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Manager competences in logistics and supply chain practice☆

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ABSTRACT

In the 30 years since its inception, the field, profession, and practice of logistics and supply chain management have undergone profound business transformation. This study uses shadowing and practice theory to explore the nature of manager competence in logistics and supply chain management. The results suggest that logistics and supply chain managers use business managerial, generic, and behavioral competences in practice rather than supply chain management expertise. Although the existing literature depicts competences as discrete and factor-based, the findings further reveal how managers use combinations of competences that create synergistic effects. The findings imply that the level of competence in practice extends beyond the sum of individual competences. In particular, company experience is a distinct key competence that managers constantly use in combination with other competences, and thereby has a significant effect on manager competences. The results produce four propositions for future research.

1. Introduction

As part of efforts to achieve a more processual approach to business research in a world of continuous change, a paradigm shift is under way, from stating terms in the form of nouns to stating them as verbs. Thus, studies talk about *organizing* instead of *organization* and *strategizing* instead of *strategy* (Weick, 1969; Whittington & Melin, 2003). In line with this movement, research on managerial work advances the study of *managing* rather than *management*. An extensive and growing body of knowledge describes managerial work as a complex, dynamic, and situation-dependent phenomenon. Mintzberg (1973) compares managerial work to conducting an orchestra, while Carlson (1991) uses the analogy of being a puppet in a marionette theater.

By focusing on what managers *do* rather than what management *is*, one can ask what competences are necessary to do what they do. According to Luthans, Hodgetts and Rosenkrantz (1988), successful and effective managers spend far less time on traditional management activities, such as planning, decision making, and controlling, in comparison with the average manager. Instead, effective managers spend more time on networking, routine communications, and human resource management (Luthans et al., 1988). Mintzberg (2009) acknowledges this multifaceted role and presents personal, interpersonal, informational, and actional competences as appropriate attributes for a manager.

Although scholars study managerial competence extensively (Boyatzis, 2011; Chong, 2008, 2013; Collin, 1989), the topic in the context of logistics and supply chain management (L&SCM) is still in its infancy. This deficiency is rather surprising, since research evidence shows that L&SCM competence has a substantial effect on business performance and financial competitiveness (Aquino & Draper, 2008; Bowersox, Closs, Stank, & Keller, 2000; Ellinger et al., 2011). In addition, the requisite logistics and supply chain (L&SC) manager competences have changed in recent decades owing to profound business transformations in the field, for example, the globalization of supply chains, continued outsourcing, and the widespread adoption of lean practices (Christopher, 2012). Considering the effect of manager competences on business performance in L&SCM, as well as the scarcity of research in the field, this topic deserves a more detailed exploration.

The purpose of this study is to address the literature gap on L&SC manager competence by focusing on *managing* rather than *management*—not just looking at management and manager competence per se, but rather at what is happening in practice when managers manage, and what competences they actually use. By applying a practice theory approach in a multiple case study, this study not only identifies competences that managers use in practice, but also provides an enhanced understanding of the nature of manager competences and explains the reason for the current

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use of competences. Furthermore, the study proposes improvements to the theoretical approach by developing an analytical framework. Finally, the study suggests propositions for further research and development.

The following Section 2 presents the frame of reference and a framework of L&SC manager competences and related practices. Section 3 presents the research methodology, and Section 4 presents the results as well as a discussion and suggested propositions. The concluding remarks in Section 5 discuss the research limitations and implications for future research.

2. Frame of reference

2.1. Definition of competence

Today, most researchers agree that competence is not simply a capacity or attribute of an individual, nor an attribute of a job, but the interaction between the individual and the job at hand (Collin, 1989; Ellström & Kock, 2008; Winterton, Delamare-Le Deist, & Stringfellow, 2006). Lindberg and Rantatalo (2015) define professional competence as "the inferred potential for desirable activity within a professional practice" (p. 565). This definition centers on the "concrete manifestation in practice" from which evaluations infer qualities. These qualities range on a continuum from desirable to undesirable, generating either appeal or distance. An example would be a firm handshake, which can lead one to infer the quality of integrity or of being energetic, but can also lead to an inference of cockiness or insensitivity. Thus, this definition of competence is indifferent to whether the result is efficient or successful, as long as potential for desirable activity exists.

The subjective and relational character of manager competence may cause doubts about the feasibility of analyzing such competence in research. According to Collin (1989), researchers must ground their studies in concrete experience and in the recognition of the whole person, the context, and the person/context interaction and synergy. Furthermore, Collin (1989) claims the need for multiple perspectives to understand competence.

2.2. Practice theory and manager competences

To improve understanding of manager competences, L&SCM researchers need a theory that helps to explain the phenomenon. Surprisingly, researchers have not previously used practice theory to study manager competence, although practice theory provides an excellent opportunity to spotlight the concept in research. According to Nicolini (2012), practice theory offers a new way to explain social and organizational phenomena, focusing on the practice rather than the practitioner. This theory, however, does not exclusively describe what people do; this theory also includes the whole person and perspectives on body, mind, things, knowledge, discourse, structure/process, and the agent (Reckwitz, 2002). Furthermore, practice theory includes all the dynamics, relationships, and enactments in a system, and thus, is well able to offer powerful analytical tools for organizational research (Feldman & Orlikowski, 2011).

2.3. Logistics and supply chain manager competences

According to the literature, L&SC manager competences span a broad spectrum of areas. Murphy and Poist (2006) include business, logistics, and managing skills, while Gammelgaard and Larson (2001) use the categories of interpersonal/managerial basic skills, quantitative/technological skills, and supply chain management (SCM) core skills. In addition, Shou and Wang (2015) cover a wide range of competences using the categories of generic skills, functional skills, SCM qualifications and leadership, SCM expertise, and industry-specific and senior management skills, while others, like Van Hoek, Chatham, and Wilding (2002) and Richey, Harvey, and Moeller (2010), focus on soft aspects only, such as emotional and social skills. Sauber, McSurely, and Tummala (2008) have a curricular perspective that attempts to identify and measure desired competences in graduate SCM certificate programs, whereas Christopher (2012) and Giunipero, Handfield, and Eltantawy (2006) analyze L&SC manager competences necessary in the future. While these studies represent encouraging signs of progress, researchers appear to have emphasized statistical sophistication in analyzing competence requirements at the expense of studying what competences L&SC managers use in their everyday practice.

Due to the lack of competence research building on what managers do in practice, and the inconsistent and fragmented description of L&SC manager competence, this study proposes a detailed framework (see Table 1) of competences and examples of related practices drawing from the existing literature. The framework consists of five competence areas: behavioral competence, business managerial competence, generic competence, functional competence, and SCM expertise. Competences and related practices may overlap and interconnect; however, they have sufficiently distinctive features to act as individual elements, and thus, they appear in the single category that fits them best.

3. Method

According to Nicolini (2012), applying practice theory is both a theoretical standpoint and a methodological approach that consists of three basic movements. The first movement is to zoom in on the practice (i.e., the real-time doing and saying something in a specific place and time); the second is to zoom out and shift focus to the surroundings of the practice for better understanding in a wider context; and the third is to enrich understanding by solid textual renditions. Nicolini (2012) proposes reiteration of these movements, particularly zooming in and out, until a convincing description of both the practice and its effects is in place; that is, when the description shows a clear connection between the local practice and its non-local effects. In this way, practice theory provides a methodology to build theory grounded in practice.

To achieve this theory building, Nicolini (2012) recommends a qualitative approach, such as ethnography (Arnould & Wallendorf, 1994; Hammersley & Atkinson, 2007) or a form of micro-ethnography (Wolcott, 1990). Following these guidelines, the authors carried out a multiple case study, which involved shadowing of managers to zoom in on their practices to identify the competences in use.

3.1. Multiple case study design

The goal of this multiple case study design is to capture as many aspects and facets of manager competence as possible, which is the unit of analysis in this study. As Table 2 indicates, the selected cases embrace differences in manager experience, range of industries, size of companies, and kind of positions, thereby enhancing the external validity of the findings (Yin, 2014). In addition, the design offers the opportunity to conduct both within-case analysis and across-case analysis, and thereby improve theory building (Eisenhardt, 1989; Halinen & Törnroos, 2005; Wilson & Vlosky, 1997).

3.2. Data collection via shadowing combined with interviews

Shadowing is a micro-ethnographical technique in which the researcher follows the subject from place to place throughout the working day and is able to ask questions to clarify issues (Bryman & Bell, 2011; Czarniawska, 2014). To reduce any subjective judgments and potential bias, three investigators shadowed two managers each. The investigators shadowed each manager for 10 carefully selected days over a period of 6 weeks, to ensure the observation of the dynamic and situation-dependent characteristics of managerial work. The investigators documented the observed real-time doings and sayings of the managers during shadowing (i.e., zooming in) as well as at the end of each day (i.e., zooming out). In addition, they conducted unstructured interviews on a daily basis to zoom in on situations that occurred, as

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Table 1
Framework of manager competences in logistics and supply chain management and related practices.

Competence	Examples of related manager practices	References*
Behavioral competence		
Intrapersonal		
Self-awareness	Know your shortcomings and act accordingly; accept criticism; be comfortable talking about your weaknesses.	4,8,11,14,15
Self-management	Control your emotions; avoid hasty judgment; show integrity and trustworthiness. Consider personal grooming.	1,2,3,4,5,7,8,10,11,13,14,15
Self-motivation	Show inner drive and ambition; take pride in a job well done and strive for results. Learn by curiosity.	1,4,6,8,10,11,13,14,15
Interpersonal		
Empathy toward others	Coach others effectively by considering their personality. Have perspective of others' points of view.	1,4,8,11,15
Social skills	Show interpersonal skills; handle conflicts fairly; find common ground; negotiate; resolve problems; collaborate cross-functionally and in cross-culture teams, in multiple locations and countries.	1,2,3,4,5,7,8,9,10,11,13,14,15
Political skills	Be aware of the situation and adjust your communication accordingly.	3,11
Leadership	Motivate others; create openness for others to develop; gain commitment; ensure support for proposed ideas.	1,4,5,8,9,10,13,14,15
Business managerial competence		
Dynamic awareness		
Commercial awareness	Demonstrate business acumen and a general awareness of cost-to-serve analyses.	1,2,3,5,7,8,10,13,14
Industrial experience	Apply experience gained from specific industries.	4,13
Company experience	Demonstrate knowledge of operations; understand organizational infrastructure; show structural intelligence.	2,3,7,11,14
Ethics and sustainability awareness	Show respect for diversity, social justice principles, and the environment. Apply sustainable solutions.	1,4,8,10,14
Strategic awareness	Develop strategies based on the company's core values while considering risks.	1,8,13,14
Law and regulations awareness	Show a general understanding of contractual law and ensure compliance with all regulations and legal requirements.	1,8,10,13,14
Technology awareness	Be aware of recent technology. Be able to deploy hardware and software to solve process improvements.	1,4,12
Business management		
Planning and organizing	Plan and organize to achieve targets involving relevant parties and considering constraints and hurdles.	1,4,5,8,9,10,12,13,14,15
Performance evaluation	Use key performance indicators, benchmarks, and best practices to monitor and evaluate performance.	1,8,11,12,13,15
Decision-making skills	Set goals; prioritize and make holistic decisions based on goal achievement.	1,3,4,5,8,9,11,13
Execution skills	Ability to develop, recommend, and execute activities resulting in fulfillment of plans and strategies.	1,5,13
Stakeholder management		
Managing staff	Hire, schedule, train, motivate, and supervise subordinates to ensure carrying out of activities.	1,4,8,13,14
Managing external relationships	Develop and maintain long-term business relationships cross-functionally and inter-organizationally.	1,3,6,8,10,11,12,13,14
Generic competence		
Communication		
Information gathering	Actively take in written, verbal, and non-verbal information; extract and interpret the essence.	1,4,5,8,10,14
Information sharing	Use clear language; consider the receiver. Track responses from audience and demonstrate in presentation.	1,3,4,5,10
Cognitive		
Analysis	Demonstrate analytical ability and numerical techniques, as well as qualitative data handling.	1,3,4,8,10,11,13,14,15
Problem solving	Recall and apply information to propose alternatives based on goal-oriented thinking.	1,4,9,11,13,14
Functional competence		
Technology		
Basic technical skills	Handle databases, spreadsheets, and word processing and have web search ability.	1,4,5,8,13
Information systems	Handle information systems and L&SCM-specific software.	1,2,4,7,8,10,12,14
Modeling and optimization	Develop and use interactive decision support models based on simulation and optimization.	1,12,14
Administrative routines		
Administration	General administration practices.	8,13,14
Cost control	Demonstrate basic accounting skills, manage budget, and control costs.	1,5,8,10,13,14
SCM expertise		
SCM knowledge areas		
Supply chain management	Demonstrate understanding of the supply chain concept, synchronization challenges, and performance trade-offs.	1,4,8,10,12,13
Customer management	Measure customer satisfaction and ensure customer focus in all areas. Practice value-added customer relationship	1,8,12,13

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Table 1 (*continued*)

Competence	Examples of related manager practices	References*
	management.	
Sales and marketing management	Understand and profile customers and analyze patterns to identify market opportunities.	2,7,8,12,13,14
E-commerce	Demonstrate an understanding of the function and effect of e-commerce on supply chain processes.	8,12
Order management	Order, monitor, review, and execute order flow and allocation.	8,13,14
Purchasing	Demonstrate knowledge of the criteria for assessing and evaluating suppliers. Undertake basic negotiations.	8,12,13,14
Production	Show an understanding of the manufacturing process, material replenishment systems, and the consequences of order scheduling.	8,12,13,14
Inventory management	Know and use inventory systems for demand planning and inventory management.	8,12,13,14
Warehousing	Control movements of materials, information, and services through factories and warehouses.	1,8,12,13,14
Transportation management	Prove operational knowledge of carriers, fuel, load planning, end-to-end-solutions, taxation, and customs.	1,8,12,13,14
Reverse logistics	Manage returned goods, parts, and scrap disposals.	1,8,14
Product development	Be able to design to manufacture. Be knowledgeable about new product introduction and packaging.	8,12,13,14
Quality and process improvement	Be knowledgeable about quality systems, TQM, ISO 9000. Visualize a process and propose improvements.	1,12,13
Applied SCM analysis		
Forecasting	Demonstrate an understanding of how to forecast using quantitative and qualitative methods.	8,12,13,14
Production scheduling	Schedule production and distribute products among manufacturing facilities, terminals, and customers.	1,8
Facilities location analysis	Be familiar with and able to plan the location for each facility.	8,12,14
Route planning	Reach optimal efficiency through vehicle routing, using both qualitative and quantitative data and techniques.	1

*) 1. APICS (2011), 2. Christopher (2012), 3. Cottrill (2010), 4. Gammelgaard and Larson (2001), 5. Giunipero et al. (2006), 6. Kayakutlu and Büyüközkan (2010), 7. Mangan and Christopher (2005), 8. Murphy and Poist (2006), 9. Myers, Griffith, Daugherty, and Lusch (2004), 10. Prajogo and Sohal (2013), 11. Richey et al. (2010), 12. Sauber et al. (2008), 13. Shou and Wang (2015), 14. Thai (2012), 15. Van Hoek et al. (2002).

well as a longer semi-structured interview at the end of the period, to zoom out. Furthermore, they obtained access to internal documents, such as managers' job descriptions and their working material. The researchers then applied open coding on the collected data following the guidelines by Strauss and Corbin (1998), and approached and scrutinized the data using abductive reasoning (Dubois & Gadde, 2002), moving back and forth between the empirical data and the theory-based developed framework. Given the qualitative nature of the data collected, triangulation was a key technique to increase construct validity and substantiate findings (Denzin, 1978).

4. Results and discussion

The aim of this section is to present the results and to suggest propositions for future research. In total, this study makes four propositions.

4.1. Competence profile

The first finding that stands out from shadowing is the dominance of business managerial competences (30–40% of observations), generic competences (20–30%), and behavioral competences (15–30%) that managers use in practice. The finding leaves little room for SCM expertise (0–5% of observations) and functional competences (5–20%). For example, the managers display SCM expertise on rare occasions only, and almost only when the job description includes a specific expertise area, such as *forecasting* or *inventory management* (for clarity, this section lists all competences in italics). Thus, in line with many other studies (Mangan, Gregory, & Lalwani, 2001; Murphy & Poist, 2006; Thai, 2012), this study supports the notion that a manager in L&SCM is a manager first and a logistician second, also in practice. Given forecasts of an increasing shortage of talent in this field (Cottrill, 2010), along with the recognition of supply chain excellence as a competitive differentiator (Aquino & Draper, 2008), this study suggests the following proposition.

Proposition 1. In the quest to find and recruit L&SC manager talent, companies might consider generalist profiles as well as SCM specialists for staff and thereby maximize supply chain performance.

Even though previous studies find frequent use of generalist competences, the low usage of specialist competences is not unimportant. Several of them most likely have a significant effect on a manager's decision capabilities, for example, the usage of *forecasting* or *facilities location* expertise. In addition, the method itself might diminish the frequency of specialist competences since these competences might be invisible, even though they would be present in practice as antecedents. However, the generalist profile has support in the literature, and thus, managers have probably other reasons for not using specialist competences. Considering the fragmented nature of the shadowed managers' working days, they might simply have difficulties prioritizing both traditional management work, such as planning, decision-making, and controlling, and tasks that require specialist competence.

4.2. Multitasking ability

The next result from the empirical data is the identification of multitasking ability. The managers use this competence, which consists in concurrently performing more than one activity, continuously in practice. For example, managers could work simultaneously with two computer screens and a mobile phone, along with interruptions from phone calls and employees coming in to ask for advice. This result is not surprising, but confirms previous findings of managers' work situation having a high degree of fragmentation (Tengblad, 2012). However, more surprising is that despite this well-known phenomenon in the managing literature, the literature on L&SCM competence has not yet acknowledged multitasking as a specific competence. Given how fundamental multitasking is, this study proposes the following.

Proposition 2. Multitasking ability is a prerequisite for a manager in L&SCM to do his or her job.

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Table 2
Overview of selected cases.

	Position (+ additional position)	Gender	Years in: position/company/management	Industry	Turnover/employees	Job description	Reports to/subordinates in organization
A	Supply chain manager	Male	6/16/12	Heavy manufacturing	EUR 7100 million 1700 employees	Order handling, production planning, freight procurement, and warehousing in Europe	CEO Europe/ 8 employees
B	Operations manager (+ Supply chain manager)	Female	3/27/10	Retail	EUR 2300 million 15,300 employees	Customer service, logistics, and warehousing in the Nordic and Baltic markets	CEO Nordic/ 2 middle managers and 5 employees
C	Logistics coordinator	Male	3/3/6	Wind energy	EUR 940 million 3000 employees	Inventory control and transportation at central operations and maintenance base	Country manager for operations and maintenance/ 1 facility manager
D	Parts and accessories manager	Male	22/43/22	Automotive	EUR 9 million 21 employees	General manager for the main distribution center, with inventory-level responsibility	After-sales manager/ 20 employees
E	Warehouse manager (+ Traffic manager)	Male	5/16/12	Transportation	EUR 6517 million 23,000 employees	Lead and develop work in a warehouse	Country manager for warehouses/ 70 employees
F	Production manager	Male	2/5/2	Transportation	EUR 6517 million 23,000 employees	Organize and monitor work in a warehouse	Warehouse manager/ 45 employees

4.3. Combinations of competences

In contrast to the existing literature, which depicts competences as discrete and factor-based, the results from practice further show that managers use competences in combination, which in turn creates synergies. One example is problem solving, which is not only in relation to *problem-solving* competence itself, but also to *information gathering* and *company experience* to find a better solution faster. Another example is *leadership*, which interacts with *self-management* when managers attempt to motivate all employees, including those who they are not particularly fond of. Thus, the question is not what competences are necessary, but rather what combination of competences is. This insight drawing from shadowing indicates that the level of competence in practice extends beyond the sum of individual competences. Therefore, scholars should shift research attention to a more integrated approach when exploring L&SC manager competence, analyzing combinations of competences, rather than focusing on/maximizing a single set of competences.

Proposition 3. Companies that consider combinations of competences when recruiting and/or developing L&SC manager competence may create unexplored synergies, thereby achieving greater potential to maximize L&SC manager performance.

4.4. Company experience effect

Finally, one particular competence that this study finds interacting distinctly with others is *company experience*. *Company experience* is fundamental in practice, and managers use this competence in combination with almost all competences in the study: with *forecasting* as input support, with *performance evaluation* as good or bad guidelines, with *information gathering* as knowledge of where to find information, with *decision-making skills* as support through knowing the principles and direction of the company, and with *stakeholder management*, through knowing the customer/supplier history (*managing external relationships*) and what jobs to prioritize (*managing staff*). The widespread usage of *company experience* makes such competence a key factor for practitioners to release the synergies above.

Company experience is often tacit, and thus, on-the-job training is an essential part of becoming a competent manager. This aspect is especially significant for managers in L&SCM (compared to managers in R&D, finance, or marketing), considering the widespread boundaries of SCM and the requested integration among all processes and functions in a company. The many inter-connections require contextual insight into neighboring issues. Building *company experience* over time is a prominent practice. Surprisingly, the academic literature seldom mentions or highlights the development of such a competence. This study therefore suggests the following proposition.

Proposition 4. Company experience distinctly affects practice, and companies that put effort into transferring tacit company experience into explicit knowledge can realize unexplored potential for competitive advantage by means of unambiguous training and development of L&SC managers.

The effect of *company experience* entails a two-fold aspect for the recruitment process of L&SC managers. While the generalist competence profile suggests a flexible job market in which both employers and employees have a broad target area, time is necessary to acquire *company experience*, build relationships, and grow into the role of an L&SC manager. On the other hand, having invested in this time, such a manager is a competitive advantage to any company.

5. Conclusion

This study set out to provide insights into what competences L&SC managers use in practice and to enhance the understanding of the nature of manager competences in the field of L&SCM. Analyzing L&SCM competences using practice theory not only results in original research findings, but also gives support and empirically grounded explanations to previous research. Significantly, the results assist in complementing the prevailing factor-based picture of L&SC manager competence. Thus, this study makes modest but important and relevant contributions to understanding and developing the L&SCM competence research field. The specific contributions to the literature are threefold. First, the study develops a comprehensive framework of L&SC manager competences and related practices building from the existing literature. Second, the study applies practice theory and shadowing to the field of L&SCM competence with a focus on manager practices, thereby adding a new perspective of reality. Finally, the study suggests propositions as avenues for future research and development.

The research findings have implications for multiple stakeholders. Managers are able to compare and benchmark their perceived competence profile and obtain guidance in their choice of in-service training.

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In addition, for those who aim for a manager career within L&SCM, the study provides awareness of the range of competences managers use in practice, which is not always the same as job descriptions and do not always match academic curricula. Furthermore, human resource managers gain in-depth understanding of the above competences, and thereby can assist staff in recruitment and development work toward improved business performance and financial competitiveness.

This study has certain limitations. First, only six managers form the basis for the study, and although they come from a variety of industries and have various experiences, this number is insufficient to generalize results. Therefore, an interesting exercise is to replicate this study, as well as contrast the present case selection with different work contexts. Second, the period of 10 days to shadow each manager is a limitation per se, and may exclude practices of lower frequency, such as budget work. However, this study's distribution of shadowing over a longer period reduces the risk of possible exclusion. Finally, this study uses a qualitative approach, whereas future studies could develop hypotheses and test measures for subsequent use in quantitative research.

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