



UNIVERSITY OF TWENTE.

**Faculty of Behavioural, Management and
Social Sciences**

**The role and competences of the
‘Purchaser from tomorrow’ – A case
study to compare demands in
German SMEs and large enterprises**



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Topic: The role and competences of the ‘Purchaser from tomorrow’ – A case study to compare demands in German SMEs and large enterprises

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Preface

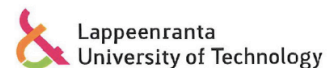
This document exhibits the Master thesis titled ‘The role and competences of the ‘Purchaser from tomorrow’ – A case study to compare demands in German SMEs and large enterprises’. The Master thesis is considered as the last milestone for a student before graduating from the University of Twente to a Master of Science in Business Administration. The specialisation in Purchasing & Supply Management (hereafter PSM) was chosen due to my particular interest in this field. For this reason, I took the chance of matching my academic affinity to a Master thesis topic that represents a contemporary issue in the world of PSM.

Looking at the context of the Master thesis, it is essential to mention that it contributes to an internationally established project defined as ‘Purchasing Education & Research for European Competence Transfer’ (hereafter PERFECT). Five leading universities from the Netherlands, Germany, Finland and England represent the participants and strive for a development of a standardised PSM curriculum in European educational institutions. This undertaking is attributed to the steadily rising challenge in the national and international PSM scope. As an answer to the increasing importance of purchasing education, the project partners intend to boost its education offerings by forming a consistent but at the same time extensive syllabus. The ultimate effort is the alignment and optimisation of the diverse universities’ study programs which leads to a harmonised pan-European PSM curriculum and thus the ability to prepare students specifically for a career in PSM.

The major objective of the commissioned Master thesis is to facilitate progress in comparing theoretical knowledge derived from academic literature to findings generated from field research in purchasing departments of German SMEs and large enterprises. The subsequent step is the validation or rejection of elaborated outcomes between theory and practice.



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Prof. Dr. habil. Holger Schiele represents the PERFECT project for the University of Twente. After a first discussion about the project's current state of affairs in May 2016, I could say with confidence that the actual theme of PERFECT entirely corresponds to my personal preferences and the idea of a compelling and relevant matter. Consequently, I am thankful for the opportunity to be a part of this project and hope to contribute valuable findings for the mutual benefit of all concerned parties.

Certainly, this thesis would not have been possible without the help of some people who I would like to acknowledge in the following. Firstly, I express my gratitude to my university professors and supervisors Mr. H. Schiele, Mr. N.J. Pulles and Mr. K. Stek for support and advice throughout this project. Secondly, I owe special thanks to all professionals who represent the participating companies in this study. They provided qualitative in-depth information that build the foundation of this thesis. The last persons I would like to mention here are Ariel M. Baptiste and Elena Loh who also helped me and fostered the quality of the thesis.

Finally, I would like to declare that this final thesis assignment as part of the Business Administration study awarded with the M.Sc. degree is my own personal work. The use of other authors' work is clearly marked.

I hope you enjoy reading the thesis.

A handwritten signature in purple ink, appearing to read 'Benen', with a long horizontal flourish extending to the right.

Jonas Benen

Enschede, February 2017

„Ein zukünftiger Einkäufer geht schon auf die Multitalent-Rolle zu. Man muss natürlich nicht alles perfekt können, aber von vielen Themengebieten Ahnung haben. Sei es das technische, IT oder Fachwissen, alles sollte integriert werden.“

A future purchaser moves towards a multi-talent role. It is certainly not necessary to be an expert in everything, however, the purchaser needs to have profound competences in many subject areas. Ranging from IT to technical and specialised knowledge, all fields need to be integrated.

(Junior purchaser apetito)

„Das Anforderungsprofil eines Einkäufers ist wahnsinnig hoch. Optimal wäre es, wenn ein Unternehmen Einkäufer hat, die eine IT Ausbildung haben, Einkäufer hat, die eine kaufmännische Ausbildung haben und das man Einkäufer hat, die Ingenieure sind. Diese drei Bereiche zu kombinieren und sich zu komplementieren ist der Optimalfall.“

The purchaser's job profile is extremely high. Optimally, a company has purchasers with an IT education, purchasers with a business management education and purchasers being engineers. In the best case these three areas would be combined and complemented.

(Head purchaser Emsland Group)

Management summary

The analysed central research question deals with the theme of what education and skills a professional ‘Future purchaser’ should possess with regard to SMEs and large enterprises to meet demands in the context of a strongly evolving PSM field to a key strategic business function.

In line with academic literature, major findings of this research indicate that PSM has developed throughout the last decades from a low status support function to a focal business necessity. Today’s purchasers take on a strategic cross-functional management role, require a diverse set of managerial and function specific competences and are accountable for a wide range of source-to-contract and purchase-to-pay processes. The conducted field research also validates current equivocal positions, future potential and distinct developments in the PSM domain. Only one out of the nine interviewed companies incorporate an exclusive CPO in their C-suite. The other heads of purchasing are embedded in corporate middle management. Despite broad literature about needed competences and knowledge requirements in this field, it is barely investigated whether there exist significant differences in PSM roles and personnel qualifications relative to an organisation’s size. A second knowledge gap comprises missing insight on what teaching material higher educational institutions should utilise to optimally prepare future purchasers for their careers. It is commonly acknowledged that PSM study programs are too limited and do not respond to today’s needs of specifically educated purchasers in the economic world.

Authors describe in their literature PSM’s low priority, non-strategic character and a non-existence of separate departments with few functional professionals in SMEs. It is further indicated that large enterprises have a more positive feeling in E-procurement, in contributing to the organisation’s overall success and that within SMEs, owners mostly include purchasing as a side activity. Surprisingly, these statements of substantial differences in PSM role and competences with regard to an organisation’s size could not be confirmed. Quite the contrary, SMEs realise the link between effective purchasing, increasing profitability and disadvantages due to inferior purchasing capability. Likewise large enterprises, interviewed SMEs have stated PSM importance with strategic relevance, rising priority, professional purchasers in separate departments and contribution to total firm success. The realisation of PSM relevance irrespective of size results in an identical high job profile for purchasers. Even though large enterprises engage more specialists for

certain commodity groups and demand more project, process and interface management, SMEs also report the need for qualified PSM personnel with commercial, technical and IT competences. These three areas are in line with proposed skills taxonomies from authors of academic studies who consider a Bachelor degree as a minimum formal education for purchasers. Analytical tools, strategic PSM knowledge, communication, decision-making and conflict resolution capabilities, negotiation techniques and IT skills in SAP/ EDI software appear to be most relevant. Workshops, work placements, case studies and an integration of more corporate guest lecturers are also recommended to advance practical relevance, experience and networking options. In total, it is realised that the PSM profession has evolved to a complex and challenging nature in both SMEs and large enterprises.

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Listing of abbreviations

AG = Aktiengesellschaft (corporation)

CFO = Chief Financial Officer

CHRO = Chief Human Resource Officer

COO = Chief Operations Officer

CPO = Chief Procurement Officer

CPS = Cyber Physical Systems

CRQ = Central Research Question

CSR = Corporate Social Responsibility

ERP = Enterprise Resource Program

ESI = Early Supplier Involvement

GmbH = Gewerkschaft mit beschränkter Haftung (limited company)

IT = Information Technology

JIT = Just in time

KPI = Key Performance Indicator

M.A. = Master of Art

MBA = Master of Business Administration

M.Sc. = Master of Science

NDS = Lower Saxony

NPD = New Product Development

NRW = North Rhine-Westphalia

OEM = Original Equipment Manufacturer

PERFECT = Purchasing Education & Research for European Competence Transfer

PSM = Purchasing and Supply Management

R&D = Research and Development

SCM = Supply Chain Management

SSCM = Sustainable Supply Chain Management

SME = Small and Medium Enterprise

TCO = Total cost economics

UT = University of Twente

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1. Introduction: Research scope, central and sub-research questions, relevance of the study and structure

The first chapter serves as an introduction for the Master thesis and consists of four sub-chapters: The research scope gives an understanding on today's PSM development to a proactive, pivotal and strategic business function. The analysed CRQ and sub-questions are depicted to give the reader an overview on central elements of the report. The practical and academic relevance is elaborated to address the identified knowledge gap and to specify why it is important to gain new insights. Lastly, the complete structure is illustrated to give the reader a preview of covered topics.

1.1 Research scope: The business function PSM has taken on a strategic character

In recent years, not only the purchasing and supply management (PSM) field increased its degree of importance, but also the more general process of procurement. This organisational function has evolved to a strategic key role and, if implemented and managed effectively, contributes to long-term value such as gaining a sustainable competitive advantage.¹ There exists empirical evidence of the strategic role and relevance of purchasing. Dyer and Hatch (2006) show in their study that network resources have influence on firm performance as well as that particular firm resources are relation-specific and thus difficult to transfer to other buyers or networks. In other words, buying firms' overall capacity and achievement can be enhanced by more engagement in knowledge-sharing initiatives with suppliers. For example Toyota recognised the advantages of a superior supply network and reported significant increases in quality and net profit on the US market.² Two theoretical perspectives further emphasise the strategic impact. Firstly, according to Barney (2012), both the resource-based theory and strategic factor market logic explain that the organisational functions of purchasing and supply chain management considered as resources are capable of creating sustained competitive advantage.³ Secondly, the perspective of the relational view indicates the yield of a competitive advantage by means of relationships with other firms like suppliers. This so-called

¹ See Spekman et al. (1994), p.76; Chen et al. (2004), p.518; Paulraj et al. (2006), p.107-108, p.118; Baier et al. (2008), p.36, p.46; Porter and Kramer (2011), p.10.

² See Dyer and Hatch (2006), p.711, p.716.

³ See Barney (2012), p.3.

‘relational rent’ stands in contrast to the resource-based theory since it implies that resources do not need to be in-house to give a firm a competitive advantage.⁴ However, the two perspectives underline the strategic nature and opportunities in PSM.

An up-to-date incident which happened in August 2016, reveals the critical character and power regimes in the field of PSM. After disputes with two big component suppliers, the German car manufacturer Volkswagen faced major interruptions and shortages in deliveries. This caused a temporary closing of German production facilities and huge losses.⁵ How to deal with suppliers and to gain leverage is a relevant aspect. Pulles et al. (2014) discuss used power and trust practices in the field of PSM and show various influences on a supplier’s resource allocation behaviour.⁶

Also present numbers of cost distribution in an industrial firm in central Europe reinforce the rising necessity to have educated PSM personnel since expenses in procurement can account for 50 to 80 per cent of total cost of goods sold.⁷ One reason for this is that original equipment manufacturers (OEMs) focus these days more on core competences such as branding and design. There is a reduction of depth of value added, consequently purchasing volume increases.⁸

The business environment goes through fast and complex changes. The on-going progress in globalisation, E-commerce and outsourcing has pervasive impacts on the future role of a purchaser. Also competition and the ever-growing consumer expectations for better price-benefit ratios lead to shorter product life cycles and pressure for companies to satisfy the society’s demands.⁹

As a consequence of advanced PSM positions within companies, actual professions in this domain take on a changing role as well. Today it is commonly understood that involved staff has to be educated in order to cope with the PSM challenges.¹⁰

Due to these trends, it is assumed that managers set the internal objective of achieving a high level of purchasing maturity. The more professional a PSM department within an organisation is established and maintained, the better are prospects of improving

⁴ See Dyer and Singh (1998), p.675.

⁵ See TheGuardian, under <https://www.theguardian.com/business/2016/aug/22/volkswagen-supplier-clash-stops-manufacturing-at-six-plants> (retrieved 16th November 2016).

⁶ See Pulles et al. (2014), p.30-31.

⁷ See Ryals and Rogers (2006), p.41; Paik et al. (2009), p.11.

⁸ See Mohr (2010).

⁹ See Zheng et al. (2007), p.69, p.73-76; den Butter and Linse (2008), p.76-77.

¹⁰ See Anderson and Rask (2003), p.83; Hong and Kwon (2012), p.461-462.

purchasing performance and success.¹¹ Amongst others, global sourcing, negotiation and analysing skills are essential in the long run which demands a learning process and educational arrangements. Organisations start to realise the need for professionals in this field and therefore try to engage specialised personnel for its PSM departments.¹² Already Kolchin and Giunipero (1993)¹³ propose a skills portfolio for purchasers, which has never stopped to develop. Apart from the traits, current discussions are raised about a purchaser's role in the process of new product developments, achieving more sustainable business procedures and benefiting from new eras in digitalisation or in context of 'Industry 4.0'.¹⁴ Attention needs to be paid not only to the recruiting processes for potential purchasers, but also to selective training and personal development initiatives.¹⁵ In this way, firms proactively support the acquisition of knowledge and capabilities that employees require in this division.¹⁶ The observation of employing much personnel in a purchasing function with little or even no educational background in this particular operating field is about to change in future since a general need for specialists with a respective qualification is recognised.¹⁷ It is therefore claimed that prospective purchasing managers must begin to obtain its knowledge and skills in higher educational institutions like universities. This implicates the need of corresponding PSM curriculums at universities so that students can be optimally prepared in an early stage of their careers. As a logical consequence, a high quality and diverse study program aligned across multiple countries is a future condition to strengthen educational options for this specific business field. Yet, this target is clearly seen as a vision which can be only set into reality by means of effort in future.¹⁸ Birou et al. (2016) argues that research within purchasing as a business function and academic discipline is still too little compared to other areas of supply chain management such as

¹¹ See Cousins et al. (2006), p.775; Schiele (2007), p.274; Hartmann et al. (2012), p.22, p.32; Van Poucke et al. (2014), p.1-2.

¹² See Faes et al. (2001), p.198, p.205-206.

¹³ See Kolchin and Giunipero (1993).

¹⁴ See Walker and Phillips (2009), p.42; Schiele (2010), p.138; Crespín-Mazet and Dontenwill (2012), p.1; Tracey and Neuhaus (2013), p.98; Brettel et al. (2014), p.37.

¹⁵ See Shou and Wang (2015), p.1.

¹⁶ See Giunipero et al. (2006), p.841; Tassabehji and Moorhouse (2008), p.59-63; Foerstl et al. (2013), p.707-708.

¹⁷ See McIvor et al. (1997), p.165-166; Giunipero (2000), p.5-9; Giunipero and Handfield (2004), p.10-16; Feisel et al. (2011), p.54-57, p.60-63; Knight et al. (2014), p.273.

¹⁸ See Handfield and Nichols (2004), p.34; Zheng et al. (2007), p.76-77; Melnyk et al. (2009), p.4640-4642.

logistics or operations. Hence, the authors suggest to intensify purchasing research about content, pedagogy, courses assessment and its alignment with industry expectations.¹⁹

Based upon the academic literature review about the contemporary development in PSM, weak spots in its corresponding education and institutions are assumed. This business function has evolved to a highly vital and strategic necessity for organisations but the challenges can be hardly handled.²⁰ When looking at current study programs for students in general, literature proposes potential for improving education systems with regard to quality and sustainability.²¹ It is further claimed that educational institutes do not offer a PSM education that reflects the growing significance of it.²² Thus, it is aimed to remove this mismatch and align the educational facilities to the standards it deserves.

One endeavour to tackle both the current shortage and inconsistency of PSM education is the launched Purchasing Education & Research for European Competence Transfer project (hereafter PERFECT). Five leading European universities in the field of PSM education from four different countries mutually strive to establish an empirically validated curriculum for under- and postgraduate studies. It implies that participating universities are able to serve the “critical role in addressing the educational needs of business practice through scholarship and teaching, including that of purchasing” and to cultivate the future PSM professionals in a consistent way.²³ The project includes several steps, beginning with a benchmarking study that analyses best practice examples from distinct universities, corporations and associations. Subsequently, gathered information is validated by a survey with European firms. The last steps would be the designing of a harmonised pan-European purchasing curriculum and a set up of online courses for stakeholders that are interested in PSM skills.²⁴

The PERFECT project addresses a real-life issue that is relevant for a multitude of people and organisations. It is also of particular interest for researchers since relatively little research in the PSM field deals so far with the goal to attain a newly designed course of instruction for educational purposes. Due to this background, the theme can be assumed to be worth studying. This Master thesis belongs to the project’s first step and aims to execute

¹⁹ See Birou et al. (2016), p.72-73.

²⁰ See Kraljic (1983), p.109, p.117; Hallikas and Lintukangas (2015), p.487-488.

²¹ See Cortese (2003).

²² See Feisel et al. (2008), p.2; Shou and Wang (2015), p.1.

²³ See Birou et al. (2016), p.72.

²⁴ See TU University Dortmund University of Technology, under: <http://www.perfect.lfo.tu-dortmund.de> (retrieved 4th July 2016).

a benchmark study with selected German firms of different sizes. The objective is to advance knowledge on how the ‘Future purchaser’ looks like with regard to its job profile and needed education to successfully cope with upcoming challenges. This knowledge can be ultimately compared to current teaching contents at universities’ PSM tracks in order to evaluate missing elements. In addition, it is desired to investigate whether demands of a PSM employee in large corporations differ from those in small and medium enterprises (SMEs).

1.2 Central and sub-research questions for the analysis of skills and education for a purchaser in SMEs and large enterprises

Based on the explained background and specific goal of this research, one central research question (hereafter CRQ), as well as several sub-questions, have been developed to reach a satisfying outcome.

Central Research Question:

What education and skills should a professional ‘Future purchaser’ with regard to SMEs and large enterprises possess to meet demands in the context of a strongly evolving Purchasing & Supply Management (PSM) field to a key strategic business function?

Sub-Questions:

- 1. What are past and present developments towards a strategic PSM business function?*
- 2. How can a professional ‘Future purchaser’ be characterised?*
- 3. What particular education should this person obtain?*
- 4. Which competences should this person have?*
- 5. Which differences exist in job profiles comparing SMEs and large enterprises?*
- 6. Which key findings from the benchmark study should be taken into account for designing the empirically validated European best practice curriculum?*

The CRQ cannot be answered at once since it is composed of several components. Therefore, 6 sub-questions have been established to guide through the process of delivering outcomes.

The first sub-question is defined to identify aspects that have an impact on the PSM development towards a pivotal business function. Here, it is the objective to explain why PSM has evolved in the last decades to one of the most important corporate departments.

The second sub-question is linked to the detection of a purchaser's role and status within an organisation. The meaning of the term 'professional' in scope of a business environment is discussed and professional characteristics of a purchaser are revealed.

The focus of the third sub-question is on the individual education that serves as a foundation to cope with required demands. In addition, it is interesting to disclose whether a certain educational background is inevitable for a PSM job profile as well as whether a degree of a higher educational institution is seen as a condition for prospective purchasers.

The fourth sub-question deals with personal competences. So-called 'Soft skills' and 'Hard skills' are exhibited.

Another important aspect is covered by the fifth sub-question. Here, it is aimed to identify differences in job profiles and demands, comparing SMEs and large enterprises.

The last sub-question stresses the underlying benchmark study which is part of the Master thesis. The study serves as the basic framework for gathering qualitative data in PSM departments of German companies. This question emphasises the objective of designing an ultimate European best practice curriculum and should remind to condense the findings that are relevant for the PERFECT project.

1.3 Relevance and structure of the study: Gaining both practical and academic insight based upon theoretical and empirical analyses

Today's society lives in a fast changing world and faces pervasive advancements. Not only is the personal being characterised by technological, social, environmental and economical changes, but also the professional life and career.²⁵ Consequently, a great multitude of jobs and business functions have been evolved and aligned to the current needs of stakeholders. Likewise, this scenario applies to the progression of an organisational PSM department and role of a purchaser. As Johnson and Leenders (2007) conclude in their empirical work, significant alterations can be recognised in purchasing teams, a CPO's status and background as well as in companies' supply chain responsibilities and supply organisational structures.²⁶ Bearing the importance of the PSM world in mind, it is not

²⁵ See Hammer (1996), p.3-4.

²⁶ See Johnson and Leenders (2007), p.340.

surprising that empirical research in this domain also accelerates.²⁷ Various outdated but also up-to-date literature and studies are available that deal with subject matters about PSM. As Spina et al. (2013) notice, PSM “has gained growing attention among business schools, where the subject is increasingly taught in both open enrolment programs and corporate training courses.”²⁸

However, little investigation has been provided with regard to a purchaser’s education needs and general career preparation necessities to successfully fulfil demands and responsibilities of a professional future purchaser.

The launched PERFECT project addresses a gap in literature and lack of knowledge since it looks at the mix of education and skills which universities should impart to students. The sought university curriculum which is the ultimate objective of the project, reflects the call for action to give this field novel insight. Summarised, this study is based upon an academic research setting and delivers both new understanding for academia and practical experience through the execution of field research in the business context. The implementation of a syllabus at different international higher educational institutions is a highly relevant and practical desire. This aim is strengthened by the work of Schneider and Wallenburg (2013). The authors analyse the last five decades of research in the field of purchasing and conclude a necessity for further investigation.²⁹ In particular, they classified twelve major purchasing research areas covering distinct contents. Especially, the area named ‘organisational learning’ is considered as relatively new and little researched. Therefore, it gains “further importance in a future that is shaped by continuous changes requiring an enlarged skill-, knowledge-, and capability-set from employees.”³⁰ Thus, the authors suggest prospective research, which facilitates “continuous organisational learning and knowledge management within purchasing in a way perceived as valuable both by the organisation and the individual employee.”³¹ The aimed curriculum can be linked to the defined organisational learning area since it is an approach to exactly extend these specific PSM skills, knowledge and capabilities. The ultimate desire is to foster PSM personnel and their organisations in a way that these are better able to respond to upcoming developments and challenges in this field.

²⁷ See Spina et al. (2013), p.1207; p.1211.

²⁸ Spina et al. (2013), p.1202.

²⁹ See Schneider and Wallenburg (2013), p.153.

³⁰ Schneider and Wallenburg (2013), p.152.

³¹ Schneider and Wallenburg (2013), p.152.

This Master thesis is constructed based on prior discussions about topic, layout and contents. The report contains both a theoretical and empirical part in order to answer the CRQ and supporting sub-questions. As shown in figure 1, the reader encounters eight main chapters with different purposes:

Chapter overview in Master thesis	Purpose of the chapter
Chapter 1. Introduction: Research scope, central and sub-research questions, relevance of the study and structure	Introduction into the topic; understanding on today's PSM development to a strategic business function; overview on central elements of the report; identification of the knowledge gap to be addressed; explanation of why it is critical to provide new insights
Chapter 2. Theoretical background: The distinct character of SMEs compared to large enterprises and the evolution of PSM to a strategic business function	Literature review to show general and PSM differences between SMEs and large enterprises; literature review to explain why PSM has developed to a central corporate department
Chapter 3. Theoretical background: Specialities in the skills portfolio, education and knowledge requirements of professional purchasers	Literature review to demonstrate required educational background and competences in today's purchasing; differentiation between PSM needs in SMEs and large enterprises
Chapter 4. The cross-sectional linkage of theoretical elements: The assumption of a purchaser's different role and competences in relation to an organisation's size	Consolidation of the most relevant theoretical elements; explanation of the assumption that the PSM role and competences appear to be different in relation to an organisation's size
Chapter 5. Research design: A case study approach within the PERFECT project	Explanation of the research design that is applied in the course of this Master thesis
Chapter 6. Empirical findings from the conducted interviews in German SMEs and large enterprises: Using an in-case and cross-case analysis for the illustration of findings	Illustration of gained findings through the analysis of conducted semi-structured interviews in PSM departments; identification of commonalities and differences; sort out relevant information with respect to the knowledge gap and PERFECT project
Chapter 7. Overall conclusions based on the theoretical and empirical research	Summarisation of general and specific conclusions; explanation of surprising outcomes
Chapter 8. Critical reflection and limitations	Reflection of the work; illustration of potential distortions; suggestions for further research in this context

Figure 1: The preview of chapters and their purpose

2. Theoretical background: The distinct character of SMEs compared to large enterprises and the evolution of PSM to a strategic business function

The second chapter deals with theoretical backgrounds. The purpose is to show occurring general and PSM related differences in relation to an organisation's size. The second focal aspect is to understand that purchasers have undergone an evolutionary process. Past, present and emerging developments in the business field make PSM to a critical and indispensable function.

2.1 The distinct character of SMEs compared to large enterprises: A company's size has an effect on earnings, fringe benefits, promotional opportunities, autonomy, productivity, job title proliferation and the degree of innovation

There are many empirical studies that identified organisational varieties in relation to its size. Kalleberg and van Buren (1996) find differences in earnings, fringe benefits, promotion opportunities and autonomy. Seven major clusters of variables partly explain these differences in companies relative to size: product market characteristics, labour market characteristics, relations between the organisation and its institutional environment, structure of the organisation, unionisation, job characteristics as well as quality of the labour force.³² The authors conclude that employees' earnings, fringe benefits and promotional opportunities are higher in larger organisations than in smaller ones. These job rewards are incentives used by employers of larger enterprises to motivate its workforce to stay with them. Autonomy, referring to the degree of having control over own work, is seen as high in smaller organisations.³³ Amongst all considered distinctions, the rather dominant topic remains the employer size – wage effect. This is strengthened by the study of Brown and Medoff (1989). They argue the employer size on wage effect and state that it is not only a common establishment but also a size effect.³⁴ A reason for this and at the same time additional difference is the extent of productivity. Idson and Oi (1999) explain in their study that employees in larger corporations have higher labour productivity by

³² See Kalleberg and van Buren (1996), p.47-48.

³³ See Kalleberg and van Buren (1996), p.62; Kalleberg and Mastekaasa (1998), p.1266.

³⁴ See Brown and Medoff (1989), p.1056.

means of better information, more favourable credit terms access, usage of advanced technologies, engagement of more capable personnel and the setting of higher working standards. Due to higher labour productivity, personnel are in the position to demand higher compensation. Here, the authors' bottom line is that inherently skilled employees in large firms are more productive and thus support the positive size – wage effect.³⁵

They also stress that “Jobs at large firms differ from those at small firms.”³⁶ Linked to actual job distinctions relative to organisational sizes, Baron and Bielby (1986) exert research on job title proliferation and define size as the major determinant. They declare that growing organisations specialise and differentiate their activities. Secondly, growing organisations distinguish positions both vertically and horizontally. This eventually implies a greater likelihood of job title fragmentation, which leads to accurate job content and hierarchical position separation.³⁷ A further point for discussion is the innovation capability of organisations relative to their sizes. Empirical studies support the overall thesis that size associates with innovation. In other words, there is the general point of view that larger firms have more advantages in R&D activities.³⁸

Barber et al. (1999) make the importance of an employer's size clear by looking on it with the perspective of students. The authors figure out that most job seekers in the form of students have preferences for the size of the employer they wish to work for, thus the size must be recognised as a major selection criterion.³⁹

Summarised, the presented list of significant varieties are subject to the size of an organisation and lead to the conclusion that SMEs differ in various personnel-related aspects compared to large enterprises. Build upon this observation, it can be further assumed that demands of workforces also vary depending on organisations' sizes. In particular, this assumption is transferred to the PSM field with its inherent staff. One aim of this study is to elaborate on whether requirements of PSM personnel differ with different sizes.

³⁵ See Idson and Oi (1999), p.104-107.

³⁶ Idson and Oi (1999), p.107.

³⁷ See Baron and Bielby (1986), p.563-564; p.573.

³⁸ See Cohen and Klepper (1996), p.241; Laforet (2008), p.759; p.761.

³⁹ See Barber et al. (1999), p.859; p.862.

2.2 The embedding and design of a PSM department in an organisation depends on structural characteristics and contextual factors

An organisation's size is not only an origin of personnel-related differences, but also influences the embedding and design of individual corporate departments. The following paragraphs focus on PSM organisation, since this business function is most relevant for the study.

Companies both use different contextual factors and apply various structural designs of purchasing organisation.⁴⁰ Figure 2 summarises key elements from the authors Glock and Hochrein (2011).

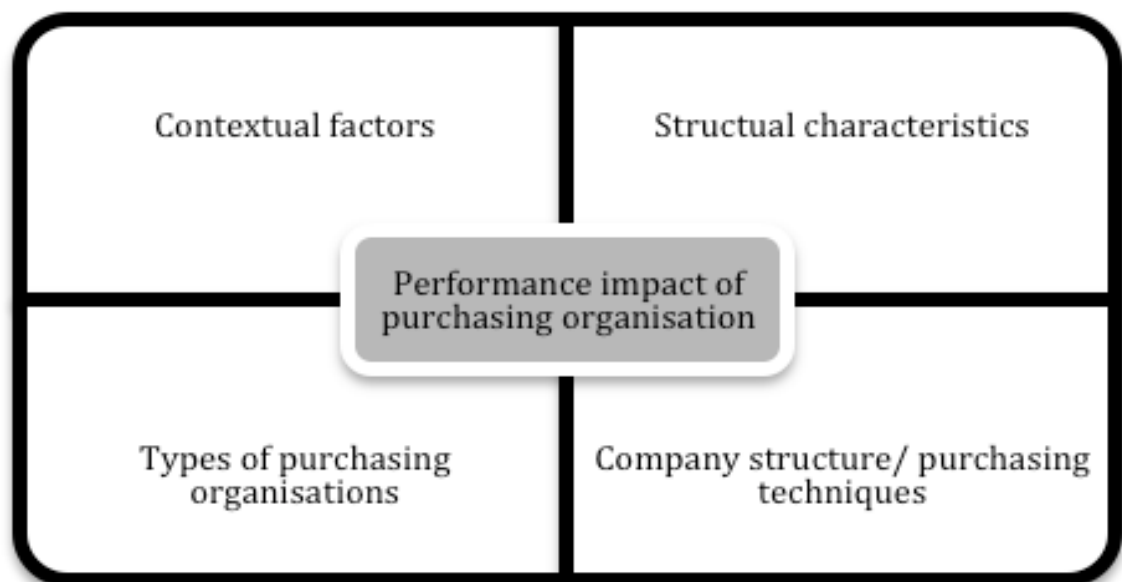


Figure 2: Conceptual framework; Source: Glock and Hochrein (2011), p.153

The final objective of an embedded PSM department is to provide for all contingencies and to contribute to a firm's overall performance. Stanley (1993) proposes that ultimate performance measured in effectiveness, efficiency and adaptiveness depends on an organisation's structure.⁴¹ Formal purchasing organisations contain structural characteristics such as standardisation, involvement, specialisation, configuration, formalisation, decentralisation and centralisation. Apart from so-called 'structural variables', determinants of organisational design are of major importance. These determinants are classified in contextual factors that are either internal to the company, but

⁴⁰ See Glock and Hochrein (2011), p.152.

⁴¹ See Stanley (1993).

externally located to a purchasing organisation (organisation characteristics, product characteristics and purchase situation) or solely external to the company (environmental factors). It is recognised that both types of contextual factors have an impact on structural characteristics of a purchasing organisation. Crucial to realise is the dual role of purchasing structure in organisations. It is not only seen as a response on how to cope with influencing contextual factors, but is also considered as a contextual variable itself that affects other organisational functions. When purchasing structure is seen as a contextual variable it potentially influences overall company structure and purchasing techniques.⁴²

As a result of contextual factors and structural characteristics, multiple organisational types of purchasing are established. Here, it can be distinguished between private (sourcing teams, commodity management, international procurement offices and cooperative sourcing) and public institutions (sourcing teams, commodity management and intergovernmental cooperative sourcing). These institutional types of purchasing organisations with its supply function eventually determine performance.⁴³

Going a step back, it makes sense to take a deeper look at the contextual factor area of organisation characteristics since one of these characteristics is defined as size of a buying organisation.⁴⁴ According to Trent (2004), larger buying organisations have access to more resources. This, in turn, gives the opportunity to offer more products and businesses which influences the purchasing organisation. The author also emphasises that larger organisations encompass more complex purchasing structures.⁴⁵ Crow and Lindquist (1985) state that larger buying organisations involve more PSM personnel with the result of possessing a larger purchasing department.⁴⁶

The empirical discussion about the contextual factor of an organisation's size is omnipresent and belongs according to Bals et al. (2014) to the most investigated organisational level contingencies.⁴⁷ It shows that size has an impact on a purchasing business function and its performance. Zheng et al. (2007) assert that "purchasing structure and the role of purchasing in organisations appeared to be different between large firms and SMEs" which reinforces the assumption of distinct PSM competences.⁴⁸

⁴² See Glock and Hochrein (2011), p.152; p.163.

⁴³ See Carr and Pearson (2002), p.1032.

⁴⁴ See Glock and Hochrein (2011), p.159.

⁴⁵ See Trent (2004), p.6.

⁴⁶ See Crow and Lindquist (1985), p.53.

⁴⁷ See Bals et al. (2014), p.15.

⁴⁸ Zheng et al. (2007), p.75.

2.3 The evolution of a business function: PSM has developed from a low status support function to a focal strategic necessity

This sub-chapter is separated into two parts. Firstly, major reasons for strategic advancements in the PSM field are explained. In the second part the focus is put on contemporary trends that have an effect on as well as need to be taken into account by the purchasing business function. The purpose is to understand why purchasers have become more important.

2.3.1 Purchased inputs as primary operating costs, lean management principles, advancements in IT and broader spectra of education options for personnel are cornerstones of strategic PSM boost

Purchasing and supply management (PSM) evolved from a purely operational business function into a strategic one that is nowadays understood to improve business performance.⁴⁹ Carr and Smeltzer (1997) set a definition of strategic purchasing as “the process of planning, evaluating, implementing, and controlling strategic and operating purchasing decisions for directing all activities of the purchasing function toward opportunities consistent with the firm’s capabilities to achieve its long-term goals.”⁵⁰

A condensed definition is proposed from Lawson et al. (2009) who name three key concepts: proactivity, long-term focus and strategic supplier relationship management.⁵¹

As researchers mutually agree on the strategic character of PSM nowadays, certain reasons must exist that explain this development.

In its strategic supply chain management book, Cousins et al. (2008) discuss the “evolution of purchasing function from a clerical activity to one that makes a strategic contribution to firm performance.”⁵² The authors argue that in the 1980s the economic and academic environment began to see significant potential in the purchasing function to contribute to overall corporate success. One reason is the considerable progress in information technology. Newly implemented applications such as the enterprise resource planning systems (ERP) enabled organisations to streamline internal demand, plan long-term and share required needs throughout the entire supply chain with business partners. This

⁴⁹ See Carr and Pearson (2002), p.1049-1051.

⁵⁰ Carr and Smeltzer (1997), p.201.

⁵¹ See Lawson et al. (2009), p.2651.

⁵² Cousins et al. (2008), p.10.

implied a better digital interface and basis of efficient communication.⁵³ Another reason emerged from the fierce Japanese competition that western companies had to face in the 1980s. This caused a shift from solely focussing on internal business processes towards an optimisation of supply chain activities and led to a rethinking of this business function. From this time on, the idea intensified that competitive manufacturing would need competitive supply chain management. Just-in-time production and supply (JIT), supported by total quality programmes and other lean management principles, were innovative thoughts for western society at this time. Here, the main point to understand was that not only internal operations needed continuous improvements, but also external alliances with stakeholders like suppliers.⁵⁴

In the 1990s supply chain management (SCM) increased its meaning and value in commerce, as the entire process started to incorporate various business functions like operations management, logistics, procurement and marketing. For instance Monczka et al. (1998) define SCM as a concept “whose primary objective is to integrate and manage the sourcing, flow, and control of materials using a total systems perspective across multiple functions and multiple tiers of suppliers.”⁵⁵ Based upon this definition, the integration and management of sourcing is vital and thus shows the important character of purchasing. In total, SCM has changed the way on how the purchasing function manages suppliers. Efforts in supplier development, strategic cost management, collaborative relationships, shared databases, product life cycle sourcing and total cost ownership have enlarged. These efforts demanded more strategic purchasing processes that eventually saved total purchasing costs. The realisation that purchasing would achieve significant cost savings by giving it a more strategic character in corporations consequently grew in the business world. An additional consequence was the creation of strategic purchasing departments.⁵⁶ Linked to the recognition of strategic character, a separation of basic operative and strategic processes became more popular. This separation facilitated executives to align strategic purchasing to overall firm strategy, which transmits its strategic character also to other business functions.⁵⁷

A further major reason of the strategic PSM boost is that purchased inputs have developed to one of the primary operating costs. Figure 3 shows the reduction of depth of value added

⁵³ See Cousins et al. (2008), p.12.

⁵⁴ See Cousins et al. (2008), p.12.

⁵⁵ Monczka et al. (1998).

⁵⁶ See Cousins et al. (2008), p.13.

⁵⁷ See Cousins et al. (2008), p.13.

by original equipment manufacturers (OEMs) in the automotive industry throughout the last decades. These days, OEMs focus on in-house branding, design and core competences.

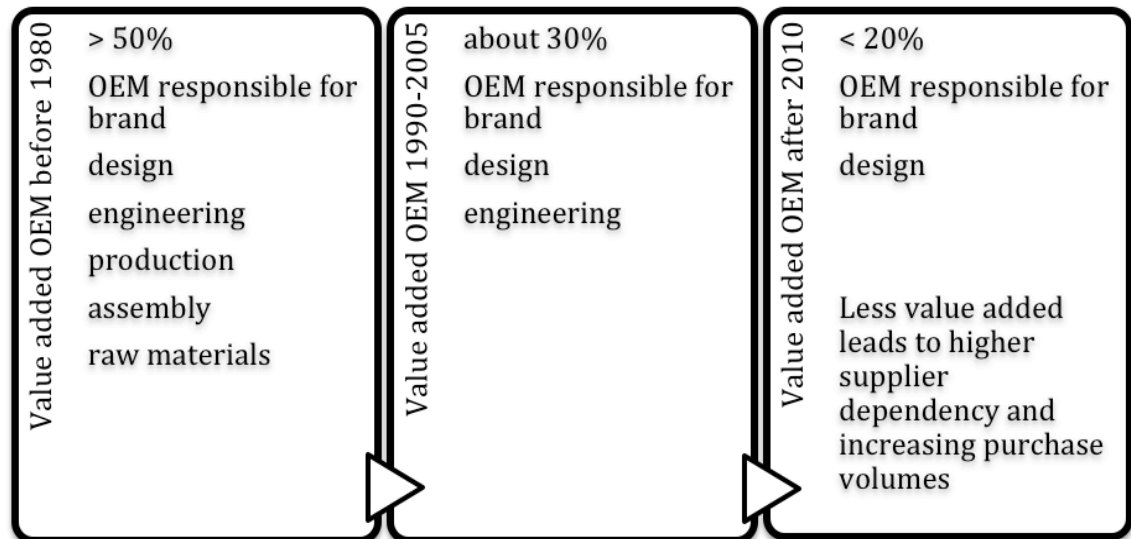


Figure 3: Reduction of depth of value added by OEMs; Source: Mohr (2010)

This implies that multiple former in-house business activities such as materials supply, production and engineering have been outsourced. As a consequence, OEMs increasingly have become more dependent on raw material-, component-, and system suppliers.⁵⁸ With the tendency of outsourcing, purchasing volume significantly rose.⁵⁹ The authors McGinnis and McCarty (1998) emphasise that “a company’s purchases of goods and services can account for 50 percent to 70 percent of its total costs.”⁶⁰ This statement describes the vast amount of turnover for which purchasing is responsible for.

The social development and rising competitive environment among personnel in the PSM field is considered as a last reason. Cousins et al. (2008) highlight the increasing demand of well-educated purchasers in the wake of today’s more complex PSM world. Therefore, the status of a professional purchaser has upgraded by means of compensational and educational arrangements. This has provided more attraction for needed manpower.⁶¹

⁵⁸ See Trent and Monczka (1998), p.5; examples from interview partners (2017), Appendix G, p.AVII-7.

⁵⁹ See Mohr (2010).

⁶⁰ McGinnis and McCarty (1998), p.13.

⁶¹ See Cousins et al. (2008), p.17.

Despite the empirically proven strategic character of purchasing and its inherent corporate benefits, any company deals with this function differently. Depending on the extent of incorporation, it can contribute to overall strategy in various levels. Reck and Long (1988) establish an influential four-stage model which assesses the role and merit of purchasing to any type of organisation. The stages range from passive, independent and supportive contribution to an optimally integrative one.⁶² In the passive stage the purchasing role has no strategic character and solely serves as a reactive support function. In the integrative stage, however, an organisation's purchasing strategy is completely integrated into the overall competitive strategy.⁶³

At large, it is apparent that both the PSM function and status have evolved in many businesses from clerical to strategic ones. But strategic stages of PSM differ and must be recognised.⁶⁴ PSM advancements and its organisational role can be classified and evaluated by established typologies (e.g. Reck and Long (1988)).

2.3.2 Globalisation, digitalisation, sustainability, E-commerce, outsourcing and the shift towards ESI in NPD are only few trends for the reconsideration of a purchaser's role

As with all functional areas, the PSM field also faces significant effects that executives need to consider.⁶⁵ The screening, identification and adoption of changes is important for purchasing professionals, since a lack of awareness or general reluctance often causes inferior positions toward competition.⁶⁶

Spina et al. (2013) investigate major PSM trends in their study and provided a comprehensive overview about relevant topics.⁶⁷ As the discussion of all aspects would go beyond the scope of this chapter, specific trends are selected that seem particularly pertinent.

On the one hand, there are external trends such as globalisation, digitalisation and the call for sustainable practices that put pressure on companies. On the other hand, companies are capable to gain advantages by steering and optimising internal corporate processes like E-commerce functions, outsourcing decisions and early supplier integration (ESI) in new

⁶² See Reck and Long (1988).

⁶³ See Reck and Long (1988).

⁶⁴ See Paulraj et al. (2006), p.108.

⁶⁵ See Spina et al. (2013), p.1202.

⁶⁶ See Trent and Monczka (1998), p.2; p.11.

⁶⁷ See Spina et al. (2013), p.1209.

product development (NPD). These six so-called ‘hot topics’ are discussed throughout the following paragraphs and emphasise the changing role towards a strategic purchaser that contributes to overall corporate success.

Firstly, when thinking about globalisation linked to the PSM field, terms like global sourcing or global purchasing appear. It can be defined as “the activity of searching and obtaining goods, services, and other resources on a possible worldwide scale.”⁶⁸ Trent and Monczka (1998) argue that purchasing develops to a more and more global activity.⁶⁹ In a more recent paper the authors make the point that global sourcing as a result of the entire globalisation process is complex but enables firms to boost performance, to receive enormous benefits and to create competitive advantage.⁷⁰ By means of worldwide sourcing, organisations report declines in purchasing prices and total cost of ownerships or observe a superior supplier quality.⁷¹ Another key conclusion of the authors underpins the relevance concerning globalisation, PSM and capable personnel in this field. They stress the important relationship between human resource capabilities and global sourcing success. ‘Qualified manpower’ was classified as the highest critical success factor. Nonetheless at the same time there is a lack of these people in the business environment.⁷² The Deloitte Global CPO Survey 2016 also deals with the shortage of talents in this business function which shows the up-to-date relevance.⁷³

Secondly, the digitalisation process is not only a pervasive trend within a firm’s own borders but also across whole supply chains with the effort to create efficient interfaces with business partners by means of information technology. Here, the PSM field is integrated and can provide long-term advantages. Digitalisation is seen as the “integration of digital technologies into everyday life by the digitisation of everything that can be digitised.”⁷⁴ The digitisation process is a “conversion of analogue information in any form to digital form with suitable electronic devices.”⁷⁵ Mishra et al. (2007) deal with the

⁶⁸ Quintens et al. (2006), p.171.

⁶⁹ See Trent and Monczka (1998), p.11.

⁷⁰ See Trent and Monczka (2003), p.607.

⁷¹ See Trent and Monczka (2003), p.616.

⁷² See Trent and Monczka (2003), p.626.

⁷³ See The Deloitte Global CPO Survey 2016, p.12, under: <https://www2.deloitte.com/content/dam/Deloitte/uk/Documents/consultancy/deloitte-uk-cpo-survey-2016.pdf> (retrieved 28th November 2016).

⁷⁴ BusinessDictionary.com, under: <http://www.businessdictionary.com/definition/digitalization.html> (retrieved 29th November 2016).

⁷⁵ See BusinessDictionary.com, under: <http://www.businessdictionary.com/definition/digitization.html> (retrieved 29th November 2016).

procurement process digitisation and explain its considerable differences in organisations since these are dependent on availability of general technological infrastructure. The authors point out that procurement process digitisation refers to the “availability and prior utilisation of IT infrastructure and applications to support efficient procurement.”⁷⁶ They further argue that firms with high capabilities in these processes are able to leverage IT knowledge and take advantage of it towards Internet-enabled procurement solutions (E-commerce).⁷⁷ In this way it is also easier to share information, buy required input for business operations, exchange innovative opportunities and decrease overall costs.⁷⁸ Especially the interfaces between suppliers and buying firms also mitigate organisational uncertainties like the phenomenon of the bullwhip effect, in which inaccurate demand forecasts yield supply chain inefficiencies.⁷⁹ The interfaces with IT infrastructure and digitalisation processes are also a vital foundation for the concept of demand-driven supply chains that allows to optimise planning, procurement and inventory replenishments among supply chain partners by means of real-time information.⁸⁰ These aspects demonstrate an obvious role of PSM personnel in the development of digitalisation and that the PSM field must engage with it for the mutual benefit of the company’s success as well as the strategic role of this business function.

Thirdly, the call for sustainable practices in companies is omnipresent and puts pressure on change. Pagell and Shevchenko (2014) express in their paper that “sourcing and SCM research can help lead the change to truly sustainable supply chains”, showing the potential role of the PSM field.⁸¹ Seuring and Mueller (2008) define sustainable supply chain management (SSCM) as “the management of material, information and capital flows as well as cooperation among companies among the supply chain” while integrating all three sustainable development dimensions of economy, ecology and society at the same time.⁸² Other authors, however, stress the prioritisation of environment first, followed by societal- and lastly the economic aspects.⁸³ They further claim that sustainable practices must encompass the three principles of improving ecological health, following ethical standards

⁷⁶ Mishra et al. (2007), p.9.

⁷⁷ See Mishra et al. (2007), p.10.

⁷⁸ See BarNir et al. (2003), p.796; Mishra et al. (2007), p.13.

⁷⁹ See Lee et al. (1997), p.97.

⁸⁰ See Boston Consulting Group, under:

https://www.bcgperspectives.com/content/articles/supply_chain_management_sourcing_procurement_demand_driven_supply_chain/?chapter=2#chapter2 (retrieved 29th November 2016).

⁸¹ Pagell and Shevchenko (2014), p.52.

⁸² Seuring and Mueller (2008), p.1700.

⁸³ See Markman and Krause (2016), p.3.

to support social justice and increasing economic strength.⁸⁴ In order to achieve profound sustainability on a proactive basis through PSM, Markman and Krause (2016) establish guidelines which explain what ‘sustainability is not.’ Thus, sole reduction of environmental harm, unethical conduct or trade-offs is not considered as sustainability but personnel must go beyond these rather superficial Greenwashing practices to real sustainable ones for environment preservation.⁸⁵

The fourth aspect deals with E-commerce and represents both benefits and challenges for PSM. As Yen and Ng (2003) state, E-procurement is more than shifting purchasing decisions online, it also serves as a linkage between suppliers and buyers as well as it creates valuable networks for business partners.⁸⁶ Already Gebauer et al. (1998) forecast in their paper the changing role of purchasing to a more managerial department through Internet and linked opportunities for E-commerce.⁸⁷ Croom (2000) classifies operational and strategic benefits that range from reduction of administrative costs to more control of supply bases.⁸⁸ Barua et al. (2004) provide additional empirical evidence of the relationship between E-commerce and advantages for companies, being operational excellence in customer interactions (e.g. with suppliers) and upgrades in financial performances.⁸⁹ The authors clarify, however, that the whole process is still in its early stages in many companies and that the readiness for receiving significant benefits is for now only partly given.

The outsourcing decision of certain corporate activities is still an up-to-date trend and affects the PSM field to a great extent. The outsourcing concept can be explained by the theory of transaction cost economics (TCE), holding that firm boundaries are explained by governance costs. Governance costs, in turn, are those costs that incur in the wake of buying goods and services for business operations. Thus, this perspective confronts personnel with the rationale for make-or-buy decisions. The general advice is to integrate activities when external governance costs exceed costs of performing the activity in-house.⁹⁰ These kinds of decisions appear on a regular period in larger organisations and

⁸⁴ See Markman and Krause (2016), p.3.

⁸⁵ See Markman and Krause (2016), p.4-5.

⁸⁶ See Yen and Ng (2003), p.170.

⁸⁷ See Gebauer et al. (1998), p.1.

⁸⁸ See Croom (2000), p.8.

⁸⁹ Barua et al. (2004), p.1; p.29-30.

⁹⁰ See Williamson (1985); Gulbrandsen et al. (2009), p.90.

show the link to companies' PSM departments since they are "strategic functions of the firm which includes insourcing and outsourcing decisions of the firm."⁹¹

The last contemporary trend mentioned in this sub-chapter also displays the advanced and strategic role of purchasers. In the purchasing environment terms like 'preferred customer status', 'supplier development programs' or 'early supplier integration' (ESI) have become commonplace. Schiele (2010) investigates the latter trend of ESI in new product development (NPD) and highlights the dual role of purchasing in this process. The author concludes that purchasing incorporates both an innovation- and cost oriented role, thus contributes to NPD and the management of overall costs.⁹² These achievements are subject to, for instance, interlinked technology roadmaps between suppliers and buying firms. These roadmaps often follow a concurrent engineering approach and depict plans of how products are developed.⁹³

In total, the six discussed trends in the PSM field show their high relevance for both the overall performance of a company and the strategic character. It is empirically proven that this functional area potentially leads to competitive advantages. Since this profession significantly rises in its importance, corporate leadership is counselled to revisit and define the PSM role in firm philosophy. In addition, the core target of this function must be determined. Core targets like process-, savings- or customer-service oriented need distinct approaches and must be communicated.⁹⁴

2.4 Industry 4.0 and green purchasing are scenarios with the potential of additional pervasive impacts

The link between Industry 4.0 and purchasing can be seen from two different perspectives. On the one hand, it is uncertain what role PSM plays in the evolution to Industry 4.0. On the other hand, it is important to analyse how the new cyber-physical systems (CPS) trend impacts purchasers in future. These CPS are defined "as transformative technologies for managing interconnected systems between its physical assets and computational capabilities."⁹⁵ In other words, the upcoming era of digital manufacturing and design represents a domain of new digitally enabled technologies. As Nanry et al. (2015) state,

⁹¹ Gulbrandsen et al. (2009), p.89.

⁹² See Schiele (2010), p.138.

⁹³ See Schiele (2010), p.145.

⁹⁴ See Eatough (2014), under: <https://hbr.org/2014/03/leaders-can-no-longer-afford-to-downplay-procurement> (retrieved 30th November 2016).

⁹⁵ Lee et al. (2015), p.18.

“these technologies are changing how things are designed, made, and serviced around the globe”, thus “they hold the potential for disruptive change.”⁹⁶ The authors also declare the era’s relevance and existence by referring to the founded Digital Manufacturing and Design Innovation Institute (DMDII) with prominent members from industry, government and academia to advance this trend. According to a PWC report from 2015, solely the German industry will have invested €40 billion in fourth industrial revolution solutions each year until 2020. Broadening the investment level to the European industrial sector, the investments account for €140 billion per year.⁹⁷ These figures give a strong impression of Industry 4.0 significance. This has potential impacts on the PSM field. Theisinger (2014) explains in his article that Industry 4.0 is of the utmost strategic relevance for the purchasing department and activities. The author is convinced of the opportunities that emerge for strategic development and the function’s value contribution to firms: “Industry 4.0 reinforces the trend toward offering extremely customer-specific solutions, including added value services. Companies will not be able to perform managed services of this nature unless they conclude strategic partnerships and alliances. As they move in this direction, they must pay special attention to their own position in the physical and digital value creation chain, i.e., who is coordinator and who has command of the information.”⁹⁸ Theisinger (2014) further adds that purchasing departments are particularly useful to steer and hold these kinds of partnerships.⁹⁹

A scientific report about Industry 4.0 and its consequences for job markets and economy supports Theisinger’s statements. According to Wolter et al. (2015), Industry 4.0 implies not only intelligent in-house governance and planning of production (vertical integration) but also beyond internal firm boundaries (horizontal integration). Exactly this interface between vertical- and horizontal integration is seen in the functional areas of planning, purchasing, production and logistics.¹⁰⁰

⁹⁶ Nanry et al. (2015), under: <http://www.mckinsey.com/business-functions/operations/our-insights/digitizing-the-value-chain> (retrieved 30th November 2016).

⁹⁷ See Koch et al. (2015), under: <http://www.strategyand.pwc.com/reports/industry-4-0> (retrieved 30th November 2016).

⁹⁸ Theisinger (2014), under: <https://www.detecon.com/en/press-release-09-2014-industry-40-project-future-without-purchasing> (retrieved 01st December 2016).

⁹⁹ See Theisinger (2014), under: <https://www.detecon.com/en/press-release-09-2014-industry-40-project-future-without-purchasing> (retrieved 01st December 2016).

¹⁰⁰ See Wolter et al. (2015), p.12 under: <http://doku.iab.de/forschungsbericht/2015/fb0815.pdf> (retrieved 01st December 2016).

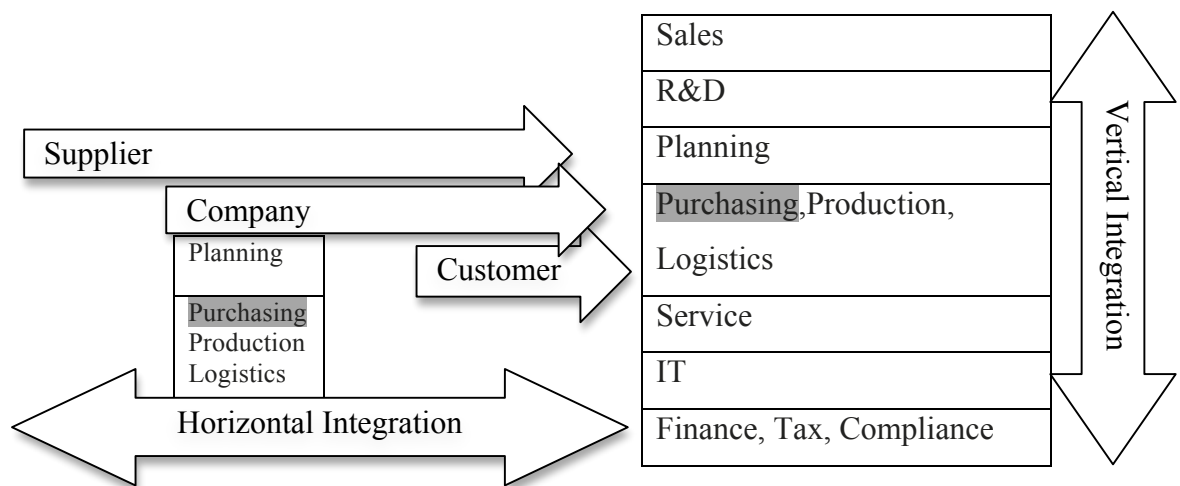


Figure 4: Horizontal & Vertical Integration; Source: Wolter et al. (2015)

The horizontal integration depicts a cross-sector linkage of production, whereas the vertical integration aims at streamlining in-house data- and material flow to eventually increase quality and flexibility. The scenario is illustrated in figure 4 which highlights the interfaces. Since the authors include purchasing, it is assumed to play a crucial and highly strategic role in the wake of Industry 4.0. One other aspect to look at is the forecasted change in professional fields. Wolter et al. (2015) recognise throughout the last years an increasing gap between jobs in production areas and those, for instance, related to science, IT, management and economics. Whereas routine activities are further expected to decline, non-routine activities are assumed to become more important. Bearing the trend of Industry 4.0 in mind, the authors' bottom line is that the professions within the fields of management and economics benefit.¹⁰¹ Thus, the PSM field is likely to occupy a pivotal role in the evolving fourth revolution. While in many societies criticism on resource wasting becomes louder nowadays, reserves of natural resources seem to vanish. Discussions about resource shortage or even depletion exist both in personal and professional surroundings. Also in this domain, purchasing professionals are challenged to counteract on these adverse trend by rethinking strategies.¹⁰² Based on these developments, the term of 'green purchasing' has gained popularity.

As defined by the authors Carter and Carter (1998), green- or environmental purchasing is "the purchasing function's involvement in activities that include reduction, recycling, reuse

¹⁰¹ See Wolter et al. (2015), p.41-43 under: <http://doku.iab.de/forschungsbericht/2015/fb0815.pdf> (retrieved 01st December 2016).

¹⁰² See Min and Galle (1997), p.10.

and substitution of materials.”¹⁰³ It is important to realise that purchasing managers can make the difference in a firm’s “environmental endeavours by using life cycle analysis to evaluate the environmental friendliness of sourced materials and packaging, asking suppliers to commit to waste reduction goals, purchasing recycled and reusable inputs, and participating in the design of products for recycling or reuse.”¹⁰⁴ These statements show a considerable focus on the ecology to eventually be able to preserve resources. It can be interpreted in a way that stakeholders call for an approach that goes beyond plain sustainable practices, moving away from principles of primacy of profits or triple bottom line, but evoke a precedence of ecology or ‘advanced sustainability’ thinking. Min and Galle (1997) indicate that green purchasing could create economic benefits, “while conserving resources and improving the company’s public image.”¹⁰⁵ However, the authors emphasise that companies must be willing to incur additional operating costs through increased material costs, qualified supplier integration, more cooperation programs as well as proactive initiatives rather than reacting to demanded regulations. Only if this is given, long-term benefits are likely to achieve that exceed the initial input.¹⁰⁶

As it is assumed that the discussions about resources preservation accelerate, the purchasing function becomes more and more a critical department that influences an organisation’s activities towards the natural environment.¹⁰⁷ Being responsible for the interface with suppliers and acquisition of goods and services, purchasing professionals are in the growing position to determine further courses on corporate activities.

2.5 PSM role in future: Prospects for upcoming years

Based on the previous chapters, it can be concluded with great confidence that in future the field of purchasing and supply management takes on a strategically crucial role in the corporate world. It has been analysed why this functional area has become more important throughout the last decades and up-to-date challenges that must be faced are investigated. Now, looking into the future, three relevant papers in different time frames are used to identify the general direction PSM takes with its prospects for upcoming years. Starting with the forecast research of Carter et al. (2000), the authors list 18 major areas of concern,

¹⁰³ Carter and Carter (1998), p.659.

¹⁰⁴ See Carter and Dresner (2001), p.12.

¹⁰⁵ Min and Galle (1997), p.15.

¹⁰⁶ See Min and Galle (1997), p.11-16; Carter et al. (2000), p.225; Carter and Dresner (2001), p.22.

¹⁰⁷ See Zsidisin and Siferd (2000), p.61.

including electronic commerce, purchasing strategy management, global supplier development, virtual supply chain and strategic supplier alliances. These trends advocate the PSM importance without doubts. With cost focus targets remaining imperative and among the key drivers, nowadays PSM incorporates also product focus, process focus, market focus and customer focus activities. Thus, executives in this functional domain have to educate colleagues from other departments, curb organisational inertia and make personnel aware of its indispensability. It implies also more profound education necessities for PSM professionals in future in order to be able to respond to rising demands.¹⁰⁸

The second and more recent paper addressed the growing PSM perspectives as well. Zheng et al. (2007) confirm the statements from Carter et al. (2000) and predict changes in areas such as purchasing strategy, structure, role and responsibility as well as capabilities. The authors stress influencing trends like globalisation, outsourcing and strategic supplier management, matching those that have been predicted years ago by researchers. Zheng et al. (2007) further describe how the rising complexities soften the purchasing role. ‘Soften’, however, is interpreted as requiring more professionals and specific education in this field which ultimately leads to better alignments of strategic purchasing objectives with overall business strategy.¹⁰⁹ In order to obtain a current point of view about the PSM role in future, the influential work of Spina et al. (2013) is used. These authors analyse more than one thousand papers, presented their content i.e. trends and prove the rising numbers of PSM paper releases in recent years. It can be therefore concluded that this field has not only gained more relevance in practice, but is also highly discussed in the academic world. They declare that even though PSM research remains under development “it has grown dramatically in the last decade and has recently matured in terms of its theoretical background as well as its breath of research methods applied.”¹¹⁰

Summarised, the PSM role steadily gains more attention and many organisations understand the function’s strategic character these days. But despite the common awareness, it has not reached its full potential. It is assumed that PSM is under development to become one of the most important corporate concerns in future.

Important findings to remember from chapter 2 can be found in figure 5.

¹⁰⁸ See Carter et al. (2000).

¹⁰⁹ See Zheng et al. (2007).

¹¹⁰ Spina et al. (2013).

SMEs differ in general aspects from large enterprises: Earnings, fringe benefits, promotional opportunities, autonomy, productivity, job title proliferation and the degree of innovation appear to be higher in large enterprises.

An organisation's size influences the embedding, design and performance of a PSM department: Large enterprises appear to have larger buying divisions with more personnel, more complex structures, more resources and more opportunities. In large enterprises seems to dominate a superior PSM role.

In the last decades PSM has evolved from a support function to a major strategic business field. Purchased inputs as primary operating costs, lean management principles, advancements in IT and broader spectra of education options for personnel have given PSM a higher relevance. Today's trends such as globalisation, digitalisation, sustainability, E-commerce, outsourcing, the shift towards ESI in NPD, Industry 4.0 and green purchasing reinforce the purchaser's significance.

The PSM domain has increased the importance and more people start to understand its indispensability. This process continues in future. It must be recognised that purchasers still undergo a development. To the present day the function has not reached its full potential.

Figure 5: Findings chapter 2; Source: Own elaboration

3. Theoretical background: Specialities in the skills portfolio, education and knowledge requirements of professional purchasers

This theoretical chapter aims to analyse a purchaser's qualifications and knowledge requirements. A multitude of responsibilities and skills are reviewed to understand the broad portfolio of needed competences. Further aspects of discussion are purchasing performance measurement through relevant KPIs that report contributions to firm success and specific purchasing education for PSM personnel. The purpose is also to understand potential differences in PSM personnel qualifications relative to an organisation's size.

3.1 The meaning behind 'a professional purchaser': A conceptualisation

This sub-chapter deals with the conceptualisation of a professional purchaser. Conceptualisation is known as "the mental process whereby fuzzy and imprecise notions (concepts) are made more specific."¹¹¹ It defines relevant terminology in order to avoid ambiguities and helps to establish uniformity in interpretation.

Professionalism is seen as the total personnel's package, including its thinking, look and acting on the job. In other words, professionalism incorporates both soft and hard skills. Soft skills refer to social competences and individual attitudes, hard skills encompass specific, teachable abilities that are required for particular jobs.¹¹² This implies that the level of professionalism influences the quality of interaction with any stakeholder and achievement of goals. Moving towards the profession of a purchaser, Van Weele (2009) makes clear that purchasers deal with the "management of the company's external resources in such a way that the supply of all goods, capabilities and knowledge which are necessary for running, maintaining and managing the company's primary and support activities is secured under the most favourable conditions."¹¹³ To even go one step further, literature provides definitions for so-called 'world class purchasing individuals'. Giunipero (2000) argues that "the world class purchaser is an individual who visualises and approaches his or her job from a strategic perspective in dealing with the supplier firm-purchaser firm-customer linkage. This individual continually embraces and leverages his or her skills and knowledge of critical supply chain activities to provide value in meeting

¹¹¹ Babbie (1989).

¹¹² See Purtilo and Haddad (2015), p.202.

¹¹³ Van Weele (2009), p.3.

corporate and customer objectives.”¹¹⁴ Based on these conceptualisations, most critical aspects on a specific picture for a professional and world-class purchaser can be condensed.

3.2 PSM employees do not just ‘purchase’ but are accountable for a multitude of responsibilities

As elaborated, PSM personnel manage any kind of externally needed resources and its supply in such a way that the employer possibly gains competitive advantages. In order to do so, purchasers have nowadays a broad scope of responsibilities.¹¹⁵ These responsibilities are illustrated in figure 6. It shows a general purchasing process, separated in source-to-contract (strategic focus) and purchase-to-pay (operative focus) arrays. It becomes clear that purchasing as a functional activity involves diverse steps.

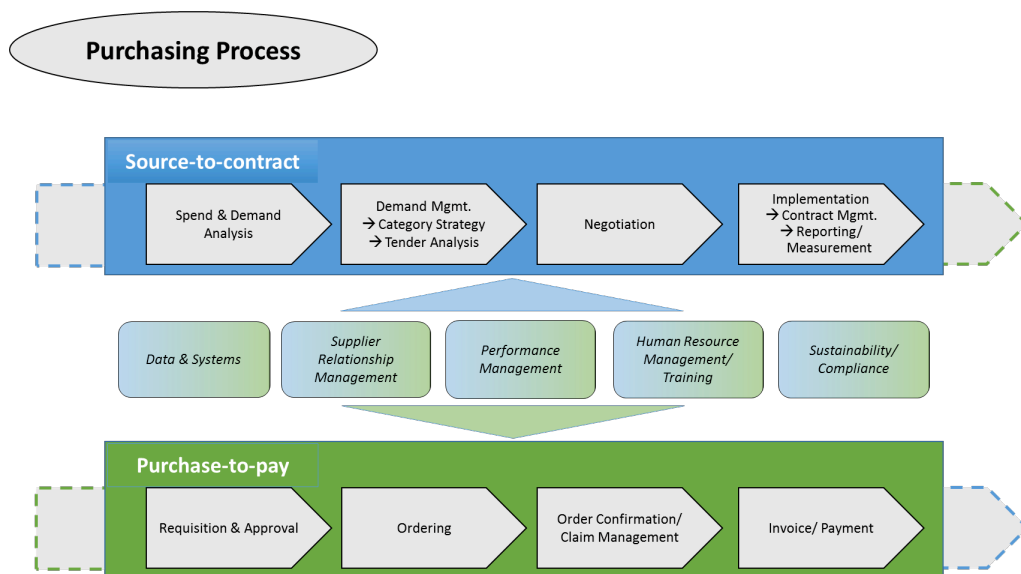


Figure 6: Purchasing process; Source: Bals and Schulze (2016), adapted from van Weele (2014); Monczka et al. (2015), p.36-84

Monczka et al. (2015) define the purchasing’s major span of control as the evaluation and selection of suppliers, review of specifications, representing the primary contact source with suppliers as well as the method determination on how to award purchasing contracts.¹¹⁶ Referring to figure 6, it is apparent that set responsibilities can only be

¹¹⁴ Giunipero (2000), p.5.

¹¹⁵ See Cousins et al. (2008), p.113.

¹¹⁶ See Monczka et al. (2015), p.41-42.

fulfilled by exerting the activities along the purchasing process. The strategic area, ranging from ‘spend & demand analysis’ to ‘implementation’ is a vital foundation to be able to, for instance, evaluate and select suppliers on a professional level. The responsibility of being the focal contact source to suppliers requires engagement and communication. Here, the target is, for example, the avoiding of maverick buying and the mitigation of uncertainties throughout the process of supply.¹¹⁷ The operative area, ranging from ‘requisition & approval’ to ‘invoice/payment’ is subject to strategic characteristics and often executed by PSM personnel that are less involved in determining strategic orientations of the department. Clear divisions of strategic and operational activities are made in this field, however, the steadily increasing shift towards more strategic efforts and the minimisation of operative actions is important to realise.¹¹⁸

The responsibilities are defined to eventually contribute to a portfolio of objectives: supply continuity, efficient and effective purchasing process management, supply base development & management, alignment with goals of other in-house functional areas, designing of purchasing strategies and its alignment with overall firm direction.¹¹⁹ These objectives and underlying responsibilities firstly demonstrate multiple areas of accountability for purchasers. Secondly, they demand qualified PSM employees who are able to fulfil expectations. This inference matches with the statement from Cousins et al. (2008), who state “An organisation is only as good as the skills and competencies that its personnel possess. Supply can only be strategic if the people working in that area possess the requisite skills and competencies to operate in that way. No matter how complex the measures, if the skills and competencies are not at the required level, the organisation will not be able to fulfil its strategic objectives.”¹²⁰

Thus, a significant link between a workforce’s competence degree and its performance is assumed.

¹¹⁷ See Monczka et al. (2015), p.41-42.

¹¹⁸ See Paulraj et al. (2006), p.109; Zheng et al. (2007), p.74.

¹¹⁹ See Monczka et al. (2015), p.38-41.

¹²⁰ Cousins et al. (2008), p.111.

3.3 The multifaceted skills portfolio of a PSM employee: Changes and challenges

With the evolving nature of the PSM profession, qualifications of personnel must be adapted as well. Already Kraljic (1983) sees the necessity of upgrading key purchasing peoples' skills and experiences, if its employers want to meet demands of future PSM challenges.¹²¹ Skills are considered as developed or acquired abilities to use knowledge effectively.¹²² These skills are diverse and extensively described in literature.

Giunipero and Percy (2000) establish a seven-factor skill set categorisation that a world class purchaser should unite: strategic skills, process management skills, team skills, decision making skills, behavioural skills, negotiation skills and quantitative skills. Within the skill set, the five most important abilities are rated as interpersonal communications, ability to make decisions, ability to work in teams, negotiations and customer focus.¹²³

Handfield (2004) defines in his study several key skills that are critical for the management of current PSM trends. The key skills encompass team building, strategic planning, effective communication and relationship management. Other core skills were identified as technical skills, broader financial skills and legal skills.¹²⁴ The type of skills and its priority in both papers reflect the interactive environment of the purchasing function. It also emphasises the importance of interface management with multiple stakeholders such as suppliers and in-house customers.

A third paper consolidated recent overall attempts in classifying purchasing skills. Tassabehji and Moorhouse (2008) present a comprehensive new taxonomy that displays contemporary needed qualifications of professionals in the PSM field.¹²⁵ The authors define five groupings: technical skills, interpersonal skills, internal enterprise skills, external enterprise skills and strategic business skills. Technical skills, including computer literacy, product knowledge and analytical capabilities, are considered as fundamental administrative skills and vital for any PSM professional. Interpersonal skills reflect oral and written communication strengths for the interaction with internal and external stakeholders but also leadership as well as conflict resolution qualities. The next grouping is defined as internal enterprise skills which relates to overall business. Change

¹²¹ See Kraljic (1983), p.117.

¹²² See Giunipero (2000), p.9.

¹²³ See Giunipero and Percy (2000), p.11-12.

¹²⁴ See Handfield (2004), p.11; p.25.

¹²⁵ See Tassabehji and Moorhouse (2008), p.59.

management, organisational skills, internal relationship management and market analyses belong to this area. External enterprise skills deal with relationship management across entire supply chains or networks. Strategic business skills represent the fifth and last grouping. Within this area, skills relate to strategic activities that are aimed at contributing to overall firm success. Based on the taxonomy, the authors further conclude that in the wake of PSM skills development, managerial skills significantly exceed functional specific skills of professionals. They explain it with the more dynamic business environment nowadays.¹²⁶ This is in line with statements from Giunipero (2000). The author argues that personnel need more enterprise-wide and not function specific skills due to the changing nature of the profession. Since the profession's perspective is strategic, relational, often team-based and about serving final customers, different and higher sets of skills are relevant these days.¹²⁷

Beside the division of function specific and managerial knowledge, a third area of industry related aspects appear to be essential. Monczka et al. (2015) define this area as supply market knowledge that includes competences about competition and prices.¹²⁸ Lastly, in order to be able to rationally evaluate and compare the products and services to be bought, a purchaser with expertise acquires with the passing of time profound knowledge about corresponding characteristics.

Summarised, Tassabehji and Moorhouse (2008) explain based on their findings that "today's procurement professional must be a dynamic relationship manager creating and developing cross-functional strategies and must possess internal selling, change management, supplier relationship and partnership management skills."¹²⁹

When looking at major challenges for purchasers in the business environment, the same authors discovered four areas. First, internal acknowledgment and receiving professional recognition from other department's staff is perceived as difficult. Second, early involvement of purchasers in corporate decision processes in order to contribute profound value right from the start of new projects is still seen as problematic. The reason for this is that PSM is still seen by executives as a support but not as a strategic business function. The third challenge is the acceptance of PSM strategies by other practitioners and its alignment with overall firm strategy. The last challenge refers to cultural barriers and

¹²⁶ See Tassabehji and Moorhouse (2008), p.59-60.

¹²⁷ See Giunipero (2000), p.9.

¹²⁸ See Monczka et al. (2015), p.758.

¹²⁹ Tassabehji and Moorhouse (2008), p.65.

organisational inertia.¹³⁰ This mixture of challenges consequently evokes the additional responsibility of purchasers to educate and communicate the strategic relevance of PSM.¹³¹

3.4 Diverse PSM performance indicators help to measure overall success and maturity

The higher professionalism in the field of PSM claims not only more qualified personnel, but also more effective performance measurement. Gunasekaran and Kobu (2007) explain why performance measurement is of major importance. It serves the purposes of identifying success, identifying whether customer needs are met, better understanding of processes, identifying bottlenecks, waste, problems and improvement opportunities, providing factual decisions, enabling progress, tracking progress as well as facilitating a more open and transparent communication and cooperation.¹³²

Referring to the particular area of PSM, Eatough (2014) expresses that the way how this function is measured in organisations is a fundamental aspect. The author suggests therefore clearly measurable key performance indicators (KPIs) established by corporate leadership. Executives must therefore set metrics in domains such as innovation, risk mitigation and spending.¹³³ Rozemeijer et al. (2003) conclude that the planning and monitoring of benefits achieved by purchasing departments is inevitable. This is only possible by means of uniform and formal reporting procedures or performance indicators.¹³⁴ Chae (2009) eventually emphasises the critical monitoring of planning and execution synchronisation for success.¹³⁵

According to Mohr (2010), the three main purchasing controlling fields are material costs – purchasing performance, payment terms – working capital and overhead/ headcount costs. The superior KPI is considered as savings and often categorised into cost savings and cost avoidance.¹³⁶ The second control field deals with the optimisation of financials in supply chain with regard to working capital between the supplier and buying firm.¹³⁷ Here, common instruments are the negotiation of longer payment terms with suppliers while

¹³⁰ See Tassabehji and Moorhouse (2008), p.62-63.

¹³¹ See Carter (2000), p.22.

¹³² See Gunasekaran and Kobu (2007), p.2820.

¹³³ See Eatough (2014), under: <https://hbr.org/2014/03/leaders-can-no-longer-afford-to-downplay-procurement> (retrieved 7th December 2016).

¹³⁴ See Rozemeijer et al. (2003), p.12.

¹³⁵ See Chae (2009), p.422.

¹³⁶ See Gunasekaran and Kobu (2007), p.2832.

¹³⁷ See Hofmann (2005).

enforcing payment discipline and collecting payments faster for own customers. Thirdly, critical measures should be put on headcount that determines much of the overhead costs.¹³⁸ Other authors extend the topic of supply chain performance measurement systems which serve as a foundation and information source for decision making and activities.¹³⁹ Cousins et al. (2008) suggest the five categories of cost, quality, time, supplier performance and customer satisfaction.¹⁴⁰ Cai et al. (2009) propose another five-category measurement which incorporates resource, output, flexibility, innovativeness and information.¹⁴¹ These approaches broaden the usual in place methods that often solely focus on costs and ultimate savings.

However, when discussing general performance measurement in organisations or particularly in the functional area of PSM, it becomes apparent that no universal consensus or standardised KPI set exists. Companies rather establish customised measures depending on their needs and understanding of importance. It is recognised that despite beneficial impacts not only for the entire organisation but also for the PSM function itself, measures vary significantly and are still under development.¹⁴²

3.5 Trends in education: From various educational backgrounds of today's purchasers to specific higher qualifications tailored to 'purchasers from tomorrow'

The claims of both more professional and specific education for today's and tomorrow's purchasers are present since currently engaged personnel in many organisations lack needed qualifications.¹⁴³

Based on these developments in the PSM field, Carr and Schmeltzer (2000) observe not only increasing in-house efforts to provide training courses, but also more usage of programs offered by professional third party contractors.¹⁴⁴ Additionally, changes in higher education institutions towards PSM are realised. The authors state that "a number of universities also recognise the need to incorporate purchasing and supply management in their curriculum" as an answer to the rising students' interest in this business function and

¹³⁸ See Mohr (2010).

¹³⁹ See Gunasekaran and Kobu (2007), p.2820.

¹⁴⁰ See Cousins et al. (2008), p.153.

¹⁴¹ See Cai et al. (2009), p.515.

¹⁴² See Akyuz and Erkan (2010), p.5150; Caniato et al. (2014), p.616.

¹⁴³ See Handfield and Nichols (2004), p.34; Zheng et al. (2007), p.76-77; Feisel et al. (2008), p.13.

¹⁴⁴ See Carr and Schmeltzer (2000), p.40-41.

to be able to educate competitive professionals.¹⁴⁵ These trends do not reflect the past, where employers assigned purchasers regardless of their skills and education. Quite the contrary, it is assumed that the growing shift towards specifically trained employees with higher education degrees in PSM departments continues. This is in line with Giunipero and Handfield (2004), who confirm the growing provision of purchasing training in future. The authors argue that “the minimum formal education required of purchasers is a bachelor’s degree” and listed the degrees in purchasing and supply management, a M.B.A or the combination of a technical degree and a M.B.A as especially preferred in this area.¹⁴⁶ This eventually demonstrates the role of universities in being responsible for imparting PSM knowledge to business students. Universities are seen as a primary source for PSM education and take on a critical role.¹⁴⁷

In short, the trend of higher more specific requirements for future purchasers seems apparent and pressurises universities to upgrade obsolete syllabus offerings.¹⁴⁸ Further it is of major importance that study programs are tailored to prospective professionals and their stages, in order to be able to meet demands in the business environment. Here, Birou et al. (2016) observe the focus on basic PSM models and techniques in undergraduate courses, while postgraduate programs rather deal with strategic aspects and improvement processes.¹⁴⁹

The latest example that shows the trend towards specific PSM education and relevance is the PERFECT project. This up-to-date project has been launched from several European universities to boost PSM education. Further it is aimed to standardise study tracks in this field to ease exchange programs for students and to better coordinate core themes.¹⁵⁰

Important findings to remember from chapter 3 can be found in figure 7.

¹⁴⁵ Carr and Schmeltzer (2000), p.41.

¹⁴⁶ Giunipero and Handfield (2004), p.14.

¹⁴⁷ See Giunipero and Handfield (2004), p.93; Birou et al. (2016), p.72.

¹⁴⁸ See Birou et al. (2016), p.83.

¹⁴⁹ See Birou et al. (2016), p.82-83.

¹⁵⁰ See TU University Dortmund University of Technology, under: <http://www.perfect.lfo.tu-dortmund.de> (retrieved 8th December 2016).

World-class purchasers approach their jobs from a strategic perspective in dealing with interfaces between suppliers, buying organisations and customers. They leverage their competences in supply chain activities to create and provide value.

PSM personnel are accountable for many responsibilities. The purchasing process involves source-to-contract and purchase-to-pay activities. This implies the need for qualified purchasers who are able to fulfil expectations.

Different authors propose a set of competences which a competent purchaser should integrate. A relevant classification appears to be the established taxonomy from Tassabehji and Moorhouse (2008). They identify technical skills, interpersonal skills, internal enterprise skills, external enterprise skills and strategic business skills to be critical. It is also stressed that managerial skills exceed function specific skills.

PSM KPIs help to measure and monitor contribution to overall firm success. The most important indicator is savings. However, specific measures for purchasers and efforts to observe PSM activities vary in companies to a great extent.

Companies and higher education institutions realise the rising needs for qualified PSM personnel and therefore show more efforts to launch specific training or study programs. One example is the PERFECT project which aims to create a harmonised pan-European PSM curriculum. Purchaser should have a minimum formal education of a Bachelor degree.

Despite broad literature about PSM competences and knowledge requirements, it is barely investigated whether there exist significant differences in PSM role personnel qualifications relative to an organisation's size.

Figure 7: Findings chapter 3; Source: Own elaboration

4. The cross-sectional linkage of theoretical elements: The assumption of a purchaser's different role and competences in relation to an organisation's size

In accordance with Zheng et al. (2007), general research about the purchasing function in SMEs and their differences compared to large enterprises is limited. They assert that the “purchasing structure and the role of purchasing in organisations appeared to be different between large firms and SMEs.”¹⁵¹ The authors’ ultimate conclusion comprises that SMEs’ PSM has low priority, a non-strategic character and a tendency of having no separate department with few professionals. Zheng et al. (2004; 2007) further indicate that large enterprises have a more positive feeling in E-procurement, in contributing to the organisation’s overall success and that within SMEs, the owner mostly includes purchasing as a side activity.¹⁵² Quayle (2002) concludes in his paper that small firms do not realise the link between effective purchasing, increasing profitability and disadvantages due to inferior purchasing capability.¹⁵³ In addition, exerted literature reviews have demonstrated that general elements such as earnings, productivity and promotional opportunities vary in organisations relative to their sizes. Referring to the PSM function, findings have shown that larger enterprises tend to have more complex purchasing structures¹⁵⁴ and more PSM personnel.¹⁵⁵ Glock and Hochrein (2011) state that size affects the PSM business function and performance.¹⁵⁶

Despite the last years’ developments in PSM and their impacts on businesses of all sizes, it is questionable whether SMEs have realised the significance of professional purchasing as well. This recognition would imply a presence of qualified purchasers in both SMEs and large enterprises who enjoy a high status, play a critical role and require broad competences. In order to confirm the authors’ assertions of differences or to mitigate them by strengthening the assumption of similar roles and competences irrespective of an organisation’s size, field research in PSM departments has been considered as helpful. Here, the purpose is to understand whether purchasing’s strategic character, role and competences depend on the contextual factor size.

¹⁵¹ Zheng et al. (2007), p.75.

¹⁵² See Zheng et al. (2004); Ellegaard (2006), p.273; Zheng et al. (2007), p.75; Pressey et al. (2009), p.223.

¹⁵³ See Quayle (2002), p.157.

¹⁵⁴ See Trent (2004), p.6.

¹⁵⁵ See Crow and Lindquist (1985), p.53.

¹⁵⁶ See Glock and Hochrein (2011), p.152.

5. Research design: A case study approach within the PERFECT project

Apart from a theoretical part, the Master thesis also encompasses an empirical study. How this research is designed and which methodologies are used is explained in this chapter. In addition, the coding method is discussed which provides the tool for analysing and gaining sought information from conducted field research in the form of interviews.

5.1 Determining the type of case study: Exploratory

This sub-chapter is divided into three parts. The nature of the research is presented, followed by its advantages and disadvantages. Lastly, aspects of the study's reliability and validity are covered.

5.1.1 An exploratory case study and semi-structured interviews serve as the research framework

“Qualitative case study methodology provides tools for researchers to study complex phenomena within their contexts. It enables the researcher to gather data from a variety of sources and to converge the data to illuminate the case.”¹⁵⁷ Defining a case study, Yin (2009) argues “a case study is an empirical inquiry that investigates a contemporary phenomenon in depth and within its real-life context.”¹⁵⁸ Thus, when bearing the aim of a newly designed and empirically validated PSM curriculum in mind, the “well established and widely accepted” case study methodology appears to match the needs.¹⁵⁹ Within the curriculum context, this study profoundly analyses a present phenomenon. Apart from the selection of exerting a qualitative case study, it is important to determine its actual type. This study's type is appointed to take on an exploratory character since it is used to explore those cases in which the intervention being assessed has no clear, single set of outcomes.¹⁶⁰ There is no particular or predetermined set of results that must yield the conclusion of this study. Another reason for the exploratory character is the type of assigned research questions. Since the central research question and the majority of sub-questions are

¹⁵⁷ Baxter and Jack (2008), p.544; p.556.

¹⁵⁸ Yin (2009), p.18.

¹⁵⁹ McGuiggan and Lee (2008), p.1.

¹⁶⁰ See Baxter and Jack (2008), p.548.

exploratory ‘what questions’, it is justified to conduct this kind of study.¹⁶¹

The overall research strategy is qualitative which implies a focus on words rather than on numbers. It has a principal inductive orientation where the generation of theories is prioritised.¹⁶² Apart from this attribute, qualitative research follows an epistemological orientation of interpretivism and an ontological orientation of constructivism. In other words, this research approach prefers ways in which individuals interpret their social world and depicts a social reality view characterised by steadily changing “property of individuals’ creation.”¹⁶³

The data collection for the empirical study is performed by means of semi-structured interviews. These are commonly used in qualitative research, as the interviewees’ viewpoints are likely to be captured and understood.¹⁶⁴ Barriball and While (1994) explain that semi-structured interviews “are well suited for the exploration of the perceptions and opinions of respondents regarding complex and sometimes sensitive issues and enable probing for more information and clarification of answers.”¹⁶⁵ Semi-structured interviews follow a flexible approach with mostly open questions and possible deviations from the interview guide. The main objective in qualitative interviewing is to obtain valuable answers that can be coded and processed in an immediate way.¹⁶⁶ Thus, semi-structured interviews are often used in an exploratory case study because this combination is predestined to gain new insights into a yet unexplored topic. This research design consequently provides an empirical setting and serves as a scientific information source that contributes to the purpose of creating a novel PSM study program at higher education institutions.

5.1.2 Taking the research quality into account: Construct validity, internal validity, external validity and reliability

Research quality is a major discussion in academia. For instance, Beverland and Lindgreen (2009) investigate elements of a good case study and address qualitative aspects. The authors state that attention to quality more likely results in better practices, richer insights and better theory, improvement of the method’s status, improvement of legitimacy and

¹⁶¹ See Yin (2009), p.9.

¹⁶² See Eisenhardt and Graebner (2007), p.30.

¹⁶³ Bryman and Bell (2011), p.26-27; p.386.

¹⁶⁴ See Flick (2009), p.150.

¹⁶⁵ Barriball and While (1994), p.330.

¹⁶⁶ See Bryman and Bell (2011), p.467.

impact of case research, mitigation of concerns over the method's value and consistent guidelines for practitioners.¹⁶⁷ Therefore, criteria such as construct validity, internal validity, external validity and reliability have been raised to stimulate researchers' thoughts about quality. Construct validity makes sure that right operational measures are established for the concepts that are under investigation.¹⁶⁸ This concept is given through primary data usage obtained through field research. The interviews, conducted with various PSM personnel of different educational backgrounds, serve as evidence and source for the outcomes of the study.

According to Yin (1994), internal validity is not relevant for explorative studies, since causal statements are not the goal.¹⁶⁹ Thus, internal validity is neglected in this study. External validity, however, addresses the generalisability of a case study's findings.¹⁷⁰ Generalisability can later be facilitated through the merger and comparison of all case studies' results that have been gained within the PERFECT project. A later executed cross-case analysis also enhances generalisability and helps to strengthen understanding.¹⁷¹ Lastly, reliability is concerned with the replication of findings.¹⁷² The reliability concept is taken into account via standardised semi-structured interview guides, usage of same questions and clear construct explanations by relevant literature. In total, research quality of this case study is considered throughout the whole process and aimed to be constantly high.

5.2 The semi-structured interview within the PERFECT project deals with five main sections: General company and role data of the interviewee, organisational structure and performance indicators, current knowledge requirements, future skill requirements and internal or external training programs for PSM personnel

In order to get desired data for the subsequent data analysis, semi-structured interviews with fifteen employees from nine different PSM departments are conducted. The interview has five key subjects. Firstly, general data about the participants and their employers are collected to evaluate if certain knowledge, behaviour or trends are related to specific industries or purchasing jobs. The second subject refers to organisational structure and its

¹⁶⁷ See Beverland and Lindgreen (2010), p.56.

¹⁶⁸ See Yin (1994).

¹⁶⁹ See Yin (1994).

¹⁷⁰ See Yin (1994).

¹⁷¹ See Miles and Huberman (1994), p.173.

¹⁷² See Yin (1994).

performance measurements or KPIs in the PSM area. This information is gathered to assess a possible link between certain knowledge and specific roles within PSM. Performance measurement sheds light on knowledge that is required to perform accordingly. The third part focuses on current knowledge that purchasers possess to meet demands and fulfil responsibilities. These outcomes are used to decide which knowledge needs to be included into the new curriculum. Within this part, the overall purchasing process and a spider diagram with relevant skills are discussed with interviewees. Future skill requirements are elaborated in the fourth key subject. Here, it is aimed to identify upcoming trends in the PSM field and which knowledge is necessary to both cope with challenges and take advantage of opportunities. The fifth and last section of the interview deals with internal and external training efforts that organisations currently provide to employees. As a supplement, the purchasing education content map is debated with participants to get an idea about which management function in purchasing is most vital. A prioritisation of planning and strategy, structural organisation, process organisation, human resource and leadership, controlling and others was needed. In accordance with supervisors and interviewees, all interviews were held in German language. This is due to the fact that all contributors' native language is German and that selected companies are located in Germany. The contributors felt more comfortable in answering in their mother tongue and explained that more profound information could be given this way. The entire interview guide with German subtitles can be found in appendix A.

5.2.1 Conceptualisation of interview components

As already discussed, conceptualisation is the process of specifying relevant terminology to avoid uncertainties in interpretations. This procedure is considered as important since it clarifies discussed interview components. Therefore, figure 8 represents the most critical terms that were part of the semi-structured interview of the PERFECT project.

Term:	Conceptualisation:
Supply Chain Management (SCM)	Management of the series of processes involved in the production and supply of goods, from when they are first made, grown etc. until they are bought or used

Purchasing and Supply Management (PSM)	The management of buying and providing activities such as goods and services for corporate purposes
Purchasing process	A series of things within the buying activity that are done in order to achieve a particular result. The process is divided into source-to-contract (strategic) and purchase-to-buy (operational)
Spider diagram Skills & Knowledge Areas	A chart to record and prioritise skills and knowledge areas that are necessary for PSM personnel
Procurement	The entire process of obtaining supplies of something, especially for a government or an organisation
Performance Measurement	The measurement of how well or badly personnel does something or works. It is mostly achieved with key performance indicators (KPIs) which is a type of performance measurement
Organisation	A group of people who form a business together in order to achieve a particular aim
Trend	A general direction in which a situation is changing or developing
Sustainability	Involving the use of natural products and energy in a way that does not harm the environment and can be continued for a long time
Digitisation	The process of changing data into a digital form that can be easily read and processed by a computer

Figure 8: Conceptualisation; Source: Oxford Advanced Learner's Dictionary (2010)

5.2.2 Transcription: Usage of a reflexive, iterative process of data management instead of a conventional verbatim transcription technique

Halcomb and Davidson (2006) define the transcription process as the reproduction of spoken words into a written text, such as those from recorded interviews. This procedure is vital for subsequent analyses, e.g. coding.¹⁷³ The authors specifically address and deny in their paper the question on whether verbatim transcription, i.e. a word-to-word reproduction of verbal data is a necessity. It has been argued that there is “potential to use alternate processes for managing verbal interview data other than conventional verbatim

¹⁷³ See Halcomb and Davidson (2006), p.38.

transcription techniques.”¹⁷⁴ In fact, the authors refer to the classification of different research interview types which have been originally elaborated by Tashakkorri and Teddlie (2003).¹⁷⁵ Within the classification, the authors present the mixed-method research called ‘interview guide approach’. With reference to Tashakkorri and Teddlie (2003), Halcomb and Davidson (2006) describe the mixed-method research as “a combination of data collection and analysis procedures in either parallel or sequential phases.” The interview guide approach is seen as a type, where “topic areas are pre-specified on an interview guide but the researcher may vary the wording or order of questions depending on the participant.”¹⁷⁶ Here, the bottom line is that the conducted semi-structured PERFECT interviews can be considered as the mixed-method interview guide approach. In this context, various researchers agree that verbatim transcription is only one way to receive the aimed outcome.¹⁷⁷ In the wake of this observation, Halcomb and Davidson (2006) propose an alternative method of data management, consisting of six steps: audio taping of interview and concurrent note taking, reflective journaling immediately post-interview, listening to the audiotape & amending / revision of field notes & observations, preliminary content analysis, secondary content analysis and lastly a thematic review.¹⁷⁸ These six steps are followed as a guideline for transcribing and analysing obtained primary data. Step one to step three have been implemented shortly after the conduction of the interviews. Again, it is emphasised that a non-verbatim technique has been applied. This denaturalised transcription, however, is also relevant and not necessarily inferior compared to naturalised methods.¹⁷⁹

In line with Wellard and McKenna (2001), all interviews have been transcribed from the researcher itself since in this way better involvement in the content interpretation is given as well as in-depth memorisation of interview components.¹⁸⁰

The last three steps deal with the actual content analysis and are more explained in the next sub-chapter.

¹⁷⁴ Halcomb and Davidson (2006), p.39.

¹⁷⁵ See Tashakkorri and Teddlie (2003).

¹⁷⁶ Halcomb and Davidson (2006), p.39.

¹⁷⁷ See Halcomb and Davidson (2006), p.40.

¹⁷⁸ See Halcomb and Davidson (2006), p.41-42.

¹⁷⁹ See Oliver et al. (2005), p.1273-1274.

¹⁸⁰ See Wellard and McKenna (2001), p.182.

5.2.3 Applying the coding method for analysing conducted and transcribed interviews

All interviews were conducted in person and subsequently transcribed in order to use the coding method for analysis. The transcriptions are based on recordings of the interviews. As Miles and Huberman (1994) explain “coding is analysis.” The authors characterise coding as reviewing of transcribed field notes and to break these data down, while maintaining the original relations between all parts. Thus, analysis is about information differentiation, combination and ultimate reflection.¹⁸¹ More recent literature defines coding as the classification and categorisation of pieces of data that helps to identify patterns.¹⁸² To be able to exert an unbiased and objective analysis, the two elements of a coding schedule and coding manual are crucial.¹⁸³ Ultimately, a coding handbook, serving as a reference for consistent codes, was created prior to the coding process.¹⁸⁴ The preliminary content analysis (step 4) was conducted with the coding program ATLAS.ti which is commonly recommended and used from students of the university of Twente. A partial secondary content analysis (step 5) was exerted from an independent person who coded three out of the nine transcriptions as a trial. In this way, validity and objectivity of the preliminary content analysis’s outcome could be proved and therefore reinforced the first coder’s professionalism. As part of the thematic review (step 6), the partial secondary content analysis has been reviewed and compared with the first content analysis. Great conformity between coders could already be identified within the trial and thus represent a strong foundation for all the analysed results.

In total, fifteen employees from nine different companies were interviewed. All employees have their jobs in the PSM field. Transcribed and coded interviews with its comprehensive coding handbook can be found in appendices B, C and D.

5.3 Sample selection: Companies and interview partners from diverse industrial sectors for gaining in-depth data

The companies that served as interview partners operate in distinct industries. Educational backgrounds of interviewees also vary, thus versatile information could be gathered. Apart from one company (due to confidentiality reasons), all interviews could be recorded. On

¹⁸¹ Miles and Huberman (1994), p.56.

¹⁸² See Babbie (2010), p.400.

¹⁸³ See Bryman and Bell (2011), p.299.

¹⁸⁴ See Codes and code groups (2017), Appendix B, p.AII-1-AII-2.

the basis of the recording, transcriptions and coding analyses were made. Figure 6 gives an overview of participating businesses, its sector and interviewees that provided the primary data for the analysis. Each interview partner made available at least one executive that has a leading role in the company's PSM area. Industrial sectors range from fashion & clothing industry to oil & gas industry up to food industry. The number of employees differs from 170 to 155,000. This also implies that organisations with various sizes could be interviewed for this study. The overall focus is put on highly qualitative diverse information rather than quantity. Consent forms with contact data are signed and can be found in appendix E.

Businesses:	Interviewees:
1) DFMG GmbH Telecommunication & Infrastructure industry	1) Head of purchasing
2) apetito AG Food industry	2) Head of purchasing Non-Food 3) Head of purchasing Food 4) M.A. Student; Junior purchaser
3) Emsland Group GmbH Food industry & Chemical industry	5) Head of purchasing department
4) Q1 AG Oil & Energy industry	6) Head of purchasing (Management board member)
5) KCA Deutag Drilling GmbH Oil & Gas industry	7) Supply Manager Operation (Regional Purchasing Central Europe) 8) M.A. Student; Purchasing Efficiency Specialist
6) thyssenkrupp AG Conglomerate	9) Talent Management; Procurement & Supply Management 10) World Class Procurement; Corporate Function Procurement 11) Head of Procurement & Supply Management Campus; People Development & Executives Management
7) Wavin GmbH Plastic pipes manufacturing & Plastic processing	12) Strategic Purchaser 13) Senior Buyer; Strategic Purchaser
8) Naber GmbH Kitchen equipment manufacturing & industry	14) Head of purchasing; Proxy
9) L+T GmbH + Co. KG Fashion & Clothing industry	15) Head purchaser and head of department

Figure 9: Interview partners; Source: Own elaboration

6. Empirical findings from the conducted interviews in German SMEs and large enterprises: Using an in-case and cross-case analysis for the illustration of findings

The sixth chapter presents findings of the field research in PSM departments. The in-case analysis presents each company, interviewed employees and most important results. The cross-case analysis summarises outcomes of the interview's main parts. The purpose is to understand whether purchasing's strategic character, role and competences depend on size and to identify missing teaching material that is not yet included in the new curriculum.

6.1 In-case analysis: Companies, interview partners and most significant individual findings

6.1.1 DFMG Deutsche Funkturm GmbH

The DFMG GmbH is a subsidiary of the German Telecom Group. Beside its headquarters located in Münster (NRW), the company owns ten regional agencies across Germany. Currently, about 800 employees are engaged who are primarily responsible for the acquisition, planning, running and maintenance of radio stations. The interviewee is head of the purchasing department since 2002.

A separate PSM department with seven professionals steer all strategic purchasing decisions, exert operational activities and communicate set strategies to regional agencies. Clear KPIs referring to the purchasing department's results, processes and employees are established which ultimately measure and prove overall contribution to the firm. This business function is seen as professional and competent both within the organisation and from colleagues from other departments. It is also a standard that purchasing staff gets involved in new product developments and other projects in an early stage. There is no appointed CPO in the C-suite, the head of purchasing reports to the official CFO of the firm.¹⁸⁵

6.1.2 apetito AG

The apetito AG is a producer of frozen and refrigerated food menus. Its headquarters is located in Rheine (NRW). The overall apetito group includes the actual corporation,

¹⁸⁵ See Interview 1 DFMG (2016), Appendix D, p.AIV-1-AIV-6.

catering and several subsidiaries. It employs approximately 3,400 people and operates on an international scale. Products and services are offered in many countries with the trend of additional market expansions. The heads of both the purchasing food and purchasing non-food department work more than fifteen years for apetito. The third interviewee is a M.A. student at a German university and junior purchaser.

A separate PSM department with about 30 professionals steer the strategic and operational purchasing aspects of the organisation. Clear hierarchy is given in the form of clerk, junior, senior and head positions which reflects the personnel's responsibilities and authority. KPIs such as forecasting, budgeting, stock controls and supplier quality audits are present. The contribution of the purchasing's department to overall firm success is significant, acknowledged and proven through measurements. Purchasing personnel is internally seen as competent and experts in its business function and thus enjoy a high status. There is no assigned CPO in the C-suite, the head of purchasing reports to the board member who is responsible for production, purchasing and personnel.¹⁸⁶

6.1.3 Emsland Group GmbH

The Emsland Group GmbH is one of the leading potato flour producers in Europe and also present with own brands in the food retail market. The company is headquartered in Emlichheim (NDS), does international business and sells its products in more than 120 countries. Around 1,000 employees are on the payroll. The interviewee is head of the commercial purchasing department since 2015.

A central PSM department with 7 professionals and additional staff in other business units are responsible for strategic and operational purchasing activities. The head of the department is not officially assigned as a CPO and not in the management board, but reports to the COO of the firm. KPIs such as savings and budgeting analyses and newly established purchasing guidelines help to increase the status of this business function. In general, the department's performance contributes to firm success, is positively considered and provable by means of measurements. It is stated, however, that PSM has not achieved its full potential, yet. Compared to other business functions, purchasing still lags behind when talking about status, cognition and reputation.¹⁸⁷

¹⁸⁶ See Interview 2 apetito (2016), Appendix D, p.AIV-6-AIV-13.

¹⁸⁷ See Interview 3 Emsland Group (2016), Appendix D, p.AIV-14-AIV-20.

6.1.4 Q1 AG

The Q1 AG is an independent oil company and operator of petrol stations in North and Central Germany. Its headquarters is located in Osnabrück (NDS). The company has about 170 employees and currently owns 19 stations. The interviewee is head of purchasing since the beginning of 2016 and member of the management board with the role of CPO. The separate PSM department has 3 professionals and is despite its rather small size considered as one of the most important business functions in the organisation. It is internally recognised that these employees have considerable impact on the overall firm's success. Performance controls are frequently exerted and compared with benchmark studies.¹⁸⁸

6.1.5 KCA Deutag Drilling GmbH

The KCA Deutag Drilling GmbH is a large international corporation that operates in the oil and gas industry. Its headquarters is located in Aberdeen, the German business unit is in Bad Bentheim (NDS). The enterprise employs around 8,000 people in more than 20 countries. The supply manager being interviewed has an experience of approximately 30 years in purchasing. The second interviewee is a M.A. student at a German university and purchasing efficiency specialist.

The German site has a separate PSM department with currently 3 professionals having strategic and operational purchasing activities. In total, about 40 purchasers are employed and spread across the globe. There are many instances within the corporation's personnel hierarchy, but no CPO position is established. A so-called 'global head of supply chain and logistics' is the most senior purchaser and ultimately reports to the CFO. Standardised KPIs for purchasing do not exist, since these are a matter of discussion with superiors. In appraisals, staff determines and agrees on individual performance measurements. It is emphasised that the overall work of the PSM department is crucial, contributes to firm success and has been increasing its significance throughout the last years. However, internally the business function is not on the same stage compared to other functions. Moreover, the actual status of purchasers is inferior compared to those of colleagues from other departments. Even though the professional status steadily rises through new guidelines, commitment from superiors and education of personnel, the PSM function has not achieved its potential and competent standing which it deserves on a long-term basis.¹⁸⁹

¹⁸⁸ See Interview 4 Q1 (2016), Appendix D, p.AIV-21-AIV-25.

¹⁸⁹ See Interview 5 KCA Deutag (2016), Appendix D, p.AIV-26-AIV-35.

6.1.6 thyssenkrupp AG

The thyssenkrupp AG is a conglomerate and listed on the German share index (DAX). The corporation's headquarters is in Essen (NRW). The enterprise employs about 155,000 people and is locally present in 80 countries. The conglomerate is one of the world's leading steel producers and possesses 600 subsidiaries. All three interviewees are executives in the PSM area.

thyssenkrupp employs worldwide 2,000-2,500 purchasers and possesses a purchasing community with 3,500 members. These members are mostly current and former employees of the PSM field but also of other business functions. The corporation has a network organisation in which distinct PSM departments exist. Purchasing becomes strongly and early integrated when it comes to new product developments, supplier integration and other projects. There is no CPO in the C-suite. The most senior purchaser and head of PSM reports formally to the CFO. Within the job landscape in this business function, 27 different positions are currently hold, ranging from executives, strategic, functional and transactional profiles. Comprehensive KPIs such as purchasing volume, synergy growth partner linked for instance to preferred supplier status, e- auctions, sustainability, savings, and global sourcing quotas are set by internal procurement performance management teams. The PSM field and its personnel enjoy a high status in-house and are considered as a competent professional exemplary function. Significant contribution to overall firm success is fully recognised. The corporation has recently founded a PSM campus to better foster and educate internal staff specifically for this function. Two full-time employees are responsible for the campus's organisation and further development.¹⁹⁰

6.1.7 Wavin GmbH

The Wavin GmbH is part of the internationally operating Wavin group with more than 5,000 employees. It is one of the world's leading plastic pipes manufacturer for any private and commercial usage. Wavin is locally present in 25 European countries. Its headquarters is located in the Dutch city Zwolle, one German business unit is in Twist (NDS). The group belongs to the Mexican corporation Mexichem since 2012. The two interviewees are strategic purchasers, one primarily responsible for commercial products and services, the other one exclusively for technical goods such as machines.

¹⁹⁰ See Interview 6 thyssenkrupp (2016), Appendix D, p.AIV-36-AIV-41.

Purchasing is not centrally organised and responsible persons are spread in many countries. Commercial PSM used to be very professional and comprehensive in the German and Dutch region, but currently impairs due to personnel- and organisational structure changes. Various KPIs and projects referred to supplier management, service level as well as supplier- and innovation days used to be in place, however, these are currently minimised. The primary measurement is savings in the form of cost reduction and cost avoidance. The general status and professionalism of a purchaser increases but is not on the same level compared to other business functions. Internally, commercial PSM is under development and much potential for improvements is seen at the present time. The technical purchasing on the contrary appears to enjoy a higher and more competent status. The heads of purchasing are located in distinct countries and are not represented by a CPO in the firm's board. Officially, the CEO is amongst others responsible for purchasing and logistics.¹⁹¹

6.1.8 Naber GmbH

The Naber GmbH is a traditional family business. It develops, produces and sells kitchen equipment. The company operates in this niche market as one of the leading specialists in central Europe. Naber's headquarters is in Nordhorn (NDS) and is employer of about 200 people. The interviewee is proxy, head of the purchasing department and has worked already more than 35 years for the company.

7 professionals work in a separate PSM department and directly report to the firm's board. There is no CPO position. KPIs are limited and basically rely on trust. The head of purchasing discusses figures and strategic directions with the board on a quarterly basis and subsequently delegates tasks to subordinates. The PSM as a business function has a positive status and is strongly respected. There is full support from the board and purchasers are on the same level with colleagues from other departments. It is recognised throughout the company that PSM contributes to overall success on a great extent.¹⁹²

6.1.9 L+T Lengermann + Trieschmann GmbH + Co. KG

The L+T GmbH + Co. KG is a fashion house with its headquarters in Osnabrück (NDS). It is considered as the largest one in North Germany with around 460 employees. The interviewee is head purchaser since 2015.

¹⁹¹ See Interview 7 Wavin (2016), Appendix D, p.AIV-41-AIV-50.

¹⁹² See Interview 8 Naber (2016), Appendix D, p.AIV-50-AIV-56.

In total, the firm employs about 10 purchasers that are ranked in middle management. These purchasers report to the CPO/CHRO board member and steer an individual fashion category department, thus supervise other subordinates. There is no C-suite member exclusively responsible for purchasing. Beside flexibility, the superior KPI is the achieved turnover of bought fashion. Internally, the purchasers' status is positive and its challenges are understood by other functions. Colleagues acknowledge difficulties in PSM, its needed professionalism and see significant contribution to overall success. With respect to external stakeholders such as agents of clothing manufacturers, the purchasers are rather seen as inconvenient, annoying and incompetent. The interviewee emphasises that much strategic work is needed in purchasing, but operative activities are also crucial and exerted.¹⁹³

6.2 Cross-case analysis: Comparison of identified commonalities and differences based on the executed corporate field research

6.2.1 Assumption testing: Purchasing's strategic character, role and competences do not depend on an organisation's size

The first assumption that purchasing's strategic character, role and competences depend on organisation's size could not be confirmed. Thus, PSM has a strategic function that is led by professionals in separate departments irrespective of size. To test the assumption, three different elements with codes have been compared: Strategic character (1), professionals (2) and separate department (3). Purchasers of all nine companies differentiate strategic and operational PSM activities. The heads of the separate purchasing departments are primarily responsible for the strategic scope, while their subordinates exert operational business. The employees are considered as professionals since the majority has a successful academic background and profound experience in the PSM business function.¹⁹⁴

Exemplary citations:

→In der Zentrale werden alle strategischen Einkaufsentscheidungen und Tätigkeiten ausgeführt und an die Regionalvertretungen kommuniziert.

→In the headquarters, all strategical purchasing decisions/activities are implemented and communicated to its regional agencies. (Head of purchasing DFMG)¹⁹⁵

¹⁹³ See Interview 9 L + T (2016), Appendix D, p.AIV-56-AIV-61.

¹⁹⁴ See codes and corresponding citations (2017), Appendix C, p.AIII-1-AIII-4; figure 10-11 assumption testing.

¹⁹⁵ See Interview 1 DFMG (2016), Appendix D, p.AIV-3.

→ [REDACTED] ist seit 25 Jahren bei apetito tätig. Er hat nicht nur in der Geschäftsfunktion Einkauf gearbeitet, sondern auch in der Entwicklung und Fertigung. Seit 2001 ist He [REDACTED] im Einkauf, zuerst als Senior Einkäufer, ab 2009 als Leiter im Einkaufsbereich Food für klar definierte Rohstoffe und Zutaten. [REDACTED] hat knapp 5 Jahre bei Dr. Oetker in der Entwicklung gearbeitet, bevor er zu apetito kam.

→ [REDACTED] has been working for apetito for 25 years. He worked in different business functions, R&D and production. In 2001, he started in PSM as a senior purchaser. In 2009, he took the position of head purchaser for food. Before he came to apetito [REDACTED] has worked about 5 years for Dr. Oetker in Bielefeld. (Head of purchasing food apetito)¹⁹⁶

→ Zum Zentraleinkauf Emlichheim gehören 7 Mitarbeiter. Zudem gibt es 6 Werkseinkäufer in den anderen Außenwerken, die aber nicht nur ausschließlich mit Einkaufstätigkeiten beschäftigt sind.

→ 7 employees belong to and work in the central purchasing department in Emlichheim. 6 additional purchasers are engaged at other sites that have also responsibilities other than those in PSM. (Head of purchasing department Emsland Group)¹⁹⁷

The second assumption that PSM is considered as an inferior business function that does not substantially contribute to overall success could also not be confirmed. Thus, PSM enjoys priority and contributes to total firm success irrespective of size. To test the assumption, three different elements with codes have been compared: PSM enjoys high priority (4), PSM contributes to firm success (5) and does not enjoy high priority (6). All fifteen interviewees claimed that PSM either contributes or significantly contributes to overall firm success. Twelve from fifteen purchasers found that PSM enjoys high priority, whereas three interviewees see the purchasing business function as rather subordinate.¹⁹⁸

Exemplary citations:

→ Betrachtet man die Entwicklung der tk PSM Funktion und seiner Mitarbeiter, so hat die Geschäftsfunktion durch Initiative und Engagement in den letzten Jahren an Respekt und positiven Ansehen insbesondere bei den Schnittstellenpartnern gewonnen. Professionelle Einkäufer in strategischen und operativen Bereichen sind für zeitgenössische Unternehmen unabdingbar. Dieses hat tk erkannt und arbeitet deswegen seit Jahren an der Erhöhung der Professionalität. Natürlich kann das Potenzial in Bezug auf den Status eines „professionellen Einkäufers“ noch weiter ausgeschöpft werden. Der Einkauf bei tk wird in der heutigen Zeit als

¹⁹⁶ See Interview 2 apetito (2016), Appendix D, p.AIV-8.

¹⁹⁷ See Interview 3 Emsland Group, Appendix D, p.AIV-15.

¹⁹⁸ See codes and corresponding citations (2017), Appendix C, p.AIII-1-AIII-4; figure 10-11 assumption testing.

Vorbildfunktion und Nahtstelle zwischen diversen anderen Geschäftsfeldern gesehen. Zudem wird dieser Geschäftsfunktion eine signifikante Rolle und einen erheblichen positiven Einfluss auf die Gesamtleistung des Konzerns zugeschrieben.

→When looking at the development of tk's PSM function and its employees in the last years, respect and positive standing increased through initiative and commitment. Professional purchasers both in strategic and operational matters are inevitable for contemporary companies. tk has recognised this and therefore strives to further rise professionalism, since there is always potential for improvements. In total, tk's PSM is considered as an exemplary function and interface for diverse business functions. In addition, PSM plays a significant role in contributing to overall firm success. (Corporate Talent management; procurement & supply management)¹⁹⁹

→Viele Leute sehen uns als reine Supportfunktion. Das war vor 28 Jahren so und ist leider immer noch so. Keiner der vielen Vorgesetzten in dieser Geschäftsfunktion hat es bisher geschafft, den Status grundlegend positiver zu gestalten.

Der generelle Status hat dementsprechend das Nachsehen im Vergleich zu anderen Abteilungen bei KCA Deutag.

→Many people see PSM solely as support. This attitude has not changed throughout the last 28 years. None of the many superiors have achieved to profoundly change and increase the status of PSM. Thus, compared to other business functions, PSM is not on the same level at KCA Deutag. (Supply Manager Operation; regional purchasing central Europe)²⁰⁰

→Nach der Auffassung und Erfahrung von [REDACTED] bildet die Einkaufsabteilung trotz ihrer nur 3 Mitarbeiter einer der wichtigsten Abteilungen im Unternehmen.

→Based on his experience, [REDACTED] considers the PSM department as one of the most important ones in the company, even though it has only three employees. (Head of purchasing; management board member)²⁰¹

Based on the findings, both assumptions could not be confirmed. It implies that within this conducted research, PSM has a strategic character, is steered by professionals, owns a separate department, enjoys priority and contributes to total firm success regardless of size. This means a mitigation of authors' assertions about significant differences between SMEs and large enterprises with respect to the PSM role and competences.²⁰²

¹⁹⁹ See Interview 6 thyssenkrupp, Appendix D, p.AIV-39.

²⁰⁰ See Interview 5 KCA Deutag, Appendix D, p.AIV-29.

²⁰¹ See Interview 4 Q1, Appendix D, p.AIV-23.

²⁰² See Ellegaard (2006); Zheng et al. (2007); Pressey et al. (2009).

Cross-case analysis SMEs	DEMG	Emsland Group	Q1	Naber	L + T
Assumption testing (Codes 1-6) PSM has strategic character; led by professionals; separate department; enjoys high priority; contributes to firm success	PSM has strategic character; led by professionals; separate department; enjoys high priority; contributes to firm success	PSM has strategic character; led by professionals; separate department; PSM priority increasing with potential; contributes to firm success	PSM has strategic character; led by professionals; separate department; enjoys high priority; contributes to firm success	PSM has strategic character; led by professionals; separate department; enjoys high priority; contributes to firm success	PSM has strategic character; led by professionals; separate department; enjoys high priority; contributes to firm success
Interview main part 1: general data & facts (Codes 7-8) SME; telecommunication & infrastructure industry; 800 employees; turnover €700 m.; cost of sales €400 m.; purchasing volume €180 m. (2015)	SME; food & chemical industry; 1,000 employees; turnover €550 m.; purchasing volume €220 m. (2015)	SME; oil industry; 170 employees; turnover €540 m.; purchasing volume €400 m. (2014)	SME; kitchen equipment manufacturing; 200 employees; purchasing volume of high tens of millions (2015)	SME; fashion industry; 460 employees; turnover €60 m. (2015)	
Interview main part 2: Organisational structure & performance indicators (Codes 9-18) Separate PSM department with 7 employees; no CPO, head purchaser reports to CFO/CHRO; no outsourcing; result-, process- and employee related KPIs; no incentive system or other benefits; top-down target setting process; individual and team targets; PSM enjoys high priority; contribution to firm success; effective and efficient PSM is about strategic activities, early involvement and market/competitor understanding; minimisation of operative activities	Separate PSM department with 7 employees in central purchasing; no CPO, head purchaser reports to COO; selected external help is present; savings, budgeting and PSM guidelines as KPIs; incentive system is present; top-down target setting process with a democratic touch; PSM has not yet priority which it deserves; contribution to firm success; effective and efficient PSM is about clear commodity groups; minimisation of operative-maximisation of strategic PSM activities; better communication/IT interface with suppliers and other business functions	Separate PSM department with 3 employees; CPO in management board; no outsourcing; performance compared with benchmark studies; incentive system is present; top-down target setting process; PSM is one of the most important business functions; contribution to firm success; effective and efficient PSM is about sustainable and strategic planning/objectives; long-term collaboration with suppliers; reliable network	Separate PSM department with 7 employees; no CPO, head purchaser is also proxy but not in management board; no outsourcing; no official PSM KPIs; performance relies on trust; incentive system and benefits are given for heads of departments; top-down target setting process; PSM enjoys high priority; contribution to firm success; effective and efficient PSM is about the overall concept and a sufficient price-benefit ratio; considering all factors but not only price of suppliers	Separate PSM department with 10 purchasers in middle management; CPO/CHRO in management board; no outsourcing; revenue as KPI; no incentive system but discounts on in-house fashion; top-down target setting process; PSM is one of the most important business functions; status of purchaser can be improved; contribution to firm success; effective and efficient PSM is about the entire picture; forecasting of quantity, experience, courage	
Interview main part 3: Current knowledge requirements of PSM employees (Codes 19-28) Existence of specific PSM knowledge; purchasing process chart is applicable to firm; little promotion options through flat hierarchy; important skills for purchasers are communication, negotiation, ability to make decisions, conflict resolution, customer orientation, PSM and market knowledge; secondary skills are IT literacy and language skills; reasons that prevent PSM success are pressure on quality, price and shorter time cycles for decision; knowledge acquisition is much learning-by-doing; there is no regulation or duty for trainings; PSM knowledge is openly shared; new PSM	Existence of specific PSM knowledge; most business managers have no specific knowledge in PSM before working in this function; purchasing process chart is applicable to firm; little promotion options through flat hierarchy; important skills for purchasers are negotiation, communication, supplier & market knowledge, ability to make decisions and English language skills; secondary skills are IT literacy and customer orientation; reasons that prevent PSM success are maverick buying, inferior compensation compared to other business functions and too few PSM networks; knowledge is openly shared; few process	Existence of specific PSM knowledge; apart from little deviations, purchasing process chart is applicable; little promotion options through flat hierarchy; important skills for purchasers are ability to make decisions, communication, customer orientation, negotiation, ability to make compromises, conflict resolution, and PSM as well as market knowledge; secondary skills are language skills and IT literacy; reasons that prevent PSM success are outdated IT systems; knowledge acquisition is much learning-by-doing; magazines and Internet are	Existence of specific PSM knowledge; higher ranked purchasers should have an academic degree; purchasing process chart is applicable; little promotion options through flat hierarchy; important skills for purchasers are listening abilities, spontaneous decision making, communication, ability to make compromises; team work, negotiation, improvisation, self-confidence and market observation/knowledge; secondary skills are English language skills; knowledge acquisition is much learning-by-doing; through PSM magazines and Internet; there is no	Existence of specific PSM knowledge; apart from little deviations, purchasing process chart is applicable; little promotion options through flat hierarchy; important skills for purchasers are calculation skills, communication, ability to make decisions, customer orientation, courage, foresight, self-confidence and English language skills; secondary skills are negotiation and IT literacy; knowledge acquisition is much learning-by-doing; there is no regulation or duty for trainings; PSM knowledge is openly shared; new PSM employees induction is partly standardised and set	

	employees induction is not standardised; hiring personnel from other business functions; PSM curriculum suggestions include market observations & analysis, negotiation skills and law referring to supplier and contracts	documentations exist; new PSM employees induction is seen as crucial and mostly happens on individual needs; hiring personnel from other business functions; PSM curriculum suggestions include law, strategic and sustainable PSM knowledge/thinking, negotiation techniques, practical PSM case studies, commercial/technical/IT knowledge, practical experience in PSM departments	used; there is no regulation or duty for trainings; PSM knowledge is openly shared; new PSM employees induction is not standardised, focus is on getting to know internal processes and colleagues, no handbooks etc. exist; hiring personnel from other business functions; PSM curriculum suggestions include specific internships in PSM departments	regulation or duty for trainings; PSM knowledge is openly shared; little standardised and documented processes; new PSM employees induction is individual, no handbooks or procedures etc. exist; hiring personnel from other business functions, business management knowledge is mostly present but initially not for PSM; PSM curriculum suggestions include law, theoretical PSM knowledge and stronger interfaces between education institutions and SMEs	meetings are given; hiring personnel with specific PSM knowledge; little standardised and documented processes; PSM curriculum suggestions include the education of the overall concept between economy, industry and company with particular interest on the business function purchasing
Interview main part 4: Future skill requirement of PSM employees (Codes 29-33)	Trends of demand shaping, need for more specific PSM knowledge, more collaboration with other business functions, identification of new purchasing strategies, strong digitisation and sustainability, E-procurement; main job activities are supervision of personnel, market observation and networking to suppliers, development of new PSM strategies; in-house topic digitisation; topics with suppliers are pricing, sustainability, quality, flexibility and financing	Trends of digitisation and industry/purchasing 4.0 and IT interface with suppliers and other business functions, sustainability, E-procurement; PSM department gets specific magazines that report trends, solutions etc.; main job activities are personnel supervision and development, strategic planning and market analyses/observations; in-house topic digitisation and sustainability; topics with suppliers are digitisation, innovation management	Trends of better educated PSM personnel, sustainability, professional stakeholder management, digitisation, work organisation; main job activities are management of daily business, communication with/control of suppliers; in-house topic stakeholder management, digitisation; topics with suppliers are pricing	Trends of digitisation, innovation management, sustainability, work organisation; PSM job changes slowly based on trends; main job activities are negotiation/pricing with suppliers, presentation/analyses of new products and strategic planning; in-house topic digitisation, employee management; topics with suppliers are sustainable relationships	Trends of customer orientation and proximity, personal service and selective portfolios, flexibility and quickness of supply chain, digitisation; sustainability is a critical factor in fashion industry; main job activities are trend searching, stock analyses/planning; in-house topic digitisation and strategic orientation; topics with suppliers are reliability, professional relationships
Interview main part 5: Present PSM training programs and advanced education options (Codes 34-39)	Job descriptions exist and are used for new hiring; due to small company size, no internal training options, needed/desired training/workshops done by external provider; training budgets; graduates are good in analytical thinking and learning ability but lack experience, network and specific knowledge of PSM and buying market; purchasers should have same knowledge irrespective of size, SME more general job, large enterprise more specific tasks; planning & strategy most important for education	Job descriptions exist and used for new hiring; due to small company size, no internal training options, needed/desired training/workshops done by external provider; training budgets; purchasers should/must have same knowledge irrespective of size, SME more general job, large enterprise more specific tasks; planning & strategy then process organisation most important for education, commercial purchaser and technical purchaser are both needed, none is inferior	Job descriptions exist and are used for new hiring; due to small company size, no internal training options, needed/desired training/workshops done by external provider; training budgets; no specific PSM training needed so far; graduates are good in analytical and critical thinking; purchasers profile is dependent on company's size, SME more general job, large enterprise more specific tasks; planning & strategy most important for education, but all 5 areas are relevant	Job descriptions exist and are used for new hiring; due to small company size, no internal training options, needed/desired training/workshops done by external provider; training budgets; graduates mostly lack foresight and conscience; purchasers profile dependent on its position, SME more general job, large enterprise more specific tasks; planning & strategy then process organisation most important for education	Job descriptions exist and are used for new hiring, strong link to HR; due to small company size, no internal training options, needed/desired training/workshops done by external provider; training budgets; distinct purchaser profiles exist and vary in its responsibility through personnel supervision and turnover targets, it is questionable whether this always depends on size of firm; process organisation most important for education

Figure 10: Cross-case analysis SMEs; Source: Own elaboration

Cross-case analysis large enterprises	apetito	KCA Deutag	thysenkrupp	Wavin
Assumption testing (Codes 1-6)	PSM has strategic character; led by professionals; separate department; enjoys high priority; contributes to firm success	PSM has strategic character; led by professionals; separate department; priority inferior with much potential; contributes to firm success	PSM has strategic character; led by professionals; separate department; enjoys high priority; contributes to firm success	PSM has strategic character; led by professionals; separate department; PSM priority increasing with potential; contributes to firm success
Interview main part 1: general data & facts (Codes 7-8)	Large enterprise; food industry; 3,400 employees; turnover €620 m.; cost of goods sold €248 m. (2015)	Large enterprise; oil & gas industry; 8,000 employees; purchasing volume \$225 m. (2015)	Large enterprise; conglomerate; 155,000 employees; turnover €43 billion; purchasing volume €27 billion (2015)	Large enterprise; plastic pipes manufacturing; 5,000 employees; turnover €1.2 billion; commercial purchasing volume €25 m. (2015)
Interview main part 2: organisational structure & performance indicators (Codes 9-18)	Separate PSM department with about 30 employees; no CPO, head purchaser reports to COO/CHRO; no outsourcing; forecasting, budgeting, stock controls & supplier quality audits KPIs; no incentive system or other benefits; top-down target setting process; PSM enjoys high priority; contribution to firm success; effective and efficient PSM is about sustainable visions and strategies; minimisation of operative PSM activities, IT support and collaboration with other business functions; market observation & understanding	Separate PSM department with 3 employees in Germany; no CPO, head purchaser reports to CFO; no outsourcing; no standardised KPIs exist; savings, supplier quality audits etc. are a matter of discussion with superior; no incentive system or other benefits; top-down target setting process; inferior PSM status with much potential; contribution to firm success; effective and efficient PSM is about cheap buying of right material and services in the right time, quality, quantity, vision of overall plan/target	Separate PSM department with around 40 corporate status employees in PSM and 2,000 – 2,500 total purchasers; no CPO, head purchaser reports to CFO; no outsourcing; KPIs such as purchasing volume, synergy growth partner linked e.g. to preferred supplier status; e- auctions, sustainability, savings and global sourcing quotas; no incentive system or other benefits; top-down target setting process; high PSM status and high priority; significant contribution to firm success; effective and efficient PSM is about demand-based & business-oriented acting, competence, innovation, cluster management	Separate PSM department with 3 employees in Germany for commercial and technical buying; no CPO, head purchaser reports to CEO; no outsourcing; savings as KPI; no incentive system or benefits specifically for PSM; top-down target setting process; inferior commercial PSM status with much potential; technical PSM enjoys high priority; contribution to firm success; effective and efficient PSM is about the total cost investigation, right quantity, right time, right place and right quality
Interview main part 3: Current knowledge requirements of PSM employees (Codes 19-28)	Existence of specific PSM knowledge; the longer in PSM, the more specific knowledge; purchasing process chart in general applicable, but activities and its order vary, also with regard to which in-house PSM department; promotion options are given, junior, senior titles exist; important skills for purchasers are communication, resistance, ambition to improve current processes, analytical capabilities, ability to make decisions, conflict resolution, English language skills, market knowledge, stakeholder management, change management; secondary skills are IT literacy and negotiation; reasons that prevent PSM success are maverick buying and employees' difficulties to see PSM value; knowledge acquisition is much learning-by-doing, there is no regulation	Existence of specific PSM knowledge; purchasing process chart in general applicable, activities and order can vary; promotion options are given, various titles and hierarchies exist; important skills for purchasers are specific PSM knowledge, social competence, English language skills, IT literacy, ability to make decisions, courage, negotiation, supplier management, organisation, interface management, conflict resolution; reasons that prevent PSM success are maverick buying and blurred authority guidelines; knowledge acquisition is much learning-by-doing, there is no regulation or duty for trainings; PSM knowledge is openly shared; processes are documented & standardised (in supply chain e.g. 7 world wide standards); global SAP	Existence of specific PSM knowledge; purchasing process chart in general applicable, activities and order can vary but reflect in-house slogan analyse/strategise/implement; promotion options are given, various titles and hierarchies exist; important skills for purchasers are teamwork, solution orientation, responsible acting and communication, strategic and analytic competences, negotiation, interface and project management; PSM knowledge is openly shared; processes are documented & standardised to assist global PSM; new PSM employees induction happens on individual basis and needs; hiring also employees for PSM with no prior specific PSM knowledge; broadly educated PSM	Existence of specific PSM knowledge; purchasing process chart for commercial PSM partially applicable, since a separate demand planning department exists, the technical PSM cannot be linked to the chart, since it is customised; promotion options are little, important skills for purchasers are communication, negotiation, English language skills, compromise ability and management of interfaces, network management, project management, technical knowledge, reliable information management, law; secondary skills are customer orientation and ability to make decisions; reasons that prevent PSM success are maverick buying and blurred authority guidelines &

	or duty for trainings; PSM knowledge & best practice procedures are openly shared; processes are documented & standardised (ISO certified); new PSM employees induction happens on individual basis and needs; internal training-on-the-job policy; hiring personnel from other business functions; PSM curriculum suggestions include more IT/EDI skills, supplier politics, supply chain processes, negotiation	interface; new PSM employees induction happens on individual basis and needs; mostly hiring personnel with prior PSM knowledge; PSM curriculum suggestions include more IT/EDI/ SAP skills, analytical capabilities, negotiation, market analyses, presentation skills, PSM law, psychological criteria/people behaviour	personnel; PSM curriculum suggestions include business- & network process knowledge/skills, strategic thinking/acting, project management, IT skills, competent communication, specific practical experience in PSM, mixture of IT, technical and commercial knowledge is needed	organisation structure; knowledge acquisition is much learning-by-doing, there is no regulation or duty for trainings; there is potential in PSM processes standardisation and documentation, PSM knowledge is openly shared; new PSM employees induction happens on individual basis and needs; hiring also employees for PSM with no prior specific PSM knowledge; PSM curriculum suggestions include practical experience in PSM, technical knowledge
Interview main part 4: Future skill requirement of PSM employees (Codes 29-33)	Trends of digitisation, change management, purchasing 4.0, E-procurement, supplier politics/relations/ESI, cultural & conflict management linked to global sourcing, professional status of PSM, reduction of maverick buying/maximisation of pooling and strategic PSM; main job activities are reporting, supervision/coaching/communication and market observations; in-house topics digitisation, change management, sustainability; topics with suppliers are pricing, long-term relations, sustainability	Trends of E-auctions, E-procurement, increasing status and challenges for PSM, minimisation of operative PSM, digitisation, supplier management, main job activities are acquisition, negotiation and contracting with suppliers, market analyses; in-house topics cross-departmental conflicts; topics with suppliers long-term working relations, developments, digitisation, sustainability	Trends of stakeholder management, cluster management, information & communication management, sustainability, digitisation; main job activities are strategic PSM development, supervision of processes, PSM coordination, cluster-, performance- & spend management; topics with suppliers cost optimisation, IT interfaces, quality, sustainability, digitisation	Trends of European sourcing, not global sourcing, separation and maximisation of strategic PSM, digitisation, sustainability, innovation management, long-term relations/supplier management; main job activities are project management, negotiation, supplier acquisition/management; main topic in-house stakeholder management; main topic with supplier is pricing
Interview main part 5: Present PSM training programs and advanced education options (Codes 34-39)	Job descriptions exist and are used for new hiring, cooperation with HR; selected/limited in-house training through superiors, most training/workshop done by external provider; training budgets; graduates often lack experience and personal strength; purchasers ability not so much dependent on size, but rather on present in-house professionalism within the business function, larger enterprises ask for more specific skills/knowledge; planning & strategy most important for education	Job descriptions exist and are used for new hiring; selected/limited in-house training through superiors, most training/workshop done by external provider like Coverdale or BME; training budgets; graduates often lack knowledge in contracting, and negotiation, cleverness and experience, but are good in analytical thinking with leadership skills; larger enterprises ask for more specific skills/knowledge and general demands are higher e.g. language, interface, logistical, process management skills; SMEs ask for more general purchasers; planning & strategy, then process management most important for education	Job descriptions exist and are used for new hiring; in-house training/workshop capabilities; PSM campus establishment for future focus on in-house PSM training, training budgets; purchaser profiles can strongly vary with organisations' sizes, planning & strategy most important for education, project management emphasised	Job descriptions exist and are used for new hiring; no in-house training options for PSM, exerted by external providers; training budgets; graduates often lack professional networks, personality strength; purchasers ability/demands dependent on size, larger enterprises demand more from personnel/PSM employees, in SMEs purchaser have less responsibility/authority; planning & strategy most important for education

Figure 11: Cross-case analysis large enterprises; Source: Own elaboration

6.2.2 General data & facts: SMEs and large enterprises emphasise purchasing's vast expenses

Nine companies of different sizes were interviewed. As it is desired to make comparisons between SMEs and large enterprises with regard to the PSM role, all organisations are assigned to a particular size. SMEs and large enterprises are mostly classified according to their number of employees and annual turnover. Companies in industrial business sectors with less than 499 employees and less than €12.8 million annual turnover are considered as a SME. Greater numbers in personnel or revenue belong to the idea of large enterprises.²⁰³ However, for a better and more realistic comparison, a deviation from the SME and large enterprise definition has been considered as appropriate. Thus, in this research DFMG, Emsland Group, Q1, Naber and L + T are set as SMEs since no company exceeds the size of 1,000 employees. Large enterprises are apetito, KCA Deutag, thyssenkrupp and Wavin since their sizes range from 3,400 employees to 155,000 employees. PSM data from the food, fashion, gas & oil, telecommunication and other manufacturing industries could be gathered and represent a broad variety. When setting the organisations' overall turnover in relation to purchasing volume (e.g. DFMG, Emsland Group, Q1 or thyssenkrupp), it becomes apparent that this business function is accountable for considerable expenses of total cost of goods sold.²⁰⁴

6.2.3 Organisational structure & performance indicators: Separate PSM departments have strategic functions and contribute to overall success

All interviewed organisations possess separate PSM departments with employees that are solely responsible for this business function.²⁰⁵ Both purchasing activities and the departments are not outsourced with the explanation of being vital. Strategic responsibilities are clearly seen and the contribution to a firm's overall success is highlighted. The PSM status varies. While Emsland Group, KCA Deutag and Wavin report an inferior PSM status when comparing it with different business functions, other companies such as DFMG, Q1, apetito and thyssenkrupp see their status at the same stage or even superior. Moreover, with regard to specific purchasing KPIs, the organisations

²⁰³ See Loecher (2000), p.262.

²⁰⁴ See codes and corresponding citations (2017), Appendix C, p.AIII-5-AIII-6; figure 10-11 interview main part 1.

²⁰⁵ See examples from interview partners (2017), Appendix G, p.AVII-1.

measure their performances in a distinct scope.²⁰⁶ There are few with a comprehensive KPI portfolio. Naber, for instance, has no official KPIs at all and relies on good employees' work with daily supervision from superiors. L + T, KCA Deutag and Wavin appear to focus merely on one main KPI such as savings or turnover. In contrast, there exist broad portfolios. DFMG, Emsland Group, apetito and thyssenkrupp state diverse, more sustainable performance measurements referring to personnel, results, processes and suppliers. Irrespective of the in-house status and size, only Q1 includes an exclusive CPO in its management board.²⁰⁷ L + T integrates a CPO/CHRO in the C-suite. The remaining seven organisations consider – based on the organisational structure – PSM as middle management that often reports to the CFO or COO of the company. Only the SMEs Emsland Group and Q1 have installed an incentive system, whereas a top-down target setting process is common in all interviewed organisations. Looking at the visions of effective and efficient PSM, recurring opinions are sustainable strategic planning, minimisation of operative PSM, innovation, total cost investigation by analysing the entire picture as well as more collaboration with other business functions and suppliers. In total, these outcomes reinforce the development of PSM importance in companies regardless of size. No pattern of PSM significance in large enterprises and PSM negligence in SMEs could be identified. Quite the contrary, the smallest interviewed SME is the only company that has an exclusive CPO in the board.²⁰⁸

6.2.4 Current knowledge requirements of PSM employees: The purchaser needs specific knowledge and a broad set of skills

All interviewed companies validate an existence of specific PSM knowledge. This implies a clear possession of awareness and skills that colleagues from other business functions possibly miss. Important and mostly mentioned capabilities are communication, decision-making, conflict resolution, negotiation, analytical competences, English language skills, teamwork, market knowledge and organisational skills. Secondary skills are IT literacy and customer orientation. An additional competence that appears to increase with the size of organisations is project and interface management. There is also the trend of taking more stakeholder and change management into account. The larger enterprises have more

²⁰⁶ See examples from interview partners (2017), Appendix G, p.AVII-2.

²⁰⁷ See examples from interview partners (2017), Appendix G, p.AVII-3.

²⁰⁸ See codes and corresponding citations (2017), Appendix C, p.AIII-6-AIII-11; figure 10-11 interview main part 2.

complex hierarchies, more job titles, more authority levels and more promotional options for employees. Within SMEs, the personnel fluctuation is mostly little and both the few board members and heads of departments often remain in same positions for many years. Issues that mitigate or even prevent PSM success occur in all interviewed companies. Major discussion points concerning this are maverick buying, low priority of PSM, insufficient authority regimes, vague PSM guidelines as well as unclear organisational structures. All interviewees emphasise that there is no born expert in this business function, meaning that much knowledge is openly shared in-house and that learning-by-doing is a common procedure. A pattern with regard to standardised and documented PSM processes is recognised. Whereas the large enterprises confirm specific PSM process portfolios for guidance, transparency, consistency and certification reasons, SMEs tend to lack comprehensive purchasing policies and instructions that deal with supplier management, purchase-to-pay and source-to-contract activities. Induction processes for new PSM personnel happen mostly on a very individual basis and becomes tailored to the needs. No company reports clearly standardised induction processes with various predetermined appointments, handbooks or manuals. Specialist magazines particularly for PSM are subscribed only from few departments.²⁰⁹ It also becomes apparent that contemporary PSM departments have different employees with different commercial and technical educations. Only KCA Deutag and L + T claimed to focus on PSM personnel hiring that have prior knowledge in this business function. When talking about suggestions for the aimed harmonised pan-European PSM curriculum, diverse ideas are proposed. Firstly, legal knowledge should be intensified for purchasers. More particularly, law referring to contract and supplier management, incoterms and general business purchasing regulation is asked. Apart from the law, more analytical skills, tools and foresight for market observations and analyses are mentioned. Other demanded areas are more strategic PSM knowledge, negotiation skills and IT competences. Prospective purchasers should be able to transmit the business function's strategic and inevitable character. Its value and contribution must be understood in a way that personnel are eventually able to conduct PSM marketing. Distinct negotiation skills are necessary to adapt to respective starting positions and business partners. The education in the IT domain should also be upgraded. In this context, the trend goes to a minimisation of operational/administrative actions but a maximisation of IT assistance, electronic data interchange, E-commerce and cyber-

²⁰⁹ See examples from interview partners (2017), Appendix G, p.AVII-6.

physical system usage. Thus, the purchaser should be supported in learning SAP Materials Management or other software packages. Skills in project and interface management are especially recommended from large enterprises. The ultimate area is the acquisition of specific practical experience in this business field, combined with more university lectures from economists that work in the field of PSM. In this way, more practical relations can be made and better networking options between graduates and firms are possible.²¹⁰

6.2.5 Future skill requirements of PSM employees: Professionalism, status and job demands further increase

Major trends that the PSM departments deal with are E-commerce, digitisation, Industry 4.0, stronger IT interfaces with in-house departments and external business partners, supplier management, strategic PSM orientation, change management and sustainability. This mixture entails prospective challenges and requires capable personnel. Even though SMEs and large enterprises already take advantage of mentioned trends to some degree, those are likely to accompany the organisations in future. When looking at the advancement and implementation of tools to benefit from these trends, it is observable that the companies are on different stages. While DFMG, apetito and thyssenkrupp appear to be strongly digitised with usages of comprehensive SAP software and IT interfaces with suppliers, other companies like Emsland Group or Naber are rather in the beginnings of this trend. KCA Deutag and Wavin seem to lag behind when bearing their sizes and international scope in mind. Regardless of size, most companies forecast intensive E-commerce in the form of E-auctions. Only L + T does not welcome this trend since the Internet forms a strong competition to fashion houses that focus on personal consulting and social interactions. Main job activities are mostly of strategic nature. It includes markets and competitors observations, supervision of subordinates, communication and strategic planning for PSM. Topics that are discussed with other in-house colleagues are digitisation, sustainability and general stakeholder management. Regular talks about the business functions' conflicts of interest also describe a discussed subject. The most relevant theme with suppliers is pricing. The trend also goes to efforts of long-term relation establishments between partners. Sustainability, digitisation, quality aspects and innovation are current aspects as well and many interviewees emphasise to look at the overall picture and total cost investigation. This implies the attention to a mixture of suppliers'

²¹⁰ See codes and corresponding citations (2017), Appendix C, p.AIII-11-AIII-16; figure 10-11 interview main part 3.

characteristics and strengths, not only on pricing. Based on all these trends and realisation of important factors, there is the stance that a future PSM employee further increases in its professional status and value recognition. It becomes clear that PSM still undergoes a development with high potential in future. Even though it has improved from a support function to a strategic one in the last years and decades, organisational inertia is still present and hinders people from seeing the necessity and merit of PSM. This development is described from KCA Deutag's personnel who has not seen a significant shift in positive PSM and enhancement in value in the last 28 years.²¹¹

6.2.6 Present PSM training programs and advanced education options: Larger enterprises have more possibilities

Irrespective of size, there is an existence of job descriptions when hiring new personnel.²¹² The size, however, appears to be relevant for training options and general in-house education possibilities. The SMEs equally use external providers such as Coverdale or BME and cooperate with regional higher institutions for employees who aim to acquire additional knowledge and skills. In-house capacity shortage is reasoned with too little sizes of these organisations. Specific PSM training options seem currently not relevant for asked personnel. Indicated reasons are no need, no time or no existence of desired requests. The larger the enterprises are, the more in-house options are recognised. *apetito* and KCA Deutag report limited in-house training through superiors or specialists. However, official PSM in-house training or workshops barely occur. The largest interviewee with more than 2,000 purchasers on a global scale sees the long-term benefit of facilitating in-house PSM training. In order to enhance general PSM education and remain internally flexible, *thyssenkrupp* established in 2014 the so-called 'PSM campus'. For this project, two full-time employees steadily strive for in-house development of education programs specifically for purchasers. This project is certainly one of the leading undertakings to support standardised but comprehensive in-house PSM training for relevant personnel. It is apparent that for these kinds of long-term projects, organisational capacities and support from the management board must be given. A last broadly consistent stance among asked

²¹¹ See codes and corresponding citations (2017), Appendix C, p.AIII-16-AIII-19; figure 10-11 interview main part 4.

²¹² See examples from interview partners (2017), Appendix G, p.AVII-4-AVII-5.

interviewees is that higher educational institutes should primarily focus on imparting the central points of planning & strategy as well as process organisation in PSM education.²¹³

6.2.7 The role and competences of the purchaser from tomorrow: Comparison of demands in German SMEs and large enterprises

Five SMEs and four large enterprises are defined to compare the role and competences of the purchaser from tomorrow in different organisational sizes. Many commonalities are identified since regardless of size, most companies in this research state PSM's professionalism, priority and strategic character. These statements are the foundation to reject initial assumptions of discovering substantial differences. In order to remain on the current stage and increase it in future, required job profiles include competences in the commercial, technical and IT areas. In the wake of purchasing function's development, its role takes on more responsibility and becomes more significant. The purchasing volumes and dependency on suppliers demonstrate the personnel's accountability. All interviewees agree that in SMEs a purchaser rather operates as a generalist, whereas PSM personnel in large enterprises are assumed to be specialists in certain commodity groups or services. Specific knowledge for purchasers exists and should be obtained irrespective of the employer's size. The identified hard and soft skills apply with little deviation to purchasers in any organisation. Only skills in project and interface management appear to be more relevant in large enterprises. There is, however, no mutual consent about the pattern of rising demands relative to a company's size. Personnel from Q1, KCA Deutag and Wavin see the link that purchasers in larger organisations are more qualified and powerful, whereas interviewees from apetito, DFMG and Emsland Group do not see an obvious connection between demands and size. There is also no recognised pattern in more comprehensive KPI measures, more ambitious target setting processes, major distinctions in effective and efficient PSM visions or occurring issues like maverick buying and inferior PSM importance.

As a difference, it is observed that larger enterprises have more complex hierarchies, more job titles, more authority levels, more promotional options for employees, more in-house training possibilities and higher compensations. Whereas thyssenkrupp has a PSM landscape with 27 distinct job profiles and an in-house PSM campus for specific education in this field, SMEs such as L + T, Naber and Emsland Group have apart from the head of

²¹³ See codes and corresponding citations (2017), Appendix C, p.AIII-19-AIII-22; figure 10-11 interview main part 5.

purchasing no other substantially different job profiles than purchasing staff and hire external providers for trainings. Another pattern is the existence of standardised, documented and specific PSM process management that enables large enterprises a consistent supplier, purchase-to-pay and source-to-contract supervision.²¹⁴ Considering the differences, it is assumed that these do not solely appear in the purchasing business function but are also relevant in others such as marketing, finance or sales departments. In total, it is emphasised that asked SMEs and large enterprises both welcome the aimed intensification of purchaser education since the recognition of its meaningfulness is mostly present. Thus, within this research the role and competences appear to be nearly similar in relation to SMEs and large enterprises.²¹⁵ Apart from little deviations, it can be strongly assumed that organisations of any size demand qualified purchasers to meet future challenges. Important conclusions to remember are shown in figure 12.

	SMEs	Large enterprises	Link to literature
Assumption testing	General consent to PSM being a separate and contributing business function with a strategic, professional and vital character	General consent to PSM being a separate and contributing business function with a strategic, professional and vital character	Own elaboration; contradicts to e.g. Ellegaard (2006); Zheng et al. (2007); Pressey et al. (2009)
General data & facts	PSM business function is accountable for considerable expenses of total cost of goods sold	PSM business function is accountable for considerable expenses of total cost of goods sold	Own elaboration; in line with e.g. Ryals and Rogers (2006); Paik et al. (2009)
Organisational structure & performance indicators	No outsourcing activities, PSM KPIs and status vary, embedded in middle management, one exclusive CPO in board, PSM domain has gained more importance in the last decades but is still under development	No outsourcing activities, PSM KPIs and status vary, embedded in middle management, no exclusive CPO in board, PSM domain has gained more importance in the last decades but is still under development	Own elaboration; in line with e.g. Akyuz and Erkan (2010); Caniato et al. (2014); Paulraj et al. (2006); Porter and Kramer (2011); Eatough (2014)

²¹⁴ See examples from interview partners (2017), Appendix G, p.AVII-7.

²¹⁵ See figure 10-11 all main parts.

Current knowledge requirements of PSM employees	A purchaser should integrate specific PSM knowledge and commercial, technical and IT competences, practical experience, flat PSM hierarchies, few PSM titles, little promotional options and no PSM in-house training	A purchaser should integrate specific PSM knowledge and commercial, technical and IT competences, project and interface management, complex PSM hierarchies, many PSM titles, promotional options and PSM in-house training options, standardised PSM process management	Own elaboration; in line with e.g. Baron and Bielby (1986); Trent (2004); Tassabehji and Moorhouse (2008)
Future skill requirement of PSM employees	Managerial and function specific skills to cope with trends such as E-procurement, digitalisation, innovation and supplier management	Managerial and function specific skills to cope with trends such as E-procurement, digitalisation, innovation and supplier management	Own elaboration; in line with e.g. Giunipero (2000); Tassabehji and Moorhouse (2008)
Present PSM training programs and advanced education options	Rare specific PSM training exerted by external providers	Selected in-house PSM training, on-the-job training or standardised training facilities/programs through an internal PSM campus	Own elaboration
Role and competences of the purchaser from tomorrow	Purchasers must be a multi-talent and take on a more strategic critical management role, functions rather as a generalist, competences are in the range of identified skills taxonomies, PSM role in corporate hierarchy is differently seen	Purchasers must be a multi-talent and take on a more strategic critical management role, functions rather as a specialist in certain commodity or service groups, competences are in the range of identified skills taxonomies, PSM role in corporate hierarchy is differently seen	In line with e.g. Giunipero and Percy (2000); Handfield (2004); Zheng et al. (2007); Tassabehji and Moorhouse (2008)
PERFECT project/ new curriculum	PSM education should focus on central points of planning & strategy (e.g. demand/ pooling/ strategy/ market analyses) as well as process organisation (e.g. negotiations and supplier selection/ management)	PSM education should focus on central points of planning & strategy (e.g. demand/ pooling/ strategy/ market analyses) as well as process organisation (e.g. negotiations and supplier selection/ management)	Own elaboration

Figure 12: Role and competences of the purchaser from tomorrow in German SMEs and large enterprises; Source: Own elaboration

A surprising realisation is that initial assumptions of finding substantial differences in PSM role and competences in relation to an organisation's size could not be strengthened. Even though a few deviations are observed, the overall consent goes to a strategic PSM role with a multitude of managerial and function specific competences in both SMEs and large enterprises.

This conclusion has certain implications: The fact that various-sized organisations from different industries confirm a necessity of broadly educated purchasers shows the rising importance of PSM in the entire economic world. It entails for higher education institutions the call for action in intensifying training for this specific business function.

7. Overall conclusions based on the theoretical and empirical research

The seventh chapter summarises the most important theoretical and empirical findings of this Master thesis. The first sub-chapter focuses on particulars of the executed field research in PSM departments. The second sub-chapter concludes in a condensed manner crucial aspects that seem relevant for the PERFECT project and design of the new PSM curriculum.

7.1 SMEs and large enterprises have both recognised PSM importance and try to foster this business function

It is unambiguously stated that the PSM business function has a strategic character with impact on an organisation's competitive position and overall success. Demands and job profiles of purchasers have developed to a challenging nature. The PERFECT project is an answer from educational institutes to meet rising PSM needs in the business world by providing enhanced study programs in future. This Master thesis aims to deliver insights for the project by means of theoretical and empirical investigations.

The defined CRQ and sub-questions have been analysed and answered. Important milestones for the function's evolvement are the lean management principles, IT advancements, broader education options and high operating costs that purchasers are accountable for. Pervasive trends such as digitisation, sustainability, E-commerce, supplier management and the likely intensification of cyber-physical systems in the era of Industry 4.0 urge competent personnel with analytical tools, strategic knowledge as well as a broad portfolio of professional and social skills. PSM personnel could be identified who see their profession from a strategic perspective by working in interfaces between suppliers, firms and customers. Researchers and executives agree on the fact that academic education is a necessity these days to fulfil daily PSM responsibilities and upcoming trends. Within this research, however, it has become clear that there is no existence of an ideal purchaser with a predetermined educational career. Likewise other functions, PSM is broadly set. As for organisations, general universally usable goods and services must be bought as well as potential onetime investigations in highly technical and specific commodities. Thus, commercially, technically and IT focused purchasers are very likely to be in place to cope with any required demands. This observation implies that various specialised purchasers are mandatory. Whether technically or commercially driven purchasers occupy a more

superior role, lies beyond the scope of this research but statements from interviewees indicate same conditions and needs for different purchasers.

Surprisingly, the assumption of significant PSM role and competences disparity in relation to an organisation's size could not be validated. The elements of strategic nature, professional employees, separate departments, superior status and contribution to total success could be equally identified in SMEs and large enterprises. Also trends like E-procurement, digitalisation or corporate sustainability are considered as important. This ultimately implies a strategic cross-functional role for today's and tomorrow's purchasers in firms of different sizes which can be only fulfilled with a broad portfolio of competences. Literature proposes that general corporate aspects such as compensation, fringe benefits and promotional activities or PSM related aspects such as more complex structures and performance are affected by a company's size. These statements could be confirmed by means of the field research. Whereas the largest interviewed company has 27 distinct PSM job profiles, follows a strategic cluster management, implements specific in-house training via a campus and includes standardised PSM process management, smaller sized companies tend to use flat hierarchies, external training providers and informal process management. However, the differences do not directly reveal any information about the actual status of a purchaser. Neither aspect points out that a less important PSM role in SMEs dominates. Field research has not verified that large enterprises demand more qualified personnel. Conformity prevails in the opinion of being more a generalist in SMEs, while purchasers in larger enterprises are mostly responsible for specific commodities or services.

7.2 Conclusions for the PERFECT project and design of the new curriculum: A mix of commercial, technical and IT skills is demanded

Employees in business functions other than PSM have difficulties to see the added value and contribution to overall firm success that purchasers provide. In the business environment, the general trend goes to a status improvement with a substantial role within an organisation. Even though two interviewed PSM departments appear to be stuck in a support function, conducted field research was useful to both mitigate initial assumptions and to acknowledge the general impression of rising challenges, demands and attention in the PSM field. In this context, the major issue seems not the PSM role anymore but instead the people who represent this business function. It is realised that specific PSM education

for prospective managers and executives is limited so far. Due to these past and present limitations in basic study programs as well as further education options, concerned employees perceive it as difficult to identify themselves with their role and function. The majority of interviewed PSM personnel indicated much experience but neither specific purchasing education backgrounds, nor initiatives to actively acquire more knowledge through relevant continued education. Another observation is that conditioned to restricted education offerings, the great majority of working personnel in PSM departments have various former education and are hired from distinct business functions. In order to counteract on these past developments that have significant impacts on the composition and workforce constellation in today's PSM departments, it must be aimed to train larger pools of specifically educated PSM professionals. In this way, newly and highly cultivated professionals in this business function are likely to transmit the importance of PSM by demonstrating it as consultants or PSM executives in companies. Therefore, the PERFECT project is a meaningful undertaking since the efforts are on building a harmonised pan-European curriculum that enables higher educational institutes to consolidate strengths and to form better-qualified professionals. The message from interviewed personnel for the new teaching content in the curriculum is clear: a mixture of commercial, technical and IT knowledge with strong relation to practice. This is in line with academic literature which proposes different skills taxonomies. Within the commercial domain, indispensable hard skills are analytical capabilities and tools, language and communication skills, organisational competences, negotiation techniques and legal knowledge. Vital soft skills are conflict resolution, compromise and decision-making abilities, resistance and affability for stakeholder management. Within the technical context, relevant market, product and industry knowledge is inevitable as well as at least a technical basic understanding to be able to purchase technically related commodities. The third main area describes needed competences in IT. Rising trends in supplier, project and interface management as well as the Industry 4.0 era demand purchasers' understanding in SAP/EDI software and skills in computer literacy. The last frequently repeated suggestion is practical relevance and experience. It might be worth thinking about an intensification of practical workshops, case studies and integration of more corporate guest lecturers. They are likely capable to give an understanding of more examples from real life and serve as a networking option. Another suggestion is the integration of internships in selected PSM departments to experience learned theory in practice. In this way, common criticism about the lack of young professionals' practical experiences could also be curbed.

8. Critical reflection and limitations

The eighth chapter rounds the Master thesis up and deals with a critical reflection. The second sub-chapter proposes future research that lies beyond the scope of this elaboration but might be interesting as a follow-up.

8.1 Review and critical reflection

As with all academic works, this Master thesis has its limitations. Firstly, time limitations have been always an accompanying factor throughout the entire project. Comprehensive and profound research needs time. However, since the student has formal time constraints within the study program, a certain plan of approach needs to be set prior to the actual execution of the research. This procedure was done. The student and first supervisor agreed on a research proposal that served both as a guideline and limitation. In this way, many related topics that are closely linked and relevant to this Master thesis lie beyond the scope and could not be elaborated. Secondly, the mix of English and German language usage in the course of this project might lead to some distortions of meanings and results. It is fair to say that the held semi-structured interviews in German as well as subsequent coding and translation into English might contain biases. Nonetheless, this procedure was discussed beforehand and also provides benefits. Due to the fact that all interviewees are German native speakers and the companies are German SMEs or large enterprises, it has been agreed on a German data collection. In this way, interviewees felt more confident and comfortable in giving qualitative answers to asked questions. Even though the graduate as the interviewer, coder, translator and thesis composer took on an objective role, a guarantee for no mistakes cannot be given. Thirdly, the applied non-verbatim transcription technique and six-step coding procedure might entail interpretation or translation errors. As a trial, another independent person served as a second coder and checked for objectivity and logical interpretation in three transcriptions. The fourth aspect to mention is the scope of research. Despite a participation of various companies that have different sizes and operating sectors, the generalisability of the results needs to be taken into account. Therefore, it was clearly indicated that initially established assumptions could not be confirmed within the executed research. A last point to mention is the classification of the semi-structured interview's sub-topics to five main parts as well as the deviated definition of SMEs and large enterprises. Other researchers might have done it in slightly different

ways, however, on behalf of the writer of this thesis, all steps throughout this extensive project have been exerted with reflection and conviction.

8.2 Further research proposal

There appeared other topics that might be interesting to intensify. Especially with regard to the new PSM curriculum, several questions still remain open. How long should a newly designed program last? How intensive should it be, i.e. how many different subjects should a student choose in a particular study track such as PSM? How many mandatory subjects and electives should be present? Does it make sense to integrate a specific PSM internship into this study track? Is it possible to offer a better future program that combines commercial, technical and IT necessities? From my personal point of view, these are all highly relevant questions that should be addressed. The question for current UT M.Sc. business administration students with a specialisation in the PSM field is whether they are really competent and considered as experts in this business function after graduation. If not, what needs to be improved? As for me, I would honestly welcome a reconsideration of necessary subjects depending on a student's choice in specialisation.

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Appendices overview

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Appendix A – Interview guide

Semi-structured interview guide for case studies **– Version for participating companies in the** **PERFECT project**

Document structure:

Section A: Introduction (page 2 + 3)

Section B: Interview questions (pages 4 - 13)

Section C: Process charts & spider diagram (pages 14 - 15)

(inklusive deutscher Erklärungen)

Das Interview kann in Deutsch oder Englisch geführt werden.

Section A – Introduction

Additional important information that needs to be provided beside the interview:

- Consent form: Signed copy is needed latest at the interview date
- Ask for documents that can be provided in advance or be prepared for the interview date:
 - Organizational Chart PSM
 - Onboarding or induction documentation for new employees
 - Internal PSM training curriculum or curriculum provided by external provider
 - Company and PSM facts & figures (spend, categories etc.)

Organisatorische Notwendigkeit: Die Einverständniserklärung für das Interview muss von dem Interviewpartner unterschrieben werden. Die Bereitstellung anderer Firmendokumente wie ein Organigramm der Einkaufsabteilung, standardisierte Einführungsprozesse für neue Mitarbeiter im Einkauf, Trainingspläne und Firmenfakten in Bezug auf den Einkauf wären sehr hilfreich.

- Introduction of interviewer - Interviewee will introduce herself/himself in the interview
- Introduction: Scope and goal of the PERFECT project and the interview

The Purchasing & Supply Management (PSM) function is a key contributor to overall firm performance. The knowledge of employees in PSM organizations has a big impact on this. Despite this importance, there is no adequate standardized higher education curriculum. Therefore, the University of Staffordshire and the University of Applied Sciences in Mainz are working together with three other European universities to develop a best practice curriculum. Their goal is to increase the number of highly qualified students who are suitable for entering the workplace in PSM related jobs.

To evaluate the appropriate knowledge needed for these jobs, the project uses research in literature, academic programs and practitioner training models. In addition to this, case studies like this one are conducted. Our primary goal for this case study is to get information on what really happens in practice to make sure the curriculum will cover the needs of industry. Therefore, we need practitioners' input based on their experience to cover the potential gap between academically evaluated competencies and skills and the job reality.

Im Rahmen eines von der EU geförderten Projektes der Universität Twente und vier weiteren internationalen Universitäten, werden Interviews mit Einkaufsabteilungen mittelständischer Unternehmen und Konzernen geführt. Es geht im Allgemeinen um die Ausbildung, Weiterbildung und das Anforderungsprofil eines Mitarbeiters, der im Einkauf tätig ist. Anhand dieser neuen Kenntnisse möchte die Projektleitung einen Europäischen Lehrplan für den „Einkäufer von morgen“ entwickeln, der in verschiedenen Bildungsinstituten und Ländern eingeführt werden soll. Das langfristige Ziel ist es durch gezielte Ausbildung die zukünftigen Mitarbeiter im Einkauf auf den Arbeitsmarkt besser vorzubereiten. Dies hat den Hintergrund, dass die Funktion eines Einkäufers in den letzten Jahren immer mehr an strategischer Bedeutung und Wichtigkeit gewonnen hat. Diese Studie genießt deshalb länderübergreifend einen hohen Stellenwert und jeder Beitrag einzelner Unternehmen wird als sehr wertvoll

betrachtet. Der Begriff Purchasing & Supply Management (PSM) wird synonym für Einkauf und Materialbeschaffung verwendet.

Your company was selected because it matches with the demanded criteria for investigation. The company owns a separate PSM department with several employees.

Ihr Unternehmen passt gut in das Untersuchungsprofil, weil es eine separate Einkaufsabteilung mit mehreren Mitarbeitern hat. Wir erhoffen uns dadurch wertvolle Informationen für die Studie.

Benefit for the company

- Get results report document after case study is finished in 2016, exclusive for case study participants
- Get access to curriculum and MOOC at the end of the project, on which internal trainings can build on
- Get employees that are prepared to cope with current and future requirements of PSM

Nach der Fertigstellung der Studie bekommen Sie die empirischen Ergebnisse, die für Unternehmen und Mitarbeiter von Bedeutung sind. Des Weiteren bekommen Sie Zugang zum neuen Lehrplan und zu neu geplanten Online-Kursen für interessierte Mitarbeiter.

Interview approach & data confidentiality:

The interview will last approximately 60-90 minutes.

There are 5 main sections that we will go through: First, I will ask you about some general data about the company and your role. The 2nd section is about the organizational structure and performance indicators of your department. Then, we will talk about the current knowledge requirements for your individual job, followed by a discussion how they will probably change in the future. Within the last section we will talk about your internal training programs for purchasing and supply management (PSM). Our role in all interviews is to be “neutral” observers. We strictly commit to confidentiality and anonymity overall, in all reports and interviews. With your permission, this interview will be recorded to ensure that we evaluate your statements correctly. In general, we are very thankful for all kind of documentation that can be provided to us.

Das Interview beinhaltet 5 Schwerpunkte: 1) Allgemeine Firmendaten und Ihre Rolle/Funktion im Unternehmen, 2) Organisationsstruktur und Leistungsindikatoren der Einkaufsabteilung, 3) Diskussion über das aktuelle Anforderungsprofil Ihres Jobs, 4) Veränderungen/Weiterentwicklungen in Bezug auf die Zukunft, 5) Firmeninterne und/oder externe Trainingsmaßnahmen für die Mitarbeiter im Einkauf und der Materialbeschaffung. Der Interviewer wird stets eine neutrale Rolle einnehmen. Wir verpflichten uns zudem, alle erlangten Ergebnisse streng vertraulich und anonym zu verwerten. Das Interview wird aufgezeichnet um eine korrekte und ausführliche Analyse Ihrer Aussagen zu garantieren.

Section B – Interview questions

1. General data

→ Introduction text: At first, we need some general data about the company and the participants of this interview. We need this information to evaluate if certain knowledge is related to specific industries or roles within PSM. We will now list the data for the recording.

→ Record date, time of the interview and name of the interviewers

Zuerst geht es um allgemeine Firmendaten und die Interviewpartner. Diese Informationen werden abgefragt, um eventuell eine Verbindung zwischen dem Wissen und einer spezifischen Industrie oder Jobfunktion herzustellen.

- 1.1 Interviewee role, department, years of tenure in position/ company:
(Rolle/Funktion des Interviewpartners, Dauer Amtszeit/ Anstellung in der Firma)
- 1.2 Company name, sector/industry: (Name der Firma/ Sektor/ Industrie)
- 1.3 Industry/ branch, business model, geographical scope: (Geschäftsmodell des Unternehmens/ Geographischer Bereich)
- 1.4 Company facts & figures (no. of employees, turnover, ...) How much approximately
is sourced externally (spend/turnover as a percentage)? : Daten & Fakten bzgl.
des Unternehmens (Anzahl Mitarbeiter, Umsatz, etc.) Wie viele Mitarbeiter hat
die
Einkaufsabteilung? Wie viel Material/ Dienstleistung wird beschafft? (Ausgaben
in € / ca. wie viel Prozent macht der Betrag im Vergleich zu den totalen
Firmenausgaben aus?)

2. Organizational structure & performance

→ Introduction text: Now we would like to get some information about the PSM organization and performance measurement. We need this information to evaluate if certain knowledge is related to specific roles within PSM. Also, performance measures give an indicator on the knowledge that is needed to perform accordingly.

Dieser Schwerpunkt bezieht sich auf die Organisationsstruktur und Leistungsermittlung der Abteilung für Einkauf und Materialbeschaffung. Diese Informationen werden benötigt um eine mögliche Verbindung zwischen dem Wissen und spezifischen Funktionen in der PSM Abteilung herzustellen. Indikatoren für die Leistungsermittlung können helfen das benötigte Profil zu identifizieren, welches notwendig ist um die gesetzten Ziele zu erreichen.

- 2.1 Please describe how your PSM department is embedded in the company: (Wie ist die PSM Abteilung in die Firma eingegliedert?)

- 2.2 Can you show us an organization chart? : (Können Sie uns ein Organigramm zeigen und kurz erklären?)
- 2.3 Where does the most senior procurement person sit in the overall company organizational hierarchy? : (Wie sieht es mit der Hierarchie aus? Wo steht der ranghöchste Senior Einkäufer/Chef in der Gesamthierarchie des Unternehmens?)
- 2.4 Whom does this person report to?: (Wer ist der Vorgesetzte? An wen wird Bericht erstattet?)
- 2.5 Is there any additional external support for PSM activities? If yes:
2.5.1 What kind of support?
2.5.2 Provided by whom?
2.5.3 Which competencies does the partner/ supplier provide?
(Ist externe Hilfe/Unterstützung für PSM Aktivitäten vorhanden?)
- 2.6 How is performance measured at PSM? (e.g. Cost, Time, Quality, Flexibility, Innovation and Sustainability): (Wie sieht die Leistungsermittlung aus? Verschiedene Indikatoren?)
- 2.7 How does the individual incentive system look like?: (Wie sieht das individuelle Prämienlohnsystem aus?)
- 2.8 What do the benefits for employees in PSM functions look like – what are they awarded for?: (Welche gewissen Vorteile kann ein PSM Mitarbeiter bekommen? (Wie sehen diese aus, wie kann man diese erreichen?)
- 2.9 How does the target setting process look like?: (Wie sieht der Prozess der Zielsetzung aus?)
- 2.10 How is the PSM function regarded in the organization (its status)?: (Wie wird die Funktion der PSM Abteilung in der Gesamtheit betrachtet? Existiert ein Status?)
- 2.11 How does PSM knowledge affect performance?: (Wie beeinflusst das PSM Wissen die Leistung?)
- 2.12 How can effective and efficient PSM be described?: (Wie wird Ihrer Meinung nach eine effektive und effiziente Einkaufs- und Materialbeschaffungspolitik beschrieben?)

3. Current knowledge requirements

→ Introduction text: The following section deals with the knowledge that you apply when performing the individual tasks of your job. This helps us to evaluate which knowledge to include in the curriculum.

Dieser Teil beschäftigt sich mit dem Anforderungsprofil eines PSM Mitarbeiters, welches im Rahmen der Ausführung der Aufgaben benötigt wird. So wird ergründet, welches Fachwissen und welche Kriterien in den zukünftigen Lehrplan mit eingebaut werden müssen.

- 3.1 Just to get into the topic: In general, would you say there is certain knowledge that is specific for PSM (in comparison to other areas like Finance or HR)?:
(Existiert Ihrer Meinung nach spezifisches Wissen für die Geschäftsfunktion PSM?)

→ Provide interviewee with process chart (see p. 14) and refer to this for the following questions
(Die nächsten Fragen werden mit Hilfe der Abbildung beantwortet; S.14)

- 3.2 Which roles are differentiated in your organization to cover the process steps?:
(Welche Unterschiede sind zu erkennen in Bezug auf Ihre internen Prozesse?)
- 3.3 Can you provide us with an overview of how people progress within the organization usually (e.g. career ladder)?: (Wie steht es um die Aufstiegschancen im Unternehmen?)
- 3.4 How would you describe your role with regards to these process steps?: (In Bezug auf die geschilderten Prozesse, wo sehen Sie sich selber?)
- 3.5 Please describe your daily work: We will at first ask you the following questions with regards to your individual role. In a second step, we will then ask you to answer these questions with regards to the roles within your organization you just mentioned (e.g. strategic sourcer, purchaser): (Individuelle alltägliche Aufgaben)

3.5.1 *What are 1-3 of your major goals in your role?*

3.5.2 *What do you do to achieve this goal/these goals?*

3.5.3 *How did you know how to do that when you did this the first time?*

3.5.4 *How did the way of doing your job change after you became more experienced?*

→ Provide interviewee with skill diagram (see p. 15) to mark the required skills and add new ones (Das Diagramm wird nun zur Hilfe gezogen; S.15)

- 3.6 Which competencies are the most important for you to perform your job? [mark top 3 competences on diagram] Which ones are the most important for your team?: (Welche Kompetenzen sind am wichtigsten für Ihren Job? Welche für das Team?)
- 3.7 Which skills, competencies, knowledge, characteristics especially help you to be successful in your job?: (Welche Fähigkeiten, Kompetenzen, Charakterzüge helfen Ihnen besonders um erfolgreich zu sein?)
- 3.8 What is preventing you to act (more) successfully?: (Gibt es Gründe, die Sie daran hindern, erfolgreich zu sein in Ihrem Job?)
- 3.9 What did you learn in trainings or through knowledge platforms (e.g. handbooks, process descriptions, systems functionalities, ...)? [mark on diagram]: (Haben Sie sich durch Training/Fortbildungen, oder andere interne Informationsquellen weiteres Wissen für Ihren Job angeeignet? Benutzen Sie das Diagramm)
- 3.10 Which knowledge did you get through learning by doing? [mark on diagram]: (Welches Wissen haben Sie sich hauptsächlich durch "Learning by Doing" angeeignet? Benutzen Sie das Diagramm)
- 3.11 How is knowledge shared in your organization between individuals and also within the PSM department?: (Wie wird das Wissen zwischen einzelnen Personen und innerhalb der PSM Abteilung geteilt?)
- 3.12 How is documentation used in daily work? (social network as substitute; drivers-antecedents/barriers to share tacit knowledge: (Wie ist der alltägliche Dokumentationsprozess?)
- 3.13 What do you feel that you would need to learn to progress to the next organizational level or to get promoted?: (Welches Wissen oder welche Fähigkeiten fehlen Ihnen noch um ggfs. befördert zu werden, bzw. um in der Hierarchie aufzusteigen?)
- 3.14 From your point of view which extra knowledge does your superior need for his/her job compared to yours? (What is this role of superior called?): (Welches zusätzliches Wissen sollte Ihr Vorgesetzter besitzen im Vergleich zu Ihnen?)
- 3.15 How do you onboard or induct new employees in PSM after you selected them: (Wie sieht der Einarbeitungsprozess neuer PSM Mitarbeiter aus?)
- 3.15.1 Are there any specific standard documents (e.g. manuals, policies, etc.) for a formal onboarding/induction process?*

3.15.2 What do you usually do in addition to the formal onboarding process – on a more informal level- to get people started in their new job (e.g. introduction to team, buddy/mentor system etc.)?

- 3.16 Which knowledge do you have that new PSM colleagues usually do not have when they start work?: (In welchen Bereichen sind Sie im Normalfall besser aufgestellt als im Vergleich zu Berufseinsteigern oder neuen PSM Mitarbeitern?)
- 3.17 Have you hired people from outside of PSM in the past? What knowledge do they bring along that was missed before?: (Haben Sie in der Vergangenheit Mitarbeiter eingestellt, die keine PSM Erfahrung/Ausbildung hatten? Haben diese Mitarbeiter anderes spezielles Wissen mitgebracht?)
- 3.18 How can quality and relevance of higher education be improved, based on your experience with new employees?: (Anhand Ihrer Erfahrung mit neuen Mitarbeitern, wie kann Ihrer Meinung nach die Qualität und Relevanz der Bildung verbessert werden?)
- 3.19 How should a competence development program be structured?: (Wie sollte ein Programm oder eine Initiative für die Förderung von Kompetenzen aussehen?)

4. Future skill requirements

→ Introduction text: The following section deals with trends in PSM that might also become more evident in the future. We try to evaluate knowledge that is needed to cope with these challenges in the future.

Der folgende Teil befasst sich mit Entwicklungen im Einkauf und der Materialbeschaffung, die in der Zukunft von Bedeutung sind.

- 4.1 What are current trends in PSM in general?: (Generelle Trends in PSM?)
- 4.2 What do you think will change in your job specifically in the future due to these trends?: (Wie wird sich Ihr Job durch die Trends möglicherweise verändern?)
- 4.3 What are you currently spending most of your time with?: (Welche Ihrer Aufgabenfelder nehmen am meisten Zeit in Beschlag?)
- 4.4 What is making your job difficult?: (Was im Allgemeinen erschwert Ihnen die Arbeit?)
- 4.5 When you talk to your internal business partners (e.g. in R&D, production, finance, marketing etc.) – what current challenges do you discuss?: (Um welche aktuellen Herausforderungen/Probleme geht es in Gesprächen mit Kollegen aus anderen Abteilungen?)

- 4.6 When you talk to your suppliers – what current challenges do you discuss?: (Um welche aktuellen Herausforderungen und Probleme geht es in Gesprächen mit Ihren Lieferanten?)
- 4.7 Which aspects will be more or less important than today?: (Welche Aspekte nehmen an Bedeutung zu/ab in Bezug auf die Zukunft?)
- 4.8 Which new topics are coming up/will come up?: (Welche neuen Themen/Herausforderungen werden in der Zukunft erscheinen?)
- 4.9 How do you prepare new employees to cope with the challenges?: (Wie bereiten Sie neue Kollegen auf die Herausforderungen vor, so dass diese erfolgreich bewältigt werden können?)

Digitization and its impact on processes and products as well as on job profiles and required skills in the future is one of the trends that is currently widely discussed. Therefore we would like to evaluate this trend a little bit more in depth and discuss how this is defined and discussed in your job environment.

Der Trend der Digitalisierung hat enorme Auswirkungen auf z.B. Prozesse, Produkte, Jobprofile und benötigte Eigenschaften von Mitarbeitern. Aus diesem Grund wird das Thema der Digitalisierung nun etwas näher betrachtet.

- 4.10 In general, are digitization aspects currently discussed in your job environment?: (Wird die Digitalisierung als Thema in Ihrem Unternehmen aktuell diskutiert?)

- 4.11 If yes:

4.11.1 Which aspects of digitization do you discuss with your internal customers?

4.11.2 Which aspects of digitization do you discuss with your suppliers?

4.11.3 How does the topic influence or change the jobs of people working in PSM?

4.11.4 Is there additional knowledge they need to acquire?

4.11.5 Do you conduct trainings on certain aspects of digitization within the PSM department?

- 4.12 If no:

4.12.1 Why do you think the topic is not on the list of important challenges for the future?

Besides digitization, sustainability is often mentioned with regards to future changes and trends that PSM need to deal with. Sustainability or sustainable development can basically be described as development that meets the needs of the present without compromising the ability of future generations to meet their own needs. In terms of management, this means that companies operate in a way to balance economic, ecologic and social aspects. For PSM, the adherence to ecologic and social standards within the supply chain and transparency on respective processes and reporting is the main challenge.

Sustainability is very often used in the same sense as Corporate Social Responsibility (CSR), sustainable development or responsibility.

Neben der Digitalisierung wird das Thema der Nachhaltigkeit oft als wichtiger Trend in PSM erwähnt. Es wird versucht, neben den wirtschaftlichen Interessen auch die ökologischen und sozialen Aspekte zu beachten und zu fördern. Dieses wird mit dem Begriff unternehmerische Gesellschaftsverantwortung (CSR) beschrieben.

4.13 In general, are sustainability aspects currently discussed in your job environment?: (Wird die unternehmerische Gesellschaftsverantwortung in Ihrem Arbeitsumfeld diskutiert?)

4.14 If yes:

4.14.1 Which aspects of sustainability do you discuss with your internal customers?

4.14.2 Which aspects of sustainability do you discuss with your suppliers?

4.14.3 How does the topic influence or change the jobs of people working in PSM?

4.14.4 Is there additional knowledge they need to acquire?

4.14.5 Do you conduct trainings on sustainability within the PSM department?

4.15 If no:

4.15.1. Why do you think the topic is not on the list of important challenges for the future?

5. Learning in and for PSM

→ Introduction text: The following section deals with the training program and knowledge management system provided by your company for PSM. Getting information on this helps us to identify the efforts of your organization to either train specific skills or capture specific knowledge.

Im letzten Teil des Interviews geht es um PSM Trainingsprogramme und Fortbildungen, die Ihnen im Unternehmen zur Verfügung stehen. Somit werden die aktiven Bemühungen für gezielte Wissens- und/oder andere Kompetenzvermittlung des Unternehmens identifiziert.

5.1 Does an overall knowledge repository for PSM processes/ roles exist? (Can you provide us with job descriptions/ profiles?): (Existiert eine allgemeine Sammlung von PSM Kompetenzen/Funktionen, die ein Mitarbeiter besitzen muss? Gibt es Stellenbeschreibungen für einzelne Arbeitsstellen?)

5.2 How is PSM training embedded in the company? (in-house or external providers, training academy,...): (Wie ist das PSM Training in die Firma eingegliedert? Intern/extern/Trainingsakademie o.a.?)

5.3 Can you provide us with your training plan/ program?: (Haben Sie einen

persönlichen Trainingsplan? Details?)

- 5.4 What are your KPIs on employee training?: (Welche Leistungsindikatoren in Bezug auf Mitarbeitertraining existieren?)
- 5.5 Which competencies do you feel university graduates lack when they start work in a PSM role?: (Welche Kompetenzen fehlen den Hochschulabsolventen, wenn diese in einer Einkaufsabteilung anfangen zu arbeiten?)
- 5.6 Which ones are they good at?: (In welchen Bereichen sind die Hochschulabsolventen gut?)

Additional covered points

- PSM job requirements in relation to an organisation's size
- Commercial vs. technical purchasers
- Purchasing education content mapping model

6. Is there anything you would like to add or emphasize?

Thank you again that we were able to record the interview to facilitate the analysis. To comply with research ethics, we also need that in written format. Therefore, we sent in advance the consent form. This is just about the recording, the results are treated confidentially, as mentioned.

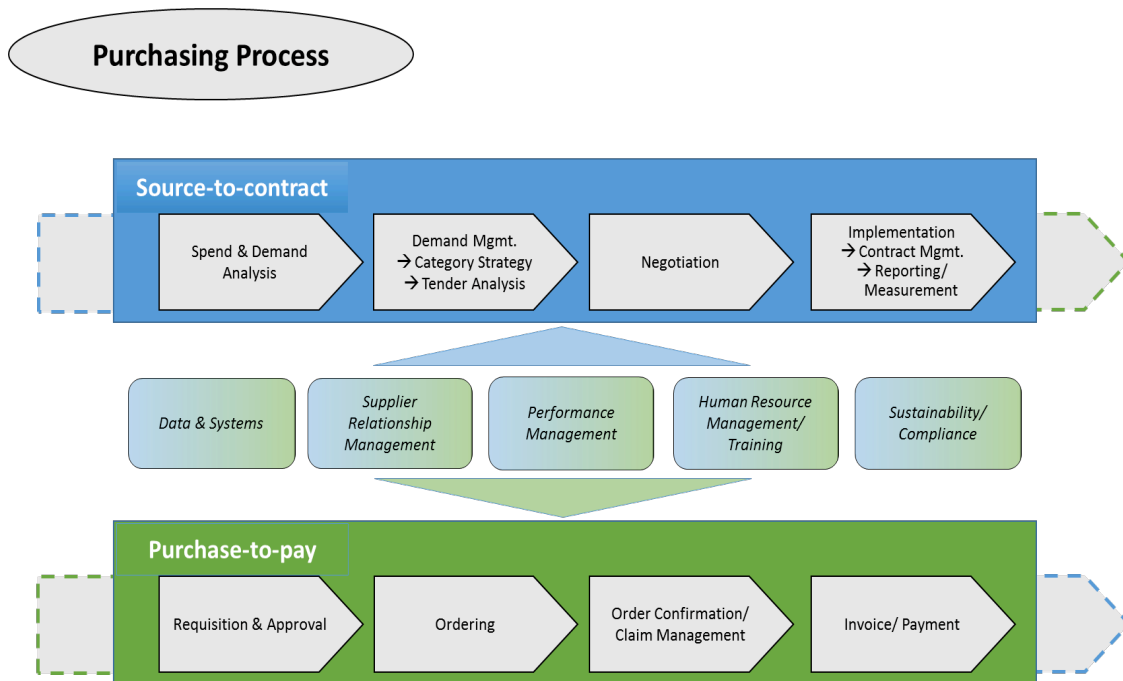
Vielen Dank für Ihre Kooperation. Sie helfen dem Projekt sehr weiter und liefern wichtige Erkenntnisse.

Bitte unterschreiben Sie die Einverständniserklärung, in der Sie sich mit der Aufnahme des Interviews einverstanden erklären. Somit ist eine ausführliche Analyse des Interviews garantiert. Die Ergebnisse werden vertraulich behandelt.

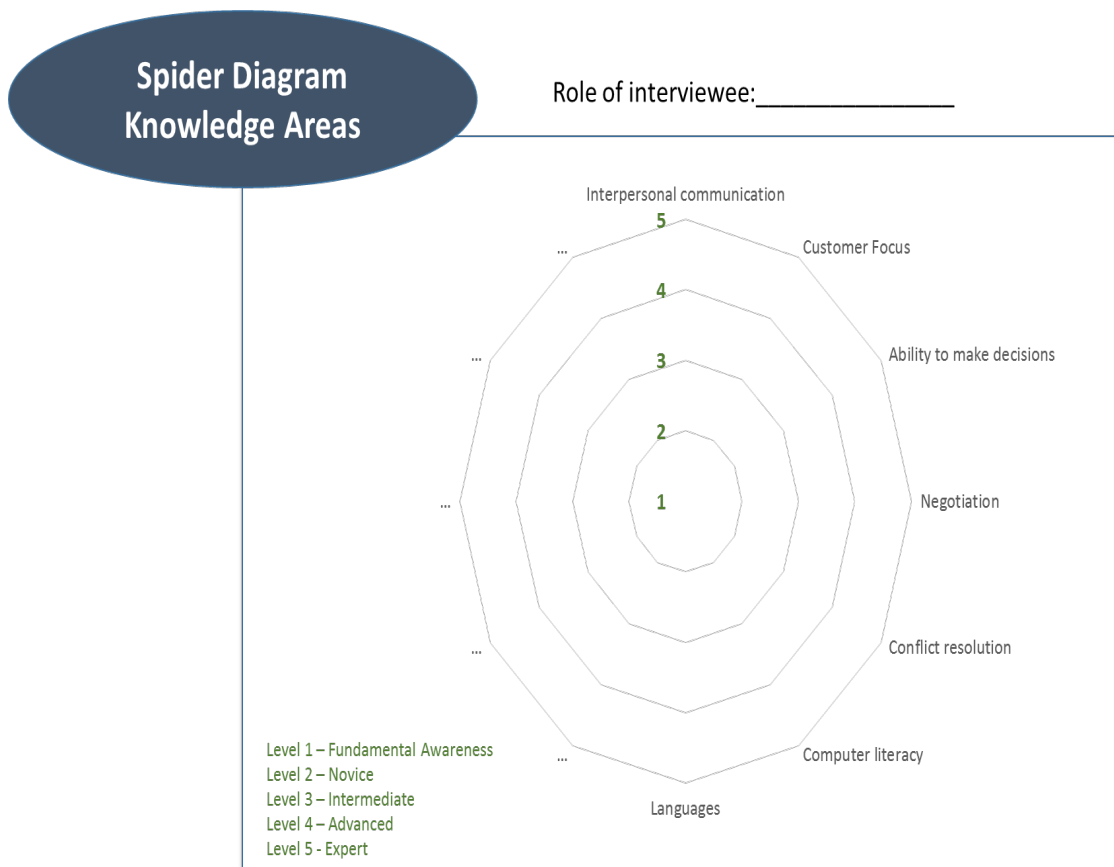
7. Can we get back to you if clarification needs should arise?

Thank you very much for your valuable input and your time!

Section C – Process charts & spider diagram



Source: Own illustration Bals/Schulze, adapted from van Weele, 2014; Monczka et al., 2015.



Appendix B – Codes and code groups

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Codes and code groups (sorted by alphabetical order)

Report erstellt von Jonas Benen am 03.01.2017

⊞ Codes for assumption testing range from 1 to 6 and are highlighted in red.

6 codes:

- Does not enjoy high priority (6)
- Professionals (2)
- PSM contributes to firm success (5)
- PSM enjoys high priority (4)
- Separate department (3)
- Strategic character (1)

⊞ Codes interview main part 1 (general data) range from 7 to 8 and are highlighted in green.

2 codes:

- Company facts & figures (8)
- Company name, sector/industry (7)

⊞ Codes interview main part 2 (organisational structure & performance) range from 9 to 18 and are highlighted in orange.

10 codes:

- Benefits for PSM employees (14)
- Effective and efficient PSM (18)
- Individual incentive system (13)
- Outsourcing activities (11)
- PSM department embedment in the company (9)
- PSM impact on performance/firm success (17)
- PSM KPIs (12)
- Senior procurement position & reporting style (10)
- Status of PSM business function (16)
- Target setting process (15)

⬠ Codes interview main part 3 (current knowledge requirements) range from 19 to 28 and are highlighted in yellow.

10 codes:

- Existence of specific PSM knowledge (19)
- Formal further education and learning-by-doing approach (24)
- Hiring personnel for PSM from other business functions (27)
- Important individual & team-based skills for purchaser (22)
- Knowledge sharing and documentation (25)
- New PSM employee induction practices (26)
- Process chart purchasing (20)
- Progress/Promotion in PSM department (21)
- PSM curriculum suggestions (28)
- Reasons that prevent PSM success (23)

⬠ Codes interview main part 4 (future skill requirements) range from 29 to 33 and are highlighted in blue.

5 codes:

- Current trends in PSM (29)
- Daily works (31)
- External discussions (33)
- Internal discussions (32)
- Job changes due to trends (30)

⬠ Codes interview main part 5 (learning in and for PSM) range from 34 to 39 and are highlighted in purple.

6 codes:

- Commercial vs. technical purchaser (39)
- Internal/external PSM training options (35)
- Job descriptions & profiles in PSM (34)
- PSM job requirements have a relation to organisational size (37)
- Purchasing education content mapping model (38)
- Strengths & weaknesses of graduates (36)