



EUROPEAN
INTERNATIONAL
UNIVERSITY



COVER PAGE AND DECLARATION

	Master of Business Administration (M.B.A.)
Specialization:	Logistics & Supply Chain Management
Affiliated Center:	CEO Business School
Module Code & Module Title:	MGT590: Action Research Paper
Student's Full Name:	Amr Ibrahim Mohamed Abdou
Student ID:	EIU2020476
Word Count:	4900
Date of Submission:	22 Jan 2023

I confirm that this assignment is my own work, is not copied from any other person's work (published/unpublished), and has not been previously submitted for assessment elsewhere.

E-SIGNATURE: *Amr Ibrahim Mohamed Abdou*

DATE: 22 Jan 2023

EIU Paris City Campus

Address: 59 Rue Lamarck, 75018 Paris, France | Tel: +33 144 857 317 | Mobile/WhatsApp: +33607591197 | Email: paris@eiu.ac

EIU Corporate Strategy & Operations Headquarter

Address: 12th Fl. Amarin Tower, 496-502 Ploenchit Rd., Bangkok 10330, Thailand | Tel: +66(2)256923 & +66(2)2569908 | Mobile/WhatsApp: +33607591197 | Email: info@eiu.ac

The Impact and of The Operation Capabilities
MBA Thesis

Table of Content

<u>Abstract</u>	4
<u>1. Chapter One Introduction</u>	4
<u>1.1 Rationale for the Research (Research Background)</u>	4
<u>1.2 Research Questions</u>	5
<u>2. Literature Review</u>	6
<u>2.1 Operations Management - strategy</u>	7
<u>2.1.1 Competitive priorities</u>	8
<u>2.1.2 Operations capabilities</u>	8
<u>2.2 Operations capability framework</u>	9
<u>3. Research methodology</u>	12
<u>3.1 Research philosophy</u>	13
<u>3.2 Research approach</u>	13
<u>3.3 Research design</u>	14
<u>3.4 Data Collection</u>	14
<u>3.5 Data analysis</u>	15
<u>4. Data Analysis & Presentation of Results of Findings</u>	15
<u>4.1 Evaluation of high-cost environments</u>	15
<u>4.1.1 Dimension level</u>	16
<u>4.1.2 Operations capability level</u>	16
<u>4.2 Evaluation of manufacturing firm characteristics</u>	16
<u>4.2.1 Industry classifications</u>	17
<u>5. Conclusions, Implications and Recommendations</u>	18

5.1	Research questions and purpose	18
5.2	Implications	19
5.3	Limitations and further research	20
6.	References	21
7.	Appendix	24

Abstract

This thesis looks at the importance of operations capability dimensions as well as how they are related to manufacturing firm characteristics. It evaluates whether operations capabilities are important for managers and researchers to understand, and how they differ based on manufacturing firm characteristics in high-cost environments. The empirical findings show that quality is the order-winning criterion in high-cost environments, followed by delivery, cost and flexibility. However, the importance highly differs across the various manufacturing firm characteristics. Managers of manufacturing firms in high-cost environments can use these findings to validate and adjust their operations strategy to achieve a competitive advantage.

1. Chapter One Introduction

1.1 Rationale for the Research (Research Background)

An increasingly competitive environment is resulting in an increased demand for new products and services. To make a competitive, companies are required to give high quality and perfect products and perfect services as well as a new generated product (Koufteros et al., 2002). Moreover, the companies haven't the ability to make changes in the manufacturing process at short notice because of the lack of resources like the time and the human capital (Sansone et al., 2017). So, the core and objective of this research is to develop a perfect framework to manage and evaluate the interface between the organization marketing and the production systems. This will increase performance of manufacturing firms thereby improving their competitive advantage.

Manufacturing firms are facing increasing competition with shorter product life cycles, resulting in time-to-market turning more important and fatal to distinguish the competitors and to preserve company long term competitive advantage. Making this competitive atmosphere, manufacturing firms require to implement competitive capabilities with a strong client focus as well as excellent strength comparative to the competitors (Hallgren et al., 2011).

The core and objective of the research is to determine the factors that contribute to

reshoring among Swedish manufacturing firms. To achieve this, we firstly perform a literature review to identify what previous research has found regarding reshoring. By taking a critical stance on past research, we intend to develop a research agenda for further studies of reshoring in Swedish manufacturing firms. As part of this agenda, we have conducted a survey with a total of 121 respondents (i.e. top management/senior managers at small- and medium-sized companies) using a client relationship management tool developed by us for this purpose. Low-cost environments have developed due to an increasing number of manufacturing companies in the global market. The most of this improvement and development can be referred to the utilizing of the labor, the energy and the raw material, existing easier access to transportation bases and a constant political atmosphere (Bailey & Proprius, 2014; Tate et al., 2014). These factors not only affect the product and the organization service quality but also the clients and market forecasting for delivery flexibility (Bailey & Proprius, 2014; Tate et al., 2014). Due to the complex and convoluted business policies and the increasing product and services ranges, organizations require to have new kinds and sorts of the capabilities to have and maintain the leadership in the vary markets. Operations is considered as one of the key majors where organizations need to improve their performance based on new kinds of capabilities. The main purpose of this study is therefore to investigate how operations managers perceive their current position with regards to these new kinds of capabilities. In order to find answers for these questions, an empirical survey was conducted that aimed at taking the point-of-view of operations managers on how they perceived the development needs for six key operations capabilities which were analyzed earlier by researchers from both academia as well as from practice. Strategic capabilities are considered to be the foundation of long-term competitive advantage. Strategic capabilities define how firms create and sustain competitive advantage through their core competencies, best practices, and collective learning (Grant et al., 1996; Mohr & Spekman, 2003).

1.2 Research Questions

With the ever-increasing importance of operations capabilities, an extensive literature research on capability dimensions and capabilities is lacking. The scope of this research

work is, to fill this gap by studying the current state of operations capability dimensions and capabilities in individual market environments with specific focus on manufacturing companies operating in low-cost as well as high-cost environments.

The first phase of achieving the purpose is to measure and evaluate the importance of the operations capability as the operations capabilities in the nowadays high-cost environment to have and achieve the competitive advantage. A framework by Hilletoft and Sansone (2018) gives an updated group of operations capability. Their research also proves that these capabilities have a greater impact on firm performance than specific activities or inputs. This study focuses on how firms can improve their performance through strategic management. To reach this purpose, prior research is required so that we can create questions for answering our research question. Thus, the first research question of this thesis is:

RQ1: How do operations capability dimensions in a high-cost environment contribute to competitive advantage and which ones are important?

Regression analyses are important in the analysis of manufacturing firms. The objective is to identify a set of independent variables that are significant, while controlling for other variables. This research provides an explanation for which dimensions and operations capabilities are very important to facilitate and understand the manufacturing firm characteristics. Thus, the second research question of this thesis is:

RQ2: How do the important operations capability dimensions and operations capabilities differ based on manufacturing firm characteristics?

And to answer the research questions, a survey study of manufacturing firms in the high-cost environments of Saudi Arabia will be conducted.

2 Literature Review

The core and objective of this research chapter is to give a general understanding of the current research on reshoring, competitive advantage and operations strategy in order to support the empirical investigation in chapter 2. Therefore, it reviews literature related to the topics of

research and explains the background of the given topic. The literature review includes an overview of the relevant literature in terms of reshoring and its relationship with competitive advantage as well as an explanation of key concepts such as strategic capabilities and operations strategy. Furthermore, this chapter provides further insights into different types of operations capability including production processes, quality management, inventory management and product development.

2.1 Operations Management – strategy

The operations strategy concentrates on stratifying and integrating the organization business processes, supply chain management and operations to obtain the business goals (Cruz & Rodriguez, 2008). The alignment of business and operations is a crucial step towards creating an efficient and productive company. Operations strategy is not just the optimal production process or inventory control system or perfect scheduling algorithm. It is much more than that. It encompasses a firm's entire operation model – all parts of its activities that relate to production including marketing, sales, manufacturing etc.

Operations management strategy is known as the most essential component of the operational excellence, because it gives a variety of guidelines to know and realize the way to obtain the business objectives and the objectives of the manufacturing operations task (competitive priorities) (Sansone et al., 2017). This process allows and gives effectively resources which can be used to reduce the cost or make more revenue ways (Koufteros et al., 2002).

There is a direct link between operations capabilities and the business strategy.

Operations capabilities are those skills needed to carry out a successful business strategy. For example, if a company wants to innovate through product design and introduce new products into the market, it requires certain skills in product design that their competitors may not have. These skills constitute an important core competency that provides an advantage over competitors. In parallel, the other firms that do not want to involve in the product and service innovation but rather concentrate on producing effective cost products by using the operations capabilities as a tool to differentiate despite of being a very low priority with with other firms (Größler & Grübner, 2006).

2.1.1 Competitive priorities

Competitive priorities are the considerations made during strategic performance management process that have to do with the overall competitiveness of an organization and its ability to withstand competition. Competitive priorities are determined by Hayes and Wheelwright (1984) as “the technique and the way in which the firms compete, it was also stated that these things must be contained to maintain the firm’s competitive strategy.

Operations capabilities are central to manufacturing firms since they determine how well a firm can compete in the market and not what firms should do in order to be competitive. The present study argues that operations capabilities are essentially a set of approaches and methods that ultimately allow companies to achieve objectives for profitability, quality and efficiency. However, such objectives are not equally important for all firms operating under same market framework. It has been demonstrated that operations capabilities can be classified into two categories which are focused on establishing the value chain design and improving supply chain effectiveness by means of tactical actions (Prester et al., 2016).

2.1.2 Operations capabilities

Operations capabilities are well known and determined as a set of assets, capabilities and work routines that allow firms to make favorable outcomes (Geraci et al., 2001). The improvement and development of operations capabilities as a main factor of the operations strategy is essential to generate a proper competitive advantage within different market environments which will make the basis for competition between firms. The operations capabilities are the capability to allocate the organization resources to the organization operation.

A key element in the operations strategy is to keep and develop operations capabilities in order to achieve the changing demands. Hence, to implement the firm you have to look forward to the market changes, operational capabilities are highly needed to be very active and dynamic to be reflected quickly to the products and the services, creating an

excellent level among the organization competitors.

This research papers aims to discuss and evaluate the importance of the seven operations capabilities dimensions (cost, delivery, quality, service and sustainability, flexibility, innovation) and their processes. Literature has generated and developed 4 main operations capability dimensions which are cost, flexibility, quality, and delivery (Ferdows & De Meyer, 1990; Größler & Grübner, 2006; Hallgren, 2007). Because the new technologies of the markets and the social factors are in a continuous level of change 3 extra dimensions had included to have recognition in literature: Innovation service and sustainability (Alsmadi et al., 2011).

2.2 Operations capability framework

It was possible to develop a comprehensive list of important operations capabilities which resulted in Table 1. It is important to see that this operational capability framework is based on a comprehensive systematic literature review and a multiple case study. Due to this comprehensive view of the different studies, it can be assumed that this framework is applicable to all types of organizations and small firms with limited operations staff which cannot engage in building their own practice management systems (e.g., because they do not have the internal capabilities or the budget). The framework should also be applicable for large firms which already have an existing practice management system but they want to improve their system through implementing certain capabilities into their approach.

Dimension	Capability	Definition
Cost	Cost efficiency	We consider it as the ability to distribute and manufacture products at low cost
	Process efficiency	The capability of maximizing utilization of process resources
	Flow efficiency	The capability of maximizing the output of the process

	y	
Quality	Product quality	The capability of manufacturing high performance products
	Process quality	The capability of manufacturing with consistent quality
	Product durability	The capability of manufacturing durable products
Delivery	Delivery dependability	The capability of delivering on time
	Delivery speed	The capability of delivering in a short time
Flexibility	Delivery flexibility	The capability of changing delivery times and quantities within the agreed upon delivery time
	Volume flexibility	The capability of responding to changes in demand volume
	Product mix flexibility	The capability of changing the manufacturing product mix
	Product flexibility	The capability of customizing products based on customer requirements
	Product line flexibility	The capability of providing a wide range of products with different features
Service	Customer	The capability of providing customers with

	rservice	service prior to product delivery
	After sale service	The capability of providing customers with service after product delivery
	Advertising	The capability of advertising and promote products
	Distribution	The capability of distributing products broadly
Innovation	Product innovation	The capability of developing and introducing new products
	Technology innovation	The capability of developing and implement new technologies
	Service innovation	The capability of developing and introducing new services
	Market innovation	The capability to find and exploit new markets and opportunities
Sustainability	Product sustainability	The capability of manufacturing sustainable products
	Process sustainability	The capability of manufacturing and distribute products in a sustainable way
	Employee flexibility	The capability of employees to perform different types of tasks (Multitask).

Cost dimension

Cost efficiency refers to the ability to generate profit in a competitive environment while reducing manufacturing and distribution costs via investment in technology and new distribution channels.

The ability to generate profit in a competitive environment while reducing manufacturing and distribution costs via investment in technology and new distribution channels is referred to as cost efficiency.

Cost efficiency is defined as the degree to which sales and profits are increased while minimizing distribution and manufacturing costs.

In the cost dimension, the second operations capability is defined as the ability to maximize utilization of process resources (process efficiency). Firms are required to maximize the use of their available resources (machines, employees and equipment) to increase capacity utilization (Alsmadi et al., 2011; Sansone et al., 2017). This is also emphasized by firms considering the cost dimension in which they seek to maximize capacity utilization (Chi, 2010).

Process efficiency is one of the important ways to maximize the use of process resources. Processes often produce more material than needed, because they are designed to provide safety margins and produce a high-quality product. This can lead to waste and underutilized capital equipment.

The third operations capability in the cost dimension relates to the ability to maximize the output of a process. This includes such factors as labor and machine productivity and efficiency to increase output by focusing on improving labor as well as machine productivity and efficiency.

A key factor for enhanced competitiveness is the ability to maximize output. This includes labor and machine productivity and efficiency. Increased output will enhance competitiveness (Sansone et al., 2017).

3 Research methodology

The research methodology in this thesis is grounded on the research philosophy. The conceptual framework of the study, which is based on an inductive and holistic approach, forms the basis for this philosophy. The following chapters detail how the survey design, data analysis and all aspects of quality control have been implemented following this research philosophy.

3.1 Research philosophy

The first assumption of this study is the core conception which indicates to assumptions about the nature and the reality existence. This research puts up with the ontology of the relativism which agrees the multiple “truths” that “vary from area to area and from period to period” (Easterby-Smith et al., 2015, p. 50). I think that that the crucial operations capabilities differ between the different environments as also different manufacturing firms’ kinds and types.

Relativism is the ontology of choice for this thesis. Relativism assumes that reality yields various truths which are contingent upon environmental and situational factors. Given the complex nature of critical operations capabilities, we believe that different manufacturing firms face variations in critical constraints.

3.2 Research approach

The methodology used in this thesis is a deductive approach. This choice was based on the framework of previous academic research on operational level capabilities and complemented by testing and evaluating the framework in order to make it more empirically focused. The method used for collecting data was a qualitative method with semi-structured interviews for gathering descriptive data. This approach is linked with the theory of positivist epistemology and its important assertion on the quantitative approaches when creating and developing theories and also by testing the different hypotheses (Saunders et al., 2016). Qualitative research allows us to explore new frontiers as well as to apply our findings practically (Bryman & Bell, 2011; Saunders et al., 2016). Saunders et al. (2016) assume that the quantitative study is very suitable when the researcher wants to measure and evaluate the association level between or among many variables like the intelligence and the proficiency math. The writer has to look at the link between the independent variables and the dependent variables. The writer will devise a number of questions that require participants to answer based on their understanding of the concepts outlined in each question. The research questions will be discussed in systematically way through the questionnaire, and it will be created automated or hard copy post to facilitate and make the responses more easy to be delivered.

3.3 Research design

The research designed to be evaluated and the purpose is to measure and evaluate the framework of operations capabilities in the high-cost environment. The research main and core aim is to define how effectively and efficiently the huge services support and develop the organization operations capabilities with the organization perfect supply chain practices.

So, it was highly important to locate the research aspects by discussing the theoretical perspectives. and the way of data collecting were outlined then, the data analyzing steps will be shown according to the established objectives.

3.4 Data Collection

The questionnaire was created and designed to ensure that the survey data collected would be reliable, valid and of high quality. To create the interest of the respondents, it is highly important to carry the importance of the research as the importance of the participation through giving the research purpose as such, the design introduction section was used after introducing the objectives of this research study. It was essential in providing clarity in conveying how useful it is for both parties to contribute information through their participation in this study (Rea & Parker, 2014). Furthermore, it provided assurance related to confidentiality and privacy issues. In addition to these advantages, introductory questions were presented prior to asking questions concerning respondents' background which were followed by other relevant questions related to firm characteristics.

The purpose of the pre-test was to verify information already collected from the market survey and ensure that questions were clear, comprehensible, and unbiased. This was conducted prior to the main data collection method as it provided a more thorough understanding of the questionnaire's quality and accuracy, enabling us to identify any errors or biases in language use. The number of responses received during this time was limited, which allowed us to gain insight into whether our study could feasibly be implemented with a larger sample size in future research projects.

3.5 Data analysis

The first and main step of the process of the analysis is to finalize and analyze the data to have valid and reliable findings. Because most of the collected data are numerical values that was allocated to numerical scale fixed position, also answering the yes or no question which are called closed ended questions were turned into quantification values by turning the non-numeric into quantitative variables. On this basis, data was collected in a data matrix containing separate variables in the columns and survey responses in chamber rows. Adhering to this standardized layout, data can be evaluated using analysis software afterwards.

The first step after collecting and cleaning the data was to check for errors. Some inconsistencies were identified and removed in order to ensure the quality of our data set. After conducting an error check on all variables, we were able to analyze each dimension separately. Using this method, we found that overall importance is rated very high, while all underlying bases are rated as very low. Therefore, these items were not considered further in the analysis.

4. Data Analysis & Presentation of Results of Findings

The first chapter started with the research questions and explained the conceptual model and its refinement process. This chapter presents the empirical findings of the study, provides relevant analysis for the results, and highlights notable differences as well as apparent similarities between the operations capability dimensions and the operations capabilities. This chapter provides insight into high-cost environments and all manufacturing firm characteristics. The final section discusses if these findings are relevant to both management practice and further research topics.

4.1 Evaluation of high-cost environments

In this article, we aim to contribute to the understanding of the challenges of high-cost manufacturing firms. The empirical evidence suggests that operations capability is an

important part of the operations capability framework and thus needs to be recognized. In order to better understand how operations capability performs within a defined environment, a multi-dimensional approach was used. We applied it on different environments with different levels of cost. This approach allowed us to identify trends and make comparisons between different environments.

4.1.1 Dimension level

Dimension level analyses were performed to uncover the importance of the capability dimensions across manufacturing firms. The dimension levels are industry level, product level and process level. On the industry level, all capabilities received a mean value higher than three. However, the lowest value is closer to four implying that all capability dimensions are considered as important or very important. By ranking the mean values, the most important capability dimension is quality followed by delivery (Table 2). These dimensions are noticeably higher valued than the other capability dimensions.

Furthermore, compared to the other dimensions, quality and delivery have a considerably lower standard deviation which indicates a lower spread and hence a high reliability and robustness. In general, a correlation between ascending ranking and standard deviation can be determined.

4.1.2 Operations capability level

This analysis shows that the top five ranked operations capabilities (product quality, delivery dependability, process efficiency, flow efficiency and product sustainability) have a lower standard deviation with regard to their mean value than the other capabilities. Also, there is a correlation between the ranking and standard deviation. These findings support the contention that not all companies value all operations capabilities equally as they should. Further research could reveal whether making a company focus on fewer operations capabilities would help improve its competitive advantage."

4.2 Evaluation of manufacturing firm characteristics

The evaluation of manufacturing firm characteristics includes an evaluation of the firm's

industry classifications, company size, and customer focus and production strategy. The dimension level was analyzed first followed by the operations capability level applying the same calculation and ranking method. All four characteristics contain different classifications which are elaborated on and compared in their respective subchapters.

4.2.1 Industry classifications

The industry classifications in this analysis are based on the statistical classification of economic activities in the European Community (NACE). Intermediate goods, durable consumer goods, non-durable consumer goods and capital goods are considered. Intermediate goods include partly finished goods used as inputs in production; durable consumer goods yield utility over time whereas non-durable consumer goods are immediately consumed in one use. Finally, capital goods are used in the production of good and services.

4.2.1.1 Dimension level

The capability analysis on the dimension level reveals that quality ranks as the highest dimension for each industry classification and capital goods. For all industry classifications except for durable consumer goods, quality shows the lowest standard deviation within all capabilities. The sustainability dimension ranks third for both durable and non-durable consumer goods, but fourth for intermediate and capital goods. Cost ranks second for intermediate and capital goods but shows a low importance in both intermediate and non-durable consumer goods while it is ranked fourth for durability and fifth for services.

The dimension level reveals that all capabilities are equally important on all industry levels, with quality being the most important dimension for all but one industry classification. This means that in terms of providing value and meeting customer needs, quality is crucial for all classes of goods. Quality is followed by sustainability and cost as the second and third most important dimensions, respectively.

4.2.1.2 Operations capability level

In the operations capability level, the capabilities received mean values of two or higher. As part of the quality dimension, the operations capability product quality ranks highest amongst all industry classifications. Process quality has high importance across all industry classifications. However, the importance for capital goods is slightly lower than for the other classifications. The capability cost efficiency has high importance for intermediate and capital goods whereas the importance for durable and non-durable consumer goods is lower. Delivery dependability ranks among the top five operations capabilities used by customers to evaluate suppliers' performances across industries.

5. Conclusions, Implications and Recommendations

5.1 Research questions and purpose

This thesis aims to answer two research questions to fulfill the purpose of evaluating the most important operations capability dimensions as well as operations capabilities for competitive manufacturing in a high-cost environment and how they differ based on manufacturing firm characteristics. The results support some of the existing literature, such as those related to market orientation, product complexity, and global reach. In addition to this, amongst other findings new factors were found out, such as inventory management efficiency, which are more important than others that have been studied before. These results can be used by companies as benchmarks because they provide an analysis that can help managers evaluate their own capabilities against similar companies within the same industry or even globally.

Answering RQ1: What is the most important operations capability dimensions and operations capabilities for competitive manufacturing in a high-cost environment?

The results of the regression analysis show that all operations capability dimensions are considered important, although quality is the most important operations capability dimension. Subsequently, all operations capabilities are important in a high-cost environment. Higher levels

of all operations capabilities were found to increase productivity in manufacturing firms in a high-cost environment.

Answering RQ2: How do the most important operations capability dimensions as well as operations capabilities differ based on of manufacturing firm characteristics?

The area of operations research is growing in size and complexity and organization need to be able to respond to the changing dynamics of the marketplace. Operations managers require a comprehensive understanding of how operations are defined by different classifications, criteria, and metrics. This paper focuses on the importance and relative ranking for certain operations capability dimensions. The main objective of this study was to identify the major operational capability dimensions as well as be able to compare them across different classifications such as industry sector, type of machinery and point of location at which manufacturing occurs (i.e., domestic or import). The study further assesses which dimension is most important across these three classifications within manufacturing firms from developed countries. We identified four main categories based on key high-level classificatory characteristics for our sample: intermediate goods, durable consumer goods (e.g., cars), non-durable consumer goods (e.g., beverages).

The most important operations capabilities depend on the company size and customer focus. For small and medium-size enterprises, quality and delivery are the top two ranking dimensions. For companies that focus on B2B and mixed customer sources, product quality is number one. On the other hand, for companies that are focused on B2C, delivery is ranked as number one followed by product quality.

5.2 Implications

Theoretical implications

This study further provides support for the proposition that operations capabilities are important for explaining manufacturing performance. The research theoretical implications are designed according to the market environment and how it impacts the

importance of the operations capabilities as well as and how the importance differs the manufacturing firm characteristics. First, the operations capability dimensions as well as operations capabilities have a dynamic nature and differ over time as well as in different market environments.

Practical implications

According to our study, the importance of operations capabilities seems to be becoming more important especially due to the rapid changes and development in the global technology-based society. Also, manufacturing firms need to consider about the different operations capabilities for their future strategic planning. However, it is possible that some types of manufacturing firms may suffer from either lack of knowledge or resources in dealing with new technologies; therefore, they need to be able to apply different types of operations capabilities in order to implement efficiently the possible solutions and initiatives.

5.3 Limitations and further research

This thesis adheres to a well-defined methodology, but it is subject to the following limitations. First, the energy category as part of the NACE classification was not considered due to inadequate data (n=1). The same applies for ETO within the production strategy classification (n=1). Including these results would neither enable generalizability nor scientific robustness.

To assess the current situation regarding the importance of quality and its effects on organizational success, a survey was conducted. The findings indicated that a high level of quality is considered crucial in terms of effectiveness and efficiency in organizations. However, further research is recommended to explore the reasons for this importance. There is also a need for qualitative data as well as comparisons with low-cost environments.

6 References

- Alsmadi, M., Khan, Z., & McTavish, A. M. (2011). Evaluating competitive advantage priorities of SMEs in Jordan. *International Journal of Networking and Virtual Organisations*, 9(1), 25. <https://doi.org/10.1504/IJNVO.2011.040933>
- Bailey, D., & Proprius, L. de. (2014). Manufacturing reshoring and its limits: The UK automotive case. *Cambridge Journal of Regions, Economy and Society*, 7(3), 379–395. <https://doi.org/10.1093/cjres/rsu019>
- Barney, J. (1991). Firm Resources and Sustained Competitive Advantage. *Journal of Management*, 17(1), 99–120. <https://doi.org/10.1177/014920639101700108>
- Beltrán-Martín, I., & Roca-Puig, V. (2013). Promoting Employee Flexibility Through HR Practices. *Human Resource Management*, 52(5), 645–674. <https://doi.org/10.1002/hrm.21556>
- Bendoly, E., Rosenzweig, E. D., & Stratman, J. K. (2007). Performance Metric Portfolios: A Framework and Empirical Analysis. *Production and Operations Management*, 16(2), 257–276. <https://doi.org/10.1111/j.1937-5956.2007.tb00179.x>
- Bryman, A., & Bell, E. (2011). *Business research methods* (3rd ed.). Oxford: Oxford University Press.
- Cagliano, R., Acur, N., & Boer, H. (2005). Patterns of change in manufacturing strategy configurations. *International Journal of Operations & Production Management*, 25(7), 701–718. <https://doi.org/10.1108/01443570510605108>
- Camps, J., Oltra, V., Aldás-Manzano, J., Buenaventura-Vera, G., & Torres-Carballo, F. (2016). Individual Performance in Turbulent Environments: The Role of Organizational Learning Capability and Employee Flexibility. *Human Resource Management*, 55(3), 363–383. <https://doi.org/10.1002/hrm.21741>
- Chi, T. (2010). Corporate competitive strategies in a transitional manufacturing industry: An empirical study. *Management Decision*, 48(6), 976–995. <https://doi.org/10.1108/00251741011053497>
- Corbett, L. M. (1996). A comparative study of the operations strategies of globally- and domestically-oriented New Zealand manufacturing firms. *International Journal of*

- Production Research, 34(10), 2677–2689. <https://doi.org/10.1080/00207549608905052>
- Dangayach, G. S., & Deshmukh, S. G. (2001b). Manufacturing strategy. *International Journal of Operations & Production Management*, 21(7), 884–932. <https://doi.org/10.1108/01443570110393414>
- Eriksson, D., Hilletofth, P., Ellram, L. M., & Sansone, C. (2018). To offshore or reshore: The battle of data points. *Supply Chain Management Review*, 22(3), 42–46.
- NACE Rev. 2, Eurostat 2008.
- Ferdows, K., & De Meyer, A. (1990). Lasting improvements in manufacturing performance: In search of a new theory. *Journal of Operations Management*, 9(2), 168–184. [https://doi.org/10.1016/0272-6963\(90\)90094-T](https://doi.org/10.1016/0272-6963(90)90094-T)
- Flynn, B. B., Schroeder, R. G., & Flynn, E.J. (1999). World class manufacturing: An investigation of Hayes and Wheelwright's foundation. *Journal of Operations Management*, 17(3), 249–269. [https://doi.org/10.1016/S0272-6963\(98\)00050-3](https://doi.org/10.1016/S0272-6963(98)00050-3)
- Frohlich, M. T., & Dixon, J. R. (2001). A taxonomy of manufacturing strategies revisited. *Journal of Operations Management*, 19(5), 541–558. [https://doi.org/10.1016/S0272-6963\(01\)00063-8](https://doi.org/10.1016/S0272-6963(01)00063-8)
- Hallgren, M. (2007). *Manufacturing strategy, capabilities and performance*. Linköping university.
- Hallgren, M., Olhager, J., & Schroeder, R. G. (2011). A hybrid model of competitive capabilities. *International Journal of Operations & Production Management*, 31(5), 511–526. <https://doi.org/10.1108/01443571111126300>
- Hayes, R. H., & Wheelwright, S. C. (1984). *Restoring our competitive edge: Competing through manufacturing* / Robert H. Hayes, Steven C. Wheelwright. New York, Chichester: Wiley.
- Hill, T. (1995). *Manufacturing Strategy*. London: Macmillan Education UK.
- Hilletofth, P., & Sansone, C. (2018). *A framework of important operations capabilities in a high cost environment (Working Paper)*. Jönköping University.
- Miller, J. G., & Roth, A. V. (1994). *A Taxonomy of Manufacturing Strategies*.

Management Science, 40(3), 285–304. <https://doi.org/10.1287/mnsc.40.3.285> Nakane, J. (1986). *Manufacturing Futures Survey in Japan: A Comparative Survey 1983-1986*. Tokyo: System Science Institute.

Phusavat, K., & Kanchana, R. (2007). Competitive priorities of manufacturing firms in Thailand. *Industrial Management & Data Systems*, 107(7), 979–996. <https://doi.org/10.1108/02635570710816702>

Rea, L. M., & Parker, R. A. (2014). *Designing and conducting survey research: A comprehensive guide (Fourth edition)*. San Francisco: Jossey-Bass.

Sansone, C., Hilletoft, P., & Eriksson, D. (2017). Critical operations capabilities for competitive manufacturing: A systematic review. *Industrial Management & Data Systems*, 117(5), 801–837. <https://doi.org/10.1108/IMDS-02-2016-0066>

Stalk, G., Evans, P., & Shulman, L. (1992). Competing on Capabilities: The New Rules of Corporate Strategy. *Harvard Business Review*, 70(2), 57–69.

Tate, W. L., Ellram, L. M., Schoenherr, T., & Petersen, K. J. (2014). Global competitive conditions driving the manufacturing location decision. *Business Horizons*, 57(3), 381–390. <https://doi.org/10.1016/j.bushor.2013.12.010>

Ward, P. T., Bickford, D. J., & Leong, G. K. (1996). Configurations of Manufacturing Strategy, Business Strategy, Environment and Structure. *Journal of Management*, 22(4), 597–626. <https://doi.org/10.1177/014920639602200404>

Zhang, X., Ye, C., Chen, R., & Wang, Z. (2011). Multi-focused strategy in value co-creation with customers: Examining cumulative development pattern with new capabilities. *International Journal of Production Economics*, 132(1), 122–130. <https://doi.org/10.1016/j.ijpe.2011.03.019>

Zhao, X., Sum, C.-C., Qi, Y., Zhang, H., & Lee, T.-S. (2006). A taxonomy of manufacturing strategies in China. *Journal of Operations Management*, 24(5), 621–636. <https://doi.org/10.1016/j.jom.2005.07.003>

Zhao, X., Yan Yeung, J. H., & Zhou, Q. (2002). Competitive priorities of enterprises in mainland China. *Total Quality Management*, 13(3), 285–300.
<https://doi.org/10.1080/09544120220135174>

7 Appendix

Questionnaire

First Question: kindly select your department Response options:

- Finance
- Information Technology
- Supply Chain Management
- Sales & Marketing
- Operation
- Quality Management
- Customer Services

Second Question: Talk about your management experience?

Response option:

Third Question: What is your management position? Response options:

- First-line management
- Middle management
- Top management
- Senior

Fourth Question: How many employees in your company?

Response options:

- SM 50-249 employees
- Big over 250 employees

Fifth Question: Which kind of business do you work?

Response options:

- (B2B)
- (B2C)
- Mixed type