Corporate Decision-Making: The Increasing Importance of Supply Chain in Strategic Decision-Making

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Abstract

Emerging complex demands from internal and external company stakeholders have significantly altered the corporate strategic decision-making process. In our paper, we analyse the shift in strategic decision-making that stems from the ongoing and forecasted changes in the supply chain function.

With a closed loop perspective on supply chain, including the functional areas of production, operations and customer service, we have included relevant studies to outline the most significant implications for decision-making. Starting from this comprehensive literature review, in our case study we create a framework to highlight the synergies and connections between supply chain functions and other corporate functions. The functions assessed are: human resources, accounting and finance, marketing and advertising, information technology, purchasing and legal. The resulting framework is a summarized depiction of the points of connection between these functions and supply chain. The value added of our paper consists of a forward-thinking approach to implications of supply chain developments and how they will further affect the relationship with other functions. The lack of empirical data to construct an empirical model for demonstrating what correlations are most significant represents the limitation to our research. Further research should outline clear metrics for assessing the relationship between functions and analyse their degree of correlation in order to have a demonstrated model for what impacts corporate strategic decision making.

Keywords: supply chain, corporate strategy, management

Introduction

Corporate strategic decision making in worldwide companies is currently changing at a fast rate, to reflect the increasingly interconnected functions and to account for the innovation that has flowed into each function. For small, medium and large companies and for local and global enterprises, there is an increasing need to take into account all the change and development when building up strategy.

For both order qualifier and order winner criteria, it is reflected the need of internal stakeholders' alignment in generating a final product or service that meets requirements and expectations.

The objective of the present paper is to illustrate within the case study section how the supply chain functions – production, operations and customer service – are related with the other functions in a business. The enterprise functions comprised in our paper are, as follows: human resources, accounting and finance, marketing and advertising, information technology, purchasing and legal.

Our case study summarizes the connections and synergies between functions, focusing on the most important common strategic decision-making areas. Our goal is to present in a structured manner the interconnected functions, with a dedicated focus for supply chain. In our view, the present and future

market requirements will be increasingly related to criteria from the supply chain. While no company is able to offer simultaneously and at the same extent advantages of cost, flexibility and service, the relationship between departments is decisive in choosing which one or two of these competitive advantages is branded into the company.

The structure of our paper starts with a comprehensive literature review assessing current trends in corporate strategic decision-making and forecasts of trends that will catch on to the supply chain and alter the interactions with other functions in the process of decision-making and strategy creation.

Further, the case study brings together the learnings from literature and establishes a framework for the relationships between supply chain functions – production, operations and customer service – and all other main functions in a business. The paper ends with a conclusion that outlines the value added of our research and proposes directions for future research, based on quantitative data and an empirical model that studies correlation.

Literature Review

The literature review section of our paper is dedicated to finding relevant research to attest to the currently increasing importance of supply chain in the strategic decision making of companies.

Findings from books, research papers and official guidelines and regulations are presented in this section, on which we further construct in our case study a framework for corporate decision making.

It is our goal to have an inclusive and comprehensive literature review, in order to ensure the relevance of our framework in the current context.

Desmet (2018) has analysed in his work financial measures connected directly and indirectly to supply chain strategy, with focus on service, cost and cash flow. The author is forward thinking and assesses that in the future, supply chain will be 'the centrepiece of strategy discussion'. Due to the practical improbability that one company will outperform all its competitors in terms of cost, service and product, the Desmet insists on strategy as an achievable and important differentiator. The strategy of dominating one area – either cost, service or product – can propel the company to a market leadership position. The author underlines that supply chain must be found at the core of the decision-making process and ultimately of strategy, as it should not follow commercial strategy if the goal is differentiation. A perfect example of success can be found in companies such as Amazon, Alibaba or Walmart, which have achieved a top market position with a strategy that prioritizes supply chain factors.

Concepts such as lean, agile and 'leagile' have gathered momentum in the business environment, thus moving from being solely used in production organization from being strategic direction for management. At the moment, we have recognized a phase when more and more companies are translating these concepts – lean, agile, 'leagile' – from supply chain management concepts to business concepts. As a result, the supply chain is now challenging the other business areas to introduce these concepts into their planning, decision making, operations and, most importantly perhaps, strategies. The company Zappos is an excellent example of success that illustrates this change in corporate strategy and corporate culture. The CEO of Zappos, Tony Hsieh, describes in his book – 'Delivering Happiness" (2010) – how his company has achieved a market leadership position.

Customer service is at the center of Zappos' strategy and therefore service, as a differentiator, has been the key to unlocking the full potential of the company. The order winner criterion has become service, which implies that at the core of the company's strategy the decision-making process involves supply chain views.

Purvis *et al*., (2014) describe vendor flexibility and sourcing flexibility as the major concepts around which 'a leagile supply network taxonomy' revolves. The authors illustrate the evolution of the lean and agile concepts, that have moved from the point of material flow, to establishing themselves as necessary competences in overall supply chains of companies. While the paper does not rely on empirical data, since only two companies have been studied, the paper does recognize the importance of flexibility in the relationships established with the internal stakeholders.

RAMI4.0 – the Reference Architecture Model – is a concept originating from Germany, representing a standard for implementing the concept of Industry 4.0. We identify the connection with corporate decision-making through the fact that the layers of the concept establish the importance of the new supply chain conceptualization for all areas of business strategy. As the global tendency is to evolve to a more automated and technology driven supply chain, the RAMI model is an inclusive framework that focuses on the overall business, rather than singling out supply chain factors. This approach does not only favour generating order winner criteria from the supply chain, but also generating order winner criteria with the support of supply chain factors.

Rojko (2017) underlines that 'Industry 4.0 assumes broad support of an entire life-cycle of systems, products and series'; thus, the paradigm is involved in the company's business processes from product design to product delivery. On one hand, this closed loop approach focuses on the 'smart products' that are the final output but, in a forward-thinking manner, the smart product features are employed for maintaining a long-term connection to the customer. Thus, the business strategy must incorporate this approach in all areas – from production to marketing or finance – in order to operate properly in this long-term relationship that has been established. On the other hand, the end-on-end updates implied by the paradigm imply that the prerequisite for producing a 'smart product' is not only a performant SC, but also a performant business model and strategy.

The German government's objective has been to propose a unifying approach for the perspective, knowledge and performance of modern companies. Figure 1 illustrates the original three-dimensional RAMI4.0 format in the layers, value stream and hierarchy levels are displayed. The layers of the model are, as follows:

- Assets layer referring to hardware (e.g., robots, conveyor belts etc.) and software (e.g., TMS, WMS etc.) components that are to be further transposed into the digital map of the enterprise;
- Integration layer referring to the information digitally transmitted to the components (e.g., sensors, scanners etc.);
- Communication layer referring to the standardized methods of communication that foster integration;
- Information layer referring to the transformation of data into information that is usable (e.g., usage of big data)
- Functional layer referring to 'formal descriptions of functions' (e.g., ERP);
- Business layer referring to the business model format and the synergies between the processes.

By outlining functional and business layers, the RAMI4.0 model (2018) indicates the significance of supply chain capabilities to the corporate decision-making process. Based on these capabilities, it's not only about the bottom line of identifying a differentiation factor or an order winner criterion, it's increasingly about using the advantages of the supply chain to enhance overall business capabilities. Whether we talk about a capability that's suitable for direct marketing to customers, or about one that indirectly generates benefits for internal stakeholders, the supply chain inclusion in the business strategy ensures the employment of the company's full potential.

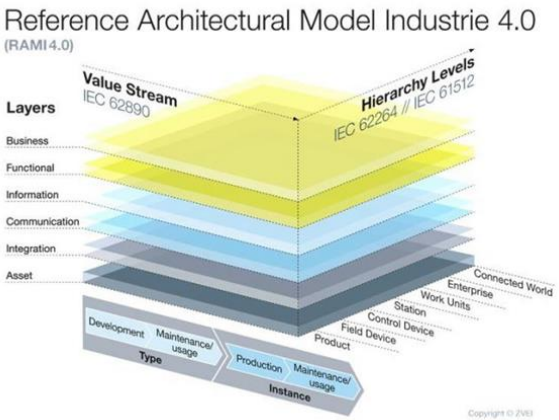

Fig. 1. Reference Architectural Model Industry 4.0
Source: *www.researchgate.net*

Qin *et al*., (2016), Hofmann and Rüsch (2017) and Geissbauer *et al*., (2016) highlight in their work four new trends emerging from Industry 4.0: factory, business, products and customers. The authors argue that the company's business model and the market landscape are altered to meet demand in a cost-efficient, sustainable and efficient manner. As a result, corporate decision-making processes are increasingly paying attention to signals coming from the supply chain in order to have an updated value-creation strategy.

Myerson's (2012) list of metrics for assessing performance in the supply chain includes the following: delivery reliability, responsiveness, flexibility, cost and asset management. Besides the rather obvious connection to the lean and agile concepts, the proposed measures for performance go beyond the goals outlined for the supply chain. We can recognize that without having a reliable, responsive, flexible, cost effective and asset efficient supply chain, the company cannot meet the expectation of both internal and external stakeholders.

The author proposes the SCOR model and Balanced Scorecard as evaluation approaches that ensure the inclusion of supply chain management in the strategic focus of the company. For a closed loop view of the supply chain, the SCOR model comprises the five bottom-line processes – plan, source, make, deliver and return – which can highlight the niches in the market, thus directing the market towards finding a differentiator. For a helicopter view of the business, with clear perspective on finance, customer, processes, learning and growth, management can employ the Balanced Scorecard. Corporate decision-making benefits from employing structural models, as synergy and connection are increasingly visible to management when deciding on the enterprise's strategic direction.

Case Study

In this section of our paper, we attempt to construct a framework for showing the synergies between supply chain and the other functional areas of business. In our framework we propose several ways of how these functions are connected, considering the most recent literature and case studies read. Our focus in this pursuit is to account for a forward-thinking perspective, where the future of supply chain and the overall future of work is accounted for.

Starting from Desmet's (2018) assumption that strategy cannot fully and simultaneously accomplish requirements related to cost, service and product, we assume that supply chain can directly or indirectly relate to other functional areas to give a slight edge in the market environment.

Therefore, our framework is not making a case for purely supply chain decision-making, but for the overall corporate strategy, as analysed through the lens of supply chain.

The functional areas of business that we consider for our case study include the following: human resources (HR), accounting and finance, marketing and advertising, information technology (IT), purchasing and legal. We consider the functional areas of production, operations and customer service

to be the integral part of supply chain, as we want to have a closed loop approach to supply chain that involves processes from production to customer delivery and return.

Human Resources

To begin with, the human resources area is increasingly impacted by changes in the supply chain prompted by Industry 4.0 global initiatives. The World Economic Forum (2018) has published a forward-thinking paper on the changes in the workplace design, based on the advancing technology taking over operational, decision-making and maintenance jobs. The eight cornerstones of the publication include the following: workforce autarkies, mass movement, robot replacement, polarized world, empowered entrepreneurs, skilled flows, productive locals, agile adapters.

The eight emerging trends in the workplace can be directly linked to all functional areas of a company. If we look particularly at the relationship with supply chain, through the lens of emerging Industry 4.0 practices, we can outline a clear shift in the HR requirements. Considering either the increasing replacement of human workforce or the overwhelming request for labour at lower costs, as compared to automatized solutions, it is straightforward that HR must include supply chain in its strategy decisions. Regardless of industry, supply chain processes, from production to operations to customer service, are leading to a shift in workforce requirements at un unprecedented scale.

Accounting and Finance

The financial performance of the company is interlinked to all functional areas, as all activities can have a direct or indirect impact on measures of performance. Additionally, the strategic goals set for accounting and finance include all functional areas as decision making influencers since all activities related to financial records, budgeting, expenditure and revenue are interwoven into all company's activities.

The emergence of new trends in global supply chains – whether related to production, operations, workforce, customer service, information technology infrastructure, purchasing and legal requirements – require financial undertakings. Therefore, it is vital for a proper financial strategy to consider the company's status and foreseen changes in supply chain, in order to appropriately forecast and accomplish established targets for expenditure and income. As Desmet (2018) empirically assesses throughout his work, supply chain activities can be associated to generating expenditure and revenue, and accounting for supply chain capabilities in the company's strategy leads to an inclusive approach for corporate decision-making.

Marketing and Advertising

As displayed by several works discussed in the literature review section, the market advantage – order winner criteria – can nowadays be traced more and more to the supply chain. Whether a company has the advantage of product cost, production flexibility or customer service, these are all marketable assets that can sell to customer target groups.

Supply chain performance in any of the areas – cost, flexibility or service – can trigger the way in which a company builds its marketing and advertising strategies. An increasing number of companies nowadays focus on excelling on either one or two of these areas in order to gain a market advantage, knowing that it's not operationally and financially feasible to attempt to include all three with the same degree of importance in the corporate strategy.

On one hand, marketing and advertising are a point of origin for the product's features that become the object of strategic planning. Based on knowing the market environment and its expectations, this functional area can generate a first layer of supply chain targets. A global company, acting in several different market environments, must operate supply chains that can generate cost effectiveness, flexibility or high-ranking services in any combination.

On the other hand, marketing and advertising must follow the lead of supply chain capabilities and enhance the visibility of in-house advantages whilst finding a way to make marketable the

shortcomings to a target customer group. Value creation is strategically decided by marketing and advertising to be presented on the market.

Information Technology

The increasing importance of technological infrastructure to all functional areas of business have turned IT into a required capability of a modern company. Without the technology to back up the processes in all functional areas, the company cannot be a front runner in nowadays' global business environment. Whether we talk about processes tracked digitally or about labour being automated, all departments are interlinked with information technology function. Therefore, there is no scenario for strategic decision making that does not include the major changes in supply chain.

While currently the most visible information technology trend in supply chain is related to production automation and increasingly available accurate data collection, we must also account for emerging trends. From the publication of the eight futures of work, by the World Economic Forum (2018) we have learned that an extensive array of jobs will be replaced by automated solutions. Since strategic decision making must be forward looking, we can predict that supply chain functions will be increasingly interlinked to IT functions. Production, operations and customer service will be altered to reflect the emerging technological revolution.

Purchasing

So far, our discussion has been dominated by an inward-looking perspective related to the relationship between the company's functions and an outward-looking perspective focused on customers. When discussing the purchasing function and its relationship to corporate strategic decision making, we bring in discussion external stakeholders – namely, suppliers.

Suppliers of goods and services for all functional areas are the subject of increasingly complex and numerous requirements that ensure more tailored solutions for businesses worldwide. Interlinking supply chain's functions – production, operations and customer service – with purchasing functions can lead to a long list of goods and services acquired for vital company functions. While most purchases are directly related to order qualifier criteria for the market environment, it is more and more the case that supplier relationships are set up for enhancing competitive advantage. Associating one company's inbred capabilities with another company's, whose competitive advantage is different, leads to value creation and the definition of a new order winner criteria in the market.

Legal

Last but not least, the legal function is ensuring that proper administration, regulatory and compliance standards are applied and respected within all the company's functions. From government issued regulations, to standards within industries, the legal function ensures the order qualifier criteria of behaving within the regulatory guidelines is respected. Moreover, managing the contractual relationships with external stakeholders is within the legal function's responsibilities.

From a supply chain perspective, laws and regulations heavily impact production, operations and customer service. An increasing number of standards and benchmarks are being issued, affecting the activity in the supply chain, for example: environmental laws, healthcare regulation, waste management regulation, customer service regulation etc. Strategic decision making must cover all inputs and outputs in the supply chain, in order to be permitted access on the market and have a positive image for customers.

As a result of our investigation into the functional areas and their connection to supply chain, our proposed framework for synergies and connections is displayed in Figure 1. In order to summarize their interlinked goals and decision areas, we have outlined the most significant overlapping areas and the outputs in focus. To sum up, the case study employs theoretical research to propose an overview of the synergies between the supply chain and the other functional areas in companies. The authors' assumption, based on quoted research, is that the involvement of supply chain in corporate

strategic decision-making process can benefit the company and yield an increased competitive advantage for both internal and external stakeholders.

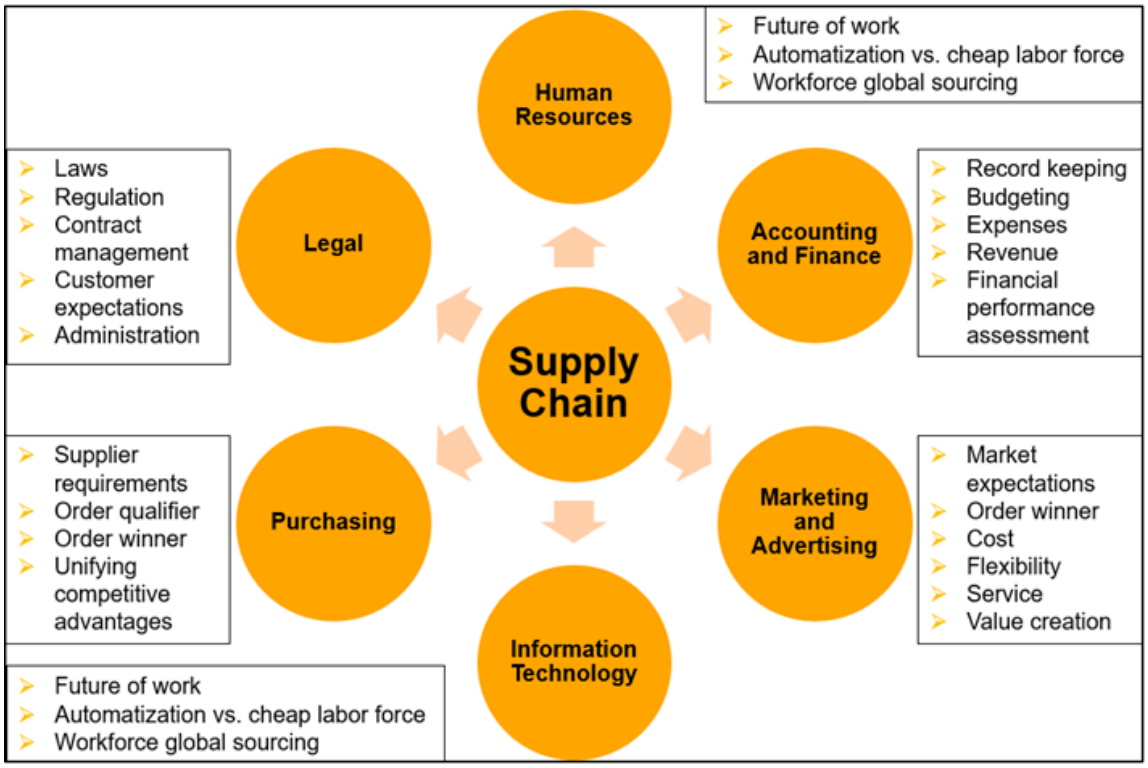

Fig. 2. Framework for Connecting Supply Chain and Functional Areas
Source: *authors' design*

Conclusion

To conclude, the present paper has employed a thoroughly assessed literature review with research covering several perspectives on the relationship between supply chain function and corporate decision making. As a result, our case study stands out as a well-informed assessment of strategic corporate decision making, as a functionally complex process, with a focus on the relationship forged with supply chain functions, namely production, operations and customer service.

The added value of our research represents the thoroughly assessed connection between supply chain, corporate function and their joint connection with strategic corporate decision making. In the context of the increasingly complex supply chain processes, the other business function must calibrate these changes into their strategic objectives in order to maximize the quality of input and output.

The limitations of our work lie in the lack of an empirical model to assess quantitatively data from companies and their functional departments in order to find correlations. Future directions for research lie therefore in quantitative models, with which one can analyses the correlation of key performance indicators from companies' functions, in order to outlines the most significant links. A starting point for data collection can be either by questionnaire, by assessing to what extent and degree the expectations of one function has been met in working with other functions. For supply chain, a correlation between production, operations and customer service must be initially assessed and further tested against the other functions.

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