capabilities becomes fundamental (Nujen et al. 2018a). Surprisingly, also articles with a focus far away from the preparation phase mention details that help in structuring its characteristics. Among others, some of the mentioned elements are the development of in-house training programs (Gylling et al. 2015), improving efficiency and freeing space (Engström et al. 2018), and of course organizational readiness (Nujen and Halse 2017; Nujen et al. 2018a, b). Naturally, after having found evidence of the reshoring preparation phase, we expected to find information also about the offshoring preparation. Even if this aspect was not widely discussed in the sample articles some details were mentioned, as the transfer of knowledge, competences and technology from the home to the host country (Gylling et al. 2015; Joubioux and Vanpoucke 2016; Di Mauro et al. 2018), the assessment of knowledge availability in the host country (Di Mauro et al. 2018), the preparation of managers to face offshoring challenges (Gray et al. 2017), and the management of the relationship setup with suppliers in case of outsourcing

(Martínez-Mora and Merino 2014; Joubioux and Vanpoucke 2016). The offshoring preparation phase is an absolute novelty of our framework with respect to previous reshoring frameworks.

### *5.3 Outcomes*

The offshoring and reshoring outcomes were included as new aspects compared to previous frameworks. The outcomes, categorized as problems or benefits, are highly interesting from a managerial perspective, as they could be used to derive the success factors of manufacturing relocation. But they are also relevant from a decision-making perspective, since the offshoring outcome in many cases act as a driver of reshoring. For example, insufficient quality at the offshore site is an offshoring outcome, but it is also a main driver of reshoring (Kinkel and Maloca 2009; Johansson and Olhager 2018b). This is true in survey studies as well as in several of the studied papers (Joubioux and Vanpoucke 2016; Gray et al. 2017; Baraldi et al. 2018; Di Mauro et al. 2018; Engström et al. 2018; Sayem et al. 2018). One question that has received quite a lot of attention is whether reshoring is reflecting a strategy change or if it is a correction of a previous offshoring mistake, i.e. if reshoring is a reaction to an offshoring failure (Fratocchi et al. 2016). From the studied papers, it is evident that reshoring could be both. For example, Gray et al. (2017) concluded that the reshoring decisions could not be completely explained by changes in relative costs between locations. Instead, they say that offshoring was made without completely evaluating risks and performance challenges, and that reshoring thus was a correction of a prior offshoring mistake. Similarly, Joubioux and Vanpoucke (2016) found that reshoring was implemented after continuous problems with quality at the host country site. On the other hand, in some studies the firms had explicitly stated that offshoring was not a failure (Martínez-Mora and Merino 2014; Di Mauro et al. 2018). Di Mauro et al. (2018) argue that the offshore duration (over ten years) in combination with the strategy change driving the reshoring decision, indicate that offshoring was not a failure, but that reshoring is done as a consequence of changing conditions. Similarly, in most of the studied papers the firms have had offshore operations for over ten years before the reshoring decision was taken. Thus, it is hard to argue that reshoring was made as a reaction to an offshoring mistake. However, it should be noted that the offshore duration also clearly affects the possibilities to repatriate manufacturing since the availability of skills and knowledge might have diminished over time (Nujen

and Halse 2017; Nujen et al. 2018a). Interestingly, the outcomes of reshoring were not discussed widely in the studied articles. However, similarly to offshoring, reshoring success or failure could possibly influence the location strategy of a firm, thus influencing the trajectory of its global operations.

#### *5.4 Contingency factors*

Concerning the contingency factors, from the analyzed articles it was clear that many contingency factors play a role in influencing the offshoring and reshoring processes. Generally, the contingencies were categorized among the six factors. Domestic internal factors include contingencies like industry, size, strategy and core business. The studied firms are operating within a variety of industries, from clothing, textile and shoe manufacturing to construction, automobile, aeronautics and maritime industries. In terms of firm size, all sizes are represented, from small firms with only a handful of employees to large firms with over 100.000 employees. Offshoring and reshoring are thus occurring in a variety of industries and are not limited to certain firm sizes. Offshore internal factors are related to for example the size of the offshore plant, and the characteristics of offshore production. Global factors include the global industrial trends or global events. For example, two major events were identified in several of the studied articles. First, China's entrance into the WTO in 2001 opened up for foreign direct investment and for increased export of Chinese products, thus generating the offshoring trend towards China. Second, the financial crisis in 2008 was a turbulent period for many firms, with low demand, free capacity and high uncertainty, leading many firms to consider reshoring. Home country and host country contingencies are included in domestic external and offshore external factors respectively (e.g. the presence of an industrial district, the industrial landscape, labor market or governmental incentives/regulations either in the home or in the offshore country). Finally, supply chain factors concern for example the type of relationships with suppliers and customers, the length of the supply chain and the position in the supply chain. Therefore, contrarily to what was expected from the initial framework, we found that contingencies were spread all over our final framework. Moreover, we propose that every part of the framework can become contingent to the others. A clear example is represented by the debate on the relationship between offshoring and reshoring. Many studies claims that reshoring is strongly influenced by the previous offshoring decision, so much that it is worthwhile to study them together (Joubioux and Vanpoucke 2016;

Barbieri et al. 2018; Johansson et al. 2019). Therefore, the offshoring decision can be considered a contingency factor influencing how the reshoring decision is managed (Benstead et al. 2017). As an example, Di Mauro et al. (2018) argue that a captive offshoring mode makes firms less inclined to repatriate operations. In conclusion, contingencies result to be spread all over the final framework and to play a changing role over time, depending on the specific decision. This reveals the challenge to control for all the contingencies that might influence reshoring.

## **6. What do we want to know about reshoring?**

The meta-synthesis of previous reshoring cases provides an accumulation of the knowledge collectively produced within this field, thus giving evidence of “what do we already know about reshoring?”. Moreover, the analysis of the articles’ coverage (Table 5), showed many areas that were not deeply studied and thus emerged as potential areas for future research. In this section, we suggest some directions for future research and answer the question “what do we want to know about reshoring?”.

1. *Decision making process*: Even though many previous studies focus specifically on the reshoring decision-making drivers (Wiesmann et al. 2017; Barbieri et al. 2018), the actual decision-making process is not well documented. It would be highly interesting, especially in light of the discussion about offshoring possibly being a managerial mistake, to investigate how the decision-making is carried out within an organization and who is involved in the process. When the relocation decision is considered a managerial mistake, what was overlooked in the decision-making and how could the process be improved?
2. *Tipping point*: the tipping point or trigger of the reshoring decision has just recently been acknowledged in academia (Benstead et al. 2017; Hartman et al. 2017). This study also revealed an offshoring tipping point in some of the cases. Future studies could investigate these tipping points further, and try to identify what factors are considered as secondary in terms of factors building up to an offshoring or reshoring case, and what factors actually drive the decision.
3. *Implementation choices*: The implementation phase of offshoring and reshoring is one of the least researched elements of the framework, thus further confirming the conclusions from previous studies (Bals et al. 2016; Benstead et al. 2017; Barbieri et al. 2018). Particularly, specific aspects of the implementation phase,

such as degree of offshoring or reshoring, the process in terms of incremental or instantaneous implementation as well as how the organization around the relocated activities is structured and coordinated need further research.

4. *Preparation for the implementation*: As part of the implementation process, we also identified a preparation phase, related to organizational readiness in terms of the right competences, skills and knowledge as well as access to technology. This has proven to be very relevant for reshoring, especially when the reshored activities have been offshore for a considerable amount of time, since the knowledge base (both within the firm and in the region) might be diminished. The preparation phase for offshoring might be equally important, considering the number of offshoring cases that are considered as failures and the amount of time spent on implementation and coordination of activities. Maybe a well-structured preparation phase would improve the success rate of both offshoring and reshoring. How this phase should be structured would be of highest interest for practitioners and needs further investigation.
5. *Outcomes evaluation*: Quite surprisingly, offshoring and reshoring outcomes are not well documented. While offshoring outcomes are somewhat reported, the outcomes or performance effects of reshoring are not investigated in the studied cases. However, the success and outcomes of an offshoring and reshoring project should be of highest interest to document. It would also be of interest to study if firms evaluate the success of relocation projects and if so, how.

In addition, the cross-coding (Table 6), reflecting the connections between different elements of the framework, revealed additional interesting associations that open up for the following future research directions:

6. *Interrelatedness between subsequent location decisions*: The cross-coding revealed an association between offshoring outcome and reshoring tipping point, thus further confirming that the (negative) outcomes of offshoring can act as drivers to the reshoring decision. This connection provides a strong argument for the importance of studying offshoring and reshoring together, and for further investigating how the processes are interrelated.
7. *The influence of time on offshoring and reshoring factors and contexts*: The time element was widely mentioned in all articles, and also mentioned together with

many of the other elements in the framework. However, the dynamics and changes in factors and contexts over time was not much discussed in the articles. For example, what happens at the domestic and offshore locations in terms of improvements in operations, technology advancements, new product development, competence levels, business environments etc., in order to really understand the dynamics in the offshoring and reshoring contexts.

## **7. Conclusions**

In this study the meta-synthesis methodology was used to accumulate the knowledge produced within the field of reshoring, by studying the empirical evidence in prevailing case studies. Based on the meta-synthesis, a comprehensive framework for describing and studying reshoring was developed. The framework is based on previous reshoring frameworks found in literature, including all aspects of the reshoring process that has previously been identified. Thus, it is argued to be more comprehensive than previous reshoring frameworks as it encompasses all aspects from decision-making, through implementation and outcomes, as well as contingency factors and the time aspect making location decisions dynamic over time. In addition to the reshoring process, the framework also includes the previous offshoring process, since previous studies have indicated that reshoring can only be fully understood in light of the preceding offshoring. This represents one of the first efforts in guiding future reshoring research to a full understanding of the reshoring phenomenon, and to make more comparable studies, thus overcoming the “contingencies control” challenge. This paper clearly demonstrates that even if articles are grounded on different characteristics in terms of theoretical perspectives, units of analysis etc., the information can be rich enough to allow a meta-synthesis to be successful. In fact, we succeeded in retrieving useful pieces of information from each article. This allowed to accumulate the existing knowledge within the field and to create a comprehensive framework for future studies, as suggested by Goldsby and Autry (2011) and Hoon (2013).

### *6.1 Implication for research and practice*

The main contribution of this study is a comprehensive framework for research on reshoring, providing guidance on how to present a complete case description in order to enable advancement of the accumulated knowledge within the field. In doing so, the

article addressed the main limitations of previous frameworks, that give only a partial picture of reshoring. The study demonstrated the benefit of applying the meta-synthesis methodology to advance and complement the results achieved from the single articles in the field of reshoring. The implications for managers are connected to the possibility to gain a wider picture over the reshoring process as well as the preceding offshoring process, and to gain useful insights about the dynamic nature of such processes and of the variety of challenges that previous cases had to face in multiple contexts. This study thus provides an important contribution for companies that are relocating manufacturing.

### *6.2 Limitations and suggestions for further research*

The paper does not come without limitations. First, the meta-synthesis method relies on secondary data, namely the information provided in the original articles. Of course, we are aware of the fact that the authors of such articles might have limited space to present the relevant information and discuss it; therefore, authors might have favored those evidences that allowed them to answer to their specific research questions, as well as they may have discussed them by adopting specific theoretical lens. Second, the choice to limit the articles to peer reviewed sources allowed to control for the quality of the studies, but at the same time it might have caused the exclusion of some interesting cases. In this case, we evaluated to have a fair number of articles and we tried to avoid the publication bias by including a wide array of journals, without choosing to limit our analysis to top journals articles. As the quality of the meta-synthesis depends on the quality of the primary studies (Dalton and Dalton 2008), similarly the limitations of the meta-synthesis might be constrained by the limitations of the primary studies. Fortunately, we are confident in having addressed the main concerns from the original studies, namely context bias (either concerning country, industry or size), by choosing meta-synthesis as method, that allowed to convey results from multiple articles characterized by multiple contexts. Of course, we are aware that most of the studies were conducted from the European perspective, given that most of the authors were from Europe. Interestingly, we also realized that the articles in our sample were complementary in a way, since some of the limitations raised by certain articles were overcome by others, often becoming their main contributions. Instead, one limitation that certainly persist in our study is the lack of statistical generalizability. Nevertheless, the theoretical generalizability is made stronger by the lack of researcher or study biases. Future researches, besides trying to overcome

the hereby presented limitations, could focus on the application and testing of the proposed framework in real cases, as well as on quantitative data collection.

## References

- Albertoni F, Elia S, Massini S, Piscitello L (2017) The reshoring of business services: Reaction to failure or persistent strategy? *J World Bus* 52:417–430. doi: 10.1016/j.jwb.2017.01.005
- Ancarani A, Di Mauro C, Fratocchi L, et al (2015) Prior to reshoring: A duration analysis of foreign manufacturing ventures. *Int J Prod Econ* 169:141–155. doi: 10.1016/j.ijpe.2015.07.031
- Antelo M, Bru L (2010) Outsourcing or restructuring: The dynamic choice. *Int J Prod Econ* 123:1–7. doi: 10.1016/j.ijpe.2009.07.004
- Bals L, Kirchoff JF, Foerstl K (2016) Exploring the reshoring and insourcing decision making process: toward an agenda for future research. *Oper Manag Res* 9:102–116. doi: 10.1007/s12063-016-0113-0
- 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. *Ind Mark Manag* 70:156–166. doi: 10.1016/j.indmarman.2017.08.016
- Barbieri P, Ciabuschi F, Fratocchi L, Vignoli M (2018) What do we know about manufacturing reshoring? *J Glob Oper Strateg Sourc* 11:79–122. doi: 10.1108/JGOSS-02-2017-0004
- Barratt M, Choi TY, Li M (2011) Qualitative case studies in operations management: Trends, research outcomes, and future research implications. *J Oper Manag* 29:329–342. doi: 10.1016/j.jom.2010.06.002
- Benstead A V., Stevenson M, Hendry LC (2017) Why and how do firms reshore? A contingency-based conceptual framework. *Oper Manag Res* 10:85–103. doi: 10.1007/s12063-017-0124-5
- Boffelli A, Golini R, Orzes G, Dotti S (2018) “How to Reshore”: Some evidence from the apparel industry. *IEEE Eng Manag Rev*. doi: 10.1109/EMR.2018.2886183
- Bunyaratavej K, Hahn ED, Doh JP (2007) International offshoring of services: A parity study. *J Int Manag* 13:7–21. doi: 10.1016/j.intman.2006.05.002
- Cao Z, Lumineau F (2015) Revisiting the interplay between contractual and relational governance: A qualitative and meta-analytic investigation. *J Oper Manag* 33–34:15–42. doi: 10.1016/j.jom.2014.09.009
- Combs JG, Russell Crook T, Rauch A (2019) Meta-analytic research in management: contemporary approaches, unresolved controversies, and rising standards. *J Manag Stud* 56:1–18. doi: 10.1111/joms.12427
- Dalton DR, Dalton CM (2008) Meta-analyses: Some very good steps toward a bit longer journey. *Organ Res Methods* 11:127–147. doi: 10.1177/1094428107304409
- Di Mauro C, Fratocchi L, Orzes G, Sartor M (2018) Offshoring and backshoring: A multiple case study analysis. *J Purch Supply Manag* 24:108–134. doi: 10.1016/j.pursup.2017.07.003
- Durach CF, Kembro J, Wieland A (2017) A New Paradigm for Systematic Literature Reviews in Supply Chain Management. *J Supply Chain Manag* 53:67–85. doi: 10.1111/jscm.12145
- Eisenhardt KM (1989) Building Theories from Case Study Research. *Acad Manag Rev* 14:532–550. doi:

10.5465/AMR.1989.4308385

- Ellram LM, Tate WL, Petersen KJ (2013) Offshoring and reshoring: an update on the manufacturing location decision. *J Supply Chain Manag* 49:14–22
- Engström G, Sollander K, Hilletoft P, Eriksson D (2018) Reshoring drivers and barriers in the Swedish manufacturing industry. *J Glob Oper Strateg Sourc* 11:174–201. doi: 10.1108/JGOSS-06-2017-0014
- Foerstl K, Kirchoff JF, Bals L (2016) Reshoring and insourcing: drivers and future research directions. *Int J Phys Distrib Logist Manag* 46:492–515. doi: 10.1108/IJPDLM-02-2015-0045
- Fratocchi L, Ancarani A, Barbieri P, et al (2016) Motivations of manufacturing reshoring: an interpretative framework. *Int J Phys Distrib Logist Manag* 46:98–127. doi: 10.1108/IJPDLM-06-2014-0131
- Fratocchi L, Di Mauro C, Barbieri P, et al (2014) When manufacturing moves back: Concepts and questions. *J Purch Supply Manag* 20:54–59. doi: 10.1016/j.pursup.2014.01.004
- Goldsby TJ, Autry CW (2011) Toward greater validation of supply chain management theory and concepts: The roles of research replication and meta-analysis. *J Bus Logist* 32:324–331. doi: 10.1111/j.0000-0000.2011.01028.x
- Gray J V., Esenduran G, Rungtusanatham MJ, Skowronski K (2017) Why in the world did they reshore? Examining small to medium-sized manufacturer decisions. *J Oper Manag* 49–51:37–51. doi: 10.1016/j.jom.2017.01.001
- Gray J V., Skowronski K, Esenduran G, Johnny Rungtusanatham M (2013) The reshoring phenomenon: What supply chain academics ought to know and should do. *J Supply Chain Manag* 49:27–33. doi: 10.1111/jscm.12012
- Gylling M, Heikkilä J, Jussila K, Saarinen M (2015) Making decisions on offshore outsourcing and backshoring: A case study in the bicycle industry. *Int J Prod Econ* 162:92–100. doi: 10.1016/j.ijpe.2015.01.006
- Habersang S, Küberling-Jost J, Reihlen M, Seckler C (2019) A Process Perspective on Organizational Failure: A Qualitative Meta-Analysis. *J Manag Stud* 56:19–56. doi: 10.1111/joms.12341
- Hartman PL, Ogden JA, Wirthlin JR, Hazen BT (2017) Nearshoring, reshoring, and insourcing: Moving beyond the total cost of ownership conversation. *Bus Horiz* 60:363–373. doi: 10.1016/j.bushor.2017.01.008
- Hoon C (2013) Meta-Synthesis of Qualitative Case Studies: An Approach to Theory Building. *Organ Res Methods* 16:522–556. doi: 10.1177/1094428113484969
- Jahns C, Hartmann E, Bals L (2006) Offshoring: Dimensions and diffusion of a new business concept. *J Purch Supply Manag* 12:218–231. doi: 10.1016/j.pursup.2006.10.001
- Jain NK, Kothari T, Kumar V (2016) Location Choice Research: Proposing New Agenda. *Manag Int Rev* 56:303–324. doi: 10.1007/s11575-015-0271-6
- Jensen PDØ, Pedersen T (2012) Offshoring and international competitiveness: Antecedents of offshoring advanced tasks. *J Acad Mark Sci* 40:313–328. doi: 10.1007/s11747-011-0286-x
- Johansson M, Olhager J (2018a) Comparing offshoring and backshoring: The role of manufacturing site location factors and their impact on post-relocation performance. *Int J Prod Econ* 205:37–46. doi: 10.1016/j.ijpe.2018.08.027
- Johansson M, Olhager J (2018b) Manufacturing relocation through offshoring and backshoring: the case of

- Sweden. *J Manuf Technol Manag* 29:637–657. doi: 10.1108/JMTM-01-2017-0006
- Johansson M, Olhager J, Heikkilä J, Stentoft J (2019) Offshoring versus backshoring: Empirically derived bundles of relocation drivers, and their relationship with benefits. *J Purch Supply Manag* 25:. doi: 10.1016/j.pursup.2018.07.003
- Joubiou C, Vanpoucke E (2016) Towards right-shoring: a framework for off-and re-shoring decision making. *Oper Manag Res* 9:117–132. doi: 10.1007/s12063-016-0115-y
- Kepes S, Banks GC, McDaniel M, Whetzel DL (2012) Publication Bias in the Organizational Sciences. *Organ Res Methods* 15:624–662. doi: 10.1177/1094428112452760
- Kinkel S (2014) Future and impact of backshoring-Some conclusions from 15 years of research on German practices. *J Purch Supply Manag* 20:63–65. doi: 10.1016/j.pursup.2014.01.005
- Kinkel S, Maloca S (2009) Drivers and antecedents of manufacturing offshoring and backshoring-A German perspective. *J Purch Supply Manag* 15:154–165. doi: 10.1016/j.pursup.2009.05.007
- Kotabe M, Mol MJ, Ketkar S (2008) An evolutionary stage model of outsourcing and competence destruction: a triad comparison of the consumer electronics industry. *Manag Int Rev* 48:65–94. doi: 10.1007/s11575-008-0004-1
- Larsson R (1993) Case Survey Methodology : Quantitative Analysis of Patterns across Case Studies. *Acad Manag J* 36:1515–1546
- Lewis MW (1998) Iterative triangulation: a theory development process using existing case studies. *J Oper Manag* 16:445–469
- MacKelprang AW, Nair A (2010) Relationship between just-in-time manufacturing practices and performance: A meta-analytic investigation. *J Oper Manag* 28:283–302. doi: 10.1016/j.jom.2009.10.002
- Martínez-Mora C, Merino F (2014) Offshoring in the Spanish footwear industry: A return journey? *J Purch Supply Manag* 20:225–237. doi: 10.1016/j.pursup.2014.07.001
- Mihalache M, Mihalache OR (2016) A Decisional Framework of Offshoring: Integrating Insights from 25 Years of Research to Provide Direction for Future. *Decis Sci* 47:1103–1149. doi: 10.1111/dec.12206
- Miles M, Huberman A (1994) *Qualitative data analysis: An expanded sourcebook* (2nd ed.)
- Mol MJ, van Tulder RJM, Beije PR (2005) Antecedents and performance consequences of international outsourcing. *Int Bus Rev* 14:599–617. doi: 10.1016/j.ibusrev.2005.05.004
- Moore ME, Rothenberg L, Moser H (2018) Contingency factors and reshoring drivers in the textile and apparel industry. *J Manuf Technol Manag* 29:1025–1041. doi: 10.1108/JMTM-07-2017-0150
- Nair A (2006) Meta-analysis of the relationship between quality management practices and firm performance-implications for quality management theory development. *J Oper Manag* 24:948–975. doi: 10.1016/j.jom.2005.11.005
- Nujen BB, Halse LL (2017) Global shift-back's: A strategy for reviving manufacturing competences. In: *Breaking up the Global Value Chain*. pp 245–267
- Nujen BB, Halse LL, Damm R, Gammelsæter H (2018a) Managing reversed (global) outsourcing – the role of knowledge, technology and time. *J Manuf Technol Manag* 29:676–698. doi: 10.1108/JMTM-02-2017-0023
- Nujen BB, Mwesiumo DE, Solli-Sæther H, et al (2018b) Backshoring readiness. *J Glob Oper Strateg Sourc*

JGOSS-05-2018-0020. doi: 10.1108/JGOSS-05-2018-0020

- Robinson PK, Hsieh L (2016) Reshoring: a strategic renewal of luxury clothing supply chains. *Oper Manag Res* 9:89–101. doi: 10.1007/s12063-016-0116-x
- Sayem A, Feldmann A, Ortega-Mier M (2018) Investigating the influence of network-manufacturing capabilities to the phenomenon of reshoring: An insight from three case studies. *BRQ Bus Res Q* 1–15. doi: 10.1016/j.brq.2018.07.001
- Seuring S, Gold S (2012) Conducting content-analysis based literature reviews in supply chain management. *Supply Chain Manag* 17:544–555. doi: 10.1108/13598541211258609
- Stentoft J, Mikkelsen OS, Jensen JK (2016a) Offshoring and backshoring manufacturing from a supply chain innovation perspective. *Supply Chain Forum* 17:190–204. doi: 10.1080/16258312.2016.1239465
- Stentoft J, Olhager J, Heikkilä J, Thoms L (2016b) Manufacturing backshoring: a systematic literature review. *Oper Manag Res* 9:53–61. doi: 10.1007/s12063-016-0111-2
- Tate WL, Ellram LM, Schoenherr T, Petersen KJ (2014) Global competitive conditions driving the manufacturing location decision. *Bus Horiz* 57:381–390
- Voss C, Tsiriktsis N, Frohlich M (2002) Case research in operations management. *Int J Oper Prod Manag* 22:195–219. doi: 10.1108/01443570210414329
- Wan L, Orzes G, Sartor M, et al (2019) Entry modes in reshoring strategies: An empirical analysis. *J Purch Supply Manag* 25:
- White GP (1996) A meta-analysis model of manufacturing capabilities. *J Oper Manag* 14:315–331
- Wiesmann B, Snoei JR, Hilletoft P, Eriksson D (2017) Drivers and barriers to reshoring: a literature review on offshoring in reverse. *Eur Bus Rev* 29:15–42. doi: 10.1108/EBR-03-2016-0050
- Yin RK (2009) *Case Study Research: Design and Methods*