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A Theory-Based Perspective on Maturity Models in Purchasing and Supply Management

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A Theory-Based Perspective on Maturity Models in Purchasing and Supply Management

Jörg Schweiger

Abstract

The goal of this contribution is to critically analyze and discuss the published maturity models in scientific literature and management-oriented models offered from specialized consulting companies over the last three decades. In detail, 18 maturity models published from authors with an academic or scientific background and 14 maturity models offered from consulting firms were examined. In this research the following main issues that contribute to maturity in PSM were detected: purchasing controlling and performance management, a differentiated supplier (relationship) management, ICT (information and communication technology) support for routine tasks and for decision support, cross functional trained and skilled employees, clear interfaces and communication structures within a company and with the most important suppliers as well as a long-term strategic and goal orientation in purchasing and supply management (PSM).

Based on these preliminary findings and a clear plan for further examination, a framework of an ongoing research project will be presented, with the goal to establish an original purchasing maturity framework that can be adapted according to a firm's characteristics and contextual aspects.

Keywords: purchasing maturity, purchasing excellence, purchasing development, research paper

1. Introduction

With a 60 to 70 percent share of total revenue, the costs for purchased parts have the greatest leverage effect on operating results in the main industries like metal, automotive or electronics (Arnolds et al., 2013; Wallner, Schweiger, 2012; BME, 2011; Ortner et al., 2011). This is mainly due to the ongoing trend of cutting the internal value adding process and relocating parts of the value chain to different suppliers worldwide. Besides this economic impact, Purchasing and Supply Management (PSM) has to face several internationally driven trends (Spina et al., 2013; Tate et al., 2013; Aberdeen, 2014; Roland Berger, 2014) that have to be anticipated and managed in a professional way. Examples are the management of volatility and risks, the integration of the supplier base within the value chain, intelligent spend management and sustainability issues.

To cope with that a high level of professionalism in the purchasing function is crucial (Rozemeijer et al., 2003). More and more companies are becoming aware of the fact that a strategic and innovative orientation within the purchasing department can have a major impact on a company's success. Examples are the employment of strategic purchasing managers, the establishment of comprehensive IT- and controlling tools as well as programs for green procurement and sustainability or structured development of suppliers. These initiatives mark the will of a company and its purchasing department to become more professional (Schweiger, 2009). PSM professionals often see (too) many things to (concurrently) improve, but the link from the initiatives to the overall PSM and firm's performance is not always easy to define. Moreover, the handling of too many initiatives and actions alongside daily business inevitably leads to more diversity and complexity for the employees in the purchasing department, which may again provoke counter-productive effects. This is a serious aspect, especially for small and medium sized companies with limited organizational resources as well as an operational focus on getting the materials to a good price, in the defined quality and in time (Sollish/Semanik, 2012). Based on the facts

above, it appears crucial to gain the knowledge and abilities for setting proper priorities in order to achieve a more powerful and competitive PSM.

In this context, purchasing maturity models (PMM) can be applied. Over the last decades several scientific as well as practical oriented PMM have been developed, that describe "several stages an organization is expected to go through in its quest for greater sophistication" (Schiele 2007, p.274). These models offer many suggestions what a company - and in this specific context the PSM department - should do to reach the next maturity level. The hypothesis is that mature purchasing organizations apply best practices, while unsophisticated organizations fail to employ them (Chiesa et al., 1996; Ellram et al., 2002). The assumption is that greater maturity is associated with better (business) performance.

2. Research goals and methodology

The goal of this contribution is to present an overview of the published maturity models in scientific literature and management-oriented models offered from specialized consulting companies in this field over the last three decades. The focus lies on the areas of maturity assessment covered in these models. Besides, it should be determined if there are content-related or methodical deviations between the academic compared with the management-oriented PMM (table 1).

- Research Question 1: What are the critical success factors that decide about the maturity level of an industrial purchasing department based on PMM?
- Research Question 2: Is there a deviation in the focus of the academic compared with the management-oriented PMM?

In order to give a critical, objective and transparent overview of the existing scientific PMM, a literature review was conducted (Rousseau et al., 2008). Therefore, the list with the most important peer-reviewed journals in PSM, analytically derived from Wynstra (2010), was taken as a basis and was extended with other scientific journals and databases in the PSM area (table 2).

Research Question 1	What are the critical success factors that decide about the maturity level of an industrial purchasing department based on PMM?
Research Question 2	Is there a deviation in the focus of the academic compared with the management-oriented PMM?

Tab. 1: Research questions

In order to identify the relevant contributions for the defined research goal, an iterative approach has proven to make particular sense (Sartor et al., 2013). As a first step a (1) title search for the mentioned journals for the period 1984-2014 was carried out, followed by a (2) keyword search (all except full text). The initial keywords were "Purchasing Maturity", "Supply Management Maturity", "Procurement Maturity", "Supply Chain Management Maturity" and "Supply Maturity" and "Maturity models". Subsequently and based on the first results, the following keywords were added to the keyword search: "Purchasing Excellence", "Supply Management Excellence", "Procurement Excellence", "Supply Chain Management Excellence", "Supply Excellence", "Purchasing Audit", "Supply Management Audit", "Procurement Audit", "Supply Chain Management Audit", "Purchasing Power", "Supply Management Power", "Supply Chain Management Power", "Procurement Power", "Worlds Class Purchasing", "World Class Supply Management", "World Class Supply Chain Management" and "World Class Procurement". Simultaneously, a (3) crosscheck was undertaken by searching the electronic databases Emerald, ABI/Inform Global - T&I ProQuest, EBSCO Business Source Premier and Wiley separately. For a final countercheck and as a necessary means of gaining information about management oriented maturity models, a (4) keyword search on www.google.de was conducted.

Relevant PSM-journals (1999-2008) based on Wynstra (2010)	Journal of Purchasing and Supply Management Journal of Supply Chain Management Supply Chain Management: An International Journal
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	International Journal of Operations and Production Management
	International Journal of Production Economics
	International Journal of Production Research
	Journal of Business and Industrial Marketing
	Journal of Business Research
	Journal of Operations Management
	Industrial Marketing Management
Extended list	International Journal of Physical Distribution and Logistics Management
	Journal of Business Logistics
	Supply Chain Management Review
	Harvard Business Review
	MIT-Sloan Management Review
	Industrial Management
	Benchmarking

Tab. 2: Selected journals for literature review

At the same time (5) webpages of specified consulting companies in the area of PSM (Forbes- and Vault-Ranking of TOP-Consulting Companies; Brand Eins, Special Edition "Consulting Companies") and well known PSM institutions were searched for useful information and if possible a direct contact by mail and telephone was established (table 3).

Contacted Consulting companies	Accenture, adpci Consulting, ADR international, Arthur D. Little, A.T. Kearney, Bain & Company, Boston Consulting Group, Bearing Point, booz&co, Cell Consulting, Effico-Consulting, futurepurchasing, H & Z, Horváth und Partner, Innovative Management Partner, Insight Sourcing Group, Kerkhoff Consulting, McKinsey, MHP, OC&C Strategy Consultants, Oliver Wyman, OptiAchats, PA Consulting Group, pm2Consult, PMMS Consulting Group, Porsche Consulting, Purspective, PricewaterhouseCoopers, Roland Berger, sourceone Management Services, Spring Procurement, Strategic Procurement Solutions, synGroup
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Contacted PSM institutions	Aberdeen, Bundesverband für Materialwirtschaft, Einkauf und Logistik e.V (BME), CAPS Research/University of Arizona, Chartered Institute of Purchasing & Supply Management, Gartner, Institute of Supply Management, National Procurement Institute, Supply Chain Management Association, The Institute for Public Procurement, The International Federation of Purchasing and Supply Management
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Tab. 3: Consulted PSM consultants and institutions

3. Purchasing maturity models at a glance

At this stage of research (07/2014), it was possible to deduce a list of 18 scientific maturity models and 14 management-oriented models that include both operational and strategic aspects of holistic PSM. Purchasing maturity models with a focus on single PSM aspects were excluded. Examples are maturity models in the area of global sourcing maturity from Trent/Monczka (2003), supplier integration/supply chain integration from Childerhouse et al. (2012), Facett (2008), Johnson (1997) and Cox (1996) or a maturity model concerning MRO purchasing from Barry/Cavinato (1996) or supply chain operations from Netland (2011). In order to develop an original PMM, the findings of these models

as well as maturity aspects from holistic management frameworks in PSM (e.g. Four pillars of purchasing and supply chain excellence by Monczka et al., 2009; Cycle of holistic purchasing management by Schweiger et al., 2009; Supply Management Navigator by Jahns, 2005; see table 7) and results from current studies about challenges and trends in Purchasing (e.g. Aberdeen, 2014; Roland Berger, 2014; Spina et al., 2013; A.T. Kearney, 2011) will be considered (see also chapter 5).

As table four shows, the different PMM distinguish between three to ten different maturity levels (see also Schumacher et al., 2008 and Schiele, 2007). The average of maturity levels is between four to five. Whereas some authors deduced the maturity aspects mainly from theory (e.g. Van Weele, 2010/1998, Monczka et al., 2010; Dobler et al., 1996; Sysons, 1989/1994) others also included the opinion of (practical) experts (e.g. Paulraj et al., 2006; Burt, Doyle, 1994; Freeman, Cavinato, 1990; Bhole, 1989; Reck, Long, 1988) in form of interviews or applying the Delphi method (Reyes, Giachetti, 2010). Only six models have been empirically tested so far (Reyes, Giachetti, 2010; Schiele, 2007; Cousins et al., 2006; Paulraj et al., 2006; Lockamy, McCormack, 2004 and Monczka, Trent, 1991/1992).

Twelve out of 33 contacted consulting companies replied on the request if they ever had a PMM in their portfolio and forwarded direct feedback or detailed further information. Some of them - like McKinsey or Arthur D. Little - changed the name of their PMM over the time and carried out some adaptations. There is also a close interrelation between the models from Arthur D. Little, IMP Consulting and Cell Consulting (together with University St. Gallen) as those are based on the "Purchasing Performance Index" from 2002 (Vollrath, Nase, 2003). As scientific models, also the management-oriented PMM distinguish between different levels of maturity. The number of stages here ranges between three (Purchasing EmPowerment) and five (e.g. Stages of purchasing maturity). When the name of the author/s is/are added in brackets (Table 5), publications (journals or books) are available for this PMM. In the other cases, the information was

gathered from the respective website or from directly contacting and interviewing the company.

Name of PMM	Author(s)	Year	Levels
Strategic stages in purchasing	Reck/Long	1988	4
The four stages of supply management	Bhote	1989	4
Fitting purchasing to the strategic firm	Freeman/ Cavinato	1990	4
Towards purchasing excellence/MSU	Monczka/ Trent	1991/ 1992	10
American Keiretsu	Burt/Doyle	1992	4
Purchase position benchmarking	Sysons	1989/ 1994	3
From reactive to strategic procurement	Dobler et al.	1996	4
Purchasing development model	Van Weele et al.	1998	6
Purchasing development stages	Jones	1999	5
World Class Supply Management	Burt/Starling	2002	4
Supply chain management process maturity model	Lockamy/ McCormack	2004	5

Tab. 4: List of scientific PMM

The main difference is that the authors of the management-oriented models emphasize on the integration of their consulting experience into their PMM. Scientific and academic findings are of course indirectly integrated into these models, but the consideration of specialized expertise and thorough knowledge of various industries makes them unique. For assessing the PSM maturity the

management-oriented PMM usually follow a two-step approach. First, the respective company is asked to fill out a questionnaire for a self-assessment and subsequently gets a first feedback about the performance in each of the evaluation areas (e.g. Innovative Management Partner, OptiAchats). Based on that, detailed fee-based workshops, analyses and interviews are usually offered in order to derive rooms for improvement. The PMM of Cell Consulting, A.D. Little and A.T. Kearney are based on a benchmarking to evaluate the progress of the purchasing function in the different industries and sectors. By filling out a questionnaire, a company can take part in the survey. As a result, the company receives a maturity profile relatively to the relevant industry or other options of comparison.

Company	PMM
McKinsey & Company	Stages of purchasing maturity (Cammish/Keough, 1991, Keough, 1993) Stages of purchasing sophistication (Kraljic, 1983)
Roland Berger	Purchasing EmPowerment (Voegelé/Schientek, 2002)
H&Z	Management-oriented purchasing analysis (Schumacher et al., 2008)
Horváth & Partners	360° Procurement Performance Analysis
A.T. Kearney	Assessment of Excellence in Procurement
Arthur D. Little	Purchasing Value Excellence Purchasing Performance Excellence
Cell Consulting/ University St. Gallen	Purchasing Performance Index
OptiAchats	Purchasing Maturity Model

Company	PMM
Innovative Management Partner	Procurement Performance Excellence
Strategic Procurement Solutions	360° Supply Management Efficiency Review
Mercer	Levels of Procurement development (Anderson/Katz, 1998)
ADC Performance Improvements	Best Value Procurement

Tab: 5: Management-oriented PMM

4. Content-related and descriptive findings

4.1 Common consensus of PSM maturity

For the development of the original PSM maturity framework it was interesting to find out if there is a common consensus about maturity in PSM. For that reason each of the assessment areas from the single maturity models were listed and compared with each other in a matrix. By doing that, it was possible to detect the following eight main areas of professionalism out of 50 sub-areas by clustering the elements that substantially belong together:

- Controlling & Performance Management (CO)
- Organization & Internal interfaces (ORG)
- Supplier (Relationship) Management & External interfaces (SRM)
- Strategy & Plans (S&P)
- Process Excellence & ICT (P&IT)
- Talents & Skills (T&S)
- Innovation & Methods (I&M)
- Sustainability Issues (SUS)

Schiele (2007) who also did a comparison between the PMM published between 1988 and 2006 chose the clusters "Planning", "Structural organization", "Process organization", "Human Resources", "Controlling" and "Collaborative supply relation". By doing so, especially the strategic, the innovative as well as the talent management and sustainable aspects are not sufficiently emphasized (even though they are partly integrated and addressed as sub-areas in his PMM).

Also by analyzing the most frequently mentioned areas of maturity within the considered scientific PMM, ten areas were detected. Those ten points can be applied as a sort of PSM maturity quick check (table 6) to determine if the PSM department in a company is already on a high maturity level or if a detailed maturity analysis and improvement project would make sense.

The management-oriented models differ from the scientific based PMM only in one of those ten aspects mentioned above: A clear commodity structure with clear defined lead-buyers and differentiated strategies is defined as one of the top 10 maturity issues. All the other issues are of equal importance.

Only aspects/criteria of the category "innovation & methods" (e.g. carry out benchmarking studies to continuously improve PSM, bringing innovation to the company through intensive market scans, positioning PSM personnel as entrepreneurs) and "sustainability issues" (e.g. code of conduct/CSR agreement with suppliers, regular green procurement initiatives with suppliers) did not make it on the top ten list. This appears interesting considering the vast number of studies and publications that point out the necessity of this issue (Kornegay,Olson, 2013; Ageron et al., 2012; Reuter et al., 2010). It is plausible to deduce that sustainability issues are important and that there is a need for such an intense discussion, but in a sense of maturity the other aspects are currently of priority interest.

No. Aspects of high PSM maturity

1. Established Controlling and Performance Management: Key performance indicators are defined and regularly reported. Based on that, initiatives for improvement are implemented. PSM is able to link its influence on the firm's overall performance. (CO)
 2. Structured supplier (relationship) management is established: First, a closed loop from supplier scouting and analysis using a replicable supplier evaluation in a cross-functional team is implemented. Furthermore, supplier qualification programs and consistent supplier assessment methods with fixed feedback of results as a basis for supplier development are applied. Clear rules for the phasing-out of suppliers are documented. Supplier motivation programs or supplier awards are also part of the companies' SRM. (SRM)
 3. Early PSM/supplier involvement: PSM is an integral part in new product development projects. Moreover, PSM takes over the role as the integrator of knowledge from the supplier market into product or process innovation projects. (SRM)
 4. ICT/eProcurement support: For routine tasks and for decision support ICT is available and the PSM personnel is trained to use the systems in an effective and efficient way. The PSM personnel has the right level of information concerning PSM specific ICT. (P&IT)
 5. Defined interfaces: The process interfaces as well as the communication structures are clearly defined to the relevant departments (e.g. production planning, logistics, sales, R&D). Temporary cross-functional teams for e.g. new product ramp up are installed with a fixed member of PSM. The core PSM processes are documented and fulfill the compliance guidelines. (ORG)
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No.	Aspects of high PSM maturity
6	Lean processes: Core processes concerning the information and material flow with all the key-suppliers are established. Logistic systems (e.g. VMI, consignment stocks) are discussed and implemented if necessary. (SRM)
7	Professional Training: There is a structured skill and talent management for PSM employees, e.g. employees are sent for internal and external education/training and job rotation is offered. (T&S)
8	Long-term strategic orientation: Based on a corporate strategy, PSM develops short-, mid- and long-term plans. The PSM team knows about the plans and can participate in the creation of the plans. All the plans are available in written form. (S&P)
9	Customer orientation: The needs of the internal and external customers are known and PSM regularly asks for feedback. (ORG)
10	TOP Management commitment/visibility: There is a high visibility of the Purchasing Manager and the PSM team in the Board of Directors. The PSM department is at a senior hierarchical level. At least PSM topics are regularly on the agenda of the Top Management meetings. (ORG)

Tab. 6: PSM maturity quick check

4.2 Points of further discussion

As mentioned before, the analyzed PMM offer three to ten stages that should be auditable. The respective maturity level is usually determined by the evaluation of answers, check-list points or assessed statements (usually on a Likert scale) in a self- or external evaluation.

Most of the models - especially the scientific models - describe one final stage a company is expected in order to reach for being "world class". This issue needs further research, which also considers various contextual aspects. Also, it is highly unlikely and nearly impossible to apply a single PMM to all types of companies and branches; however this is what most of these models do. As an example, there must be rather one most appropriate maturity level depending on the business and corporate context (e.g. Rozemejer et al., 2003; Keough, 1993) and not one best maturity point. Especially when thinking of the imbalance of power between a big supplier and a small buying firm some maturity aspects like "supplier integration with VMI" or "long term contracts to fix optimum price level" would be theoretically right but in most of the practical cases unrealistic. This suggests that there is one theoretical highest point of maturity to reach, and one realistic maturity point to reach with proportional effort. It makes sense to benchmark with the best comparable companies (e.g. branch, size, geography). That means that when assessing the maturity of a PSM department not the absolute value within the different areas of maturity should be of primary interest. The maturity value compared to companies of a similar/comparable size or/and from the same branch should be the first benchmarks to look at.

Another relevant aspect in the discussion is that a minimum maturity level is required for applying sophisticated methods and strategies (Schiele, 2007). This implies that for applying advanced methods, instruments or processes that should lead the PSM department to a higher maturity level, a basic training of the PSM personnel is needed. In this context, Lockamy/McCormack (2004) speak about a culture of process excellence that is a necessary foundation to achieve the subsequent levels. If a company does not ensure this culture and the necessary abilities, the performance level of the department can go down instead. Reasons for that are demotivation or overcharging the PSM personnel because of asking them to do things they are not able/trained and willing to do. This effect can be defined as "counterproductive effect of maturity initiatives", leading to one missing question in the PMM discussion that should be also part

of further research: How to manage the change process of reaching and staying on the higher maturity level?

5. Further research steps to design a new PMM

For designing an original purchasing maturity model that should be theoretically grounded but also applicable, it seems to make sense to include both theoretical (primarily based on dominant scientific theory) and practical (primarily based on project experience) aspects, and to go through the following process to collect the main aspects of a mature PSM:

- Analysis of the existing PMM
- Analysis of management models/frameworks in PSM
- Analysis of studies about trends and challenges in PSM
- Expert Circles to get practical input

As presented in this contribution, the existing maturity models of the last three decades were analyzed and based on the preliminary research eight main areas of maturity could have been deduced. In a next step the following management models/frameworks in PSM (2000-2014, table 7) will be analyzed to match the criteria:

Subsequently, the criteria of professional PSM according to the PMM and the analyzed frameworks will be compared to the results of studies (2000-2014) about trends and challenges in PSM. A final expert circle with PSM professionals from Austrian companies as well as experts from specialized consulting companies in the PSM area is planned until the end of 2014.

Based on these findings, a new PSM maturity framework (figure 1) will be developed. To verify and to ensure the applicability, the model will be discussed with the expert circle mentioned above and then tested in three case studies in 2015.

The framework consists of a self-assessment module, to locate the maturity level of a company. The detected maturity level can then be displayed compared to

the theoretical/scientific opinion about excellence, or to the relevant industry benchmark. For this reason a benchmark database has to be set-up.

Optionally, an in-depth analysis and assessment executed by a third party in form of an Purchasing Audit (van Weele, 2010; Scheuing, 1989) can be carried out. After the assessment of the maturity level, standardized improvement paths will be displayed.

Finally, the PSM maturity framework will be tested in three case studies. Therefore it will be introduced in three companies in the beginning of 2015. Based on the initial assessment, rooms for improvement will be deduced together with the company and responsibilities for the implementation and the controlling of the realization will be defined. In autumn, the assessment will be repeated in order to examine if there is an improvement due to the adoption of the theoretical advice. This approach of accompanying a company over a longer period of time using the PMM as a management framework and not only to examine the maturity level at a single point of time is a still unexplored area of research (Reyes/Giachetti, 2010). Doing that, it is possible to study the causal strength between adopting the improvement advice and actual long-term improvements.

Model/Framework	Author(s)	Year of publication
SCOR Model	SCC	2012
Management of requirements in collaborations	Ortner et al.	2011
Four Pillars of Purchasing and Supply Chain Excellence	Monczka et al.	2009
Cycle of holistic purchasing management	Schweiger et al.	2009
Potential Analysis in Purchasing	Wildemann	2008
Framework for Managing External Resources	EFQM	2006
House of Sourcing and Supply Management	Eßig	2005
Supply Management Navigator	Jahns	2005
Model/Framework	Author(s)	Year of publication
The 21st Century Logistics framework	Clossa/Mollenkopf	2004
Supply Chain Management Excellence Model	Wong	2003
The strategic supply wheel	Cousins	2002
Integrated St. Galler purchasing management approach	Jahns	2001

Tab. 7: Management models/frameworks for PSM

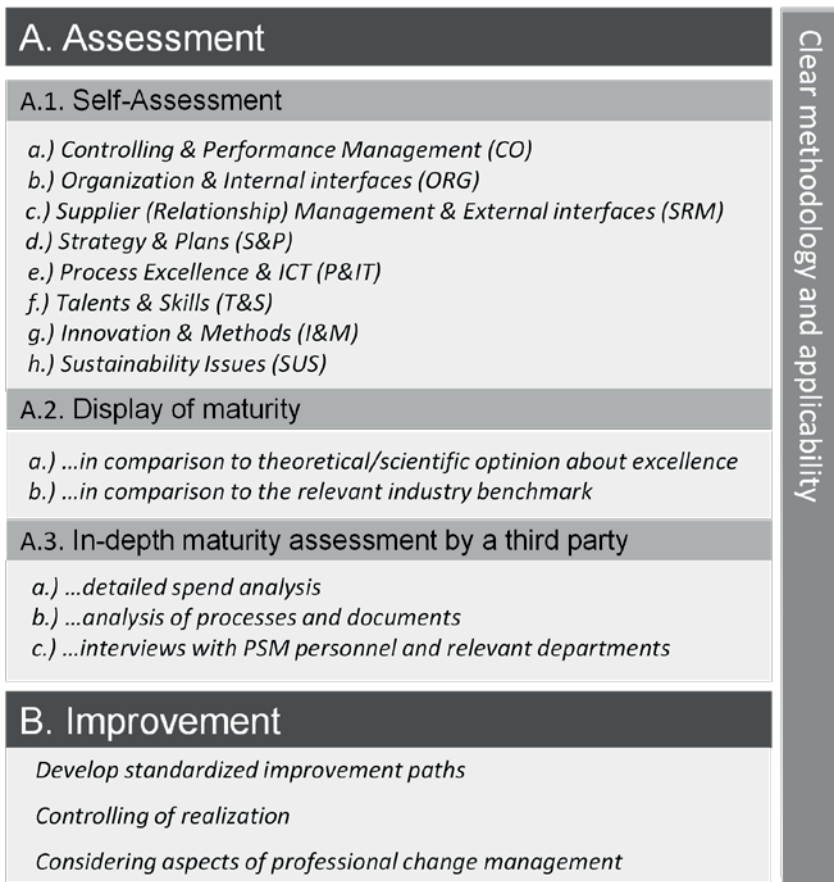


Fig. 1: PSM maturity framework

6. Conclusion

The goal of this contribution was a theory-based perspective on Maturity Models in Purchasing and Supply Management as well as to present the first research results of a project to develop an original PSM maturity framework. 32 purchasing maturity models, 18 with a scientific/academic background and 14 with a more

management-oriented background, were analyzed and a common consensus of PMM maturity in terms of a quick check was derived. It was also possible to show that there are not any serious substantial differences between the scientific and the management-oriented PMM.

Based on these findings and continuing research, the developed model should be designed as a management framework starting from the initial assessment of the PSM maturity in a company until the realization of the improvement paths that should lead to higher maturity.

References

- Aberdeen, 2014. The CPO's Economic Agenda for 2014. Analyst Insight. Aberdeen Group. 02/2014.
- Adams, S., 2011. Forbes: Ranking of TOP Consulting Companies, <http://www.forbes.com/sites/susanadams/2011/08/25/the-most-prestigious-consulting-firms>, Download: 2014-06-15.
- Ageron, B., Gunasekaran, A., Spalanzani, A., 2012. Sustainable supply management: An empirical study. *International Journal of Production Economics*, 140, pp.168-182.
- Anderson, M., Katz, P., 1998. Strategic Sourcing. *The International Journal of Logistics Management*, Vol.9, No. 1, pp.1-13.
- Arnolds, H., Heege, F., Röh, C., Tussnig, W., 2013. *Materialwirtschaft und Einkauf: Grundlagen – Spezialthemen – Übungen*, 12th Edition, Wiesbaden.
- BME, Bundesverband für Materialwirtschaft, Einkauf und Logistik e.V, 2011. Top-Kennzahlen im Einkauf, Best in Class 2011.
- Barry, J., Cavinato, J., Green, A., Young, R., 1996. A development model for effective MRO procurement. *International Journal of Purchasing and Materials Management*, 32 (3), pp. 35-44.
- Bhote, K.R., 1989. *Strategic Supply Management. A Blueprint for Revitalizing the Manufacturer–Supplier Relationship*, New York.
- Brand Eins, 2014. *Unternehmensberater: Vom Besserwisser zum Bessermacher*.
- Bruel, O., Petit, F., 2005. *Fonction achats: mesure et pilotage des performances – benchmarking des pratiques*, Cahier de recherche HEC département MIL, Vol.4/20.
- Burt, D., Doyle, M., 1994. *The American Keiretsu: A Strategic Weapon for Global Competitiveness*, Irwin.
- Burt, D., Starling, S., 2002. *World Class Supply Management*, in: Hahn, D., Kaufmann, L. (Eds.). *Handbuch industrielles Beschaffungsmanagement*, 2nd Edition, Wiesbaden, pp.93-111.
- Cammish, R., Keough, M., 1991. A strategic role for purchasing. *McKinsey Quarterly*, August, pp. 22-39
- Chiesa, V., Coughlan, P., Voss, C.A., 1996. Development of a technical innovation audit. *Journal of Product Innovation Management*, 13, pp. 105-136.
- Childerhouse, P., Deakins, E., Böhme, T., Towill, D., Disney, S., Banomyong, R., 2011. Supply chain integration: an international comparison of maturity. *Asia Pacific Journal of Marketing and Logistics*, Vol. 23, No. 4, pp. 531-552.
- Clossa, D., Mollenkopf, D., 2004. A global supply chain framework. *Industrial Marketing Management*, 33, pp. 37.44.

- Cousins, P., Lamming, R., Lawson, B., Squire, B., 2008. Strategic supply management, Essex.
- Cousins, P.D., Lawson, B., Squire, B., 2006. An empirical taxonomy of purchasing functions. *International Journal of Operations and Production Management*, 26 (7), pp. 775-794.
- Cox, A., 1996. Regional competence and strategic procurement management. *European Journal of Purchasing and Supply Management*, Vol.2, No. 1. pp. 57-70.
- Dobler, D., Burt, D., 1996. *Purchasing and Supply Management*. 6. Edition, New York.
- EFQM, European Foundation for Quality Management, 2006. *Framework for Managing External Resources*.
- Ellram, L.M., Zsidisin, G.A., Siferd Perrot, S., Stanley, M.J., 2002. The impact of purchasing and supply management activities on corporate success. *The Journal of Supply Chain Management*, 38, pp. 4-17.
- Eßig, M., 2005. *Perspektiven des Supply Managements*, Berlin.
- Fawcett, S., Magnan, G., McCarter, M., 2008. A three-stage implementation model for supply chain collaboration. *Journal of Business Logistics*, 29, pp.93-112.
- Freeman, V.T., Cavinato, J.L., 1990. Fitting purchasing to the strategic firm: frameworks, processes, and values. *Journal of Purchasing and Materials Management*, 26 (Winter), pp. 6-10.
- Jahns, C., 2005: *Einkauf und Supply Management*, Berlin.
- Johnson, S., 1997. Tinsley Bridge Ltd.: Managing change through teamwork, ISCAN, Sheffield, pp. 7-17.
- Jones, D., 1999. Development Models. *Supply Management*, 18 March.
- Keough, M., 1993. Buying your way to the top. *McKinsey Quarterly*, August, pp.41-62.
- Kornegay, W., Olson, E., 2013. Bringing Sustainability Metrics to Purchasing Decisions. *MIT Sloan Management Review*, Nov., pp.1-5.
- Kraljic, P., 1983. Purchasing must become supply management. *Harvard Business Review*, 61 (5), pp. 109-117.
- Lockamy, A., McCormack, K., 2004. The development of a supply chain management process maturity model using the concepts of business process orientation. *Supply Chain Management: An International Journal*, Volume 9, No. 4, pp. 272-278.
- Monczka, R., Handfield, R., Giunipero, L., Patterson, J., Waters, D. 2010. *Purchasing & Supply Chain Management*, 4th Edition, Hampshire.
- Monczka, R.M., Trent, R.J., 1991. Global sourcing - a development approach. *International Journal of Purchasing and Materials Management*, Vol. 27 No. 2, pp. 2-8.

- Monczka, R.M., Trent, R.J., 1992. Worldwide sourcing: assessment and execution. *International Journal of Purchasing and Materials Management*, Vol. 28, No. 4, pp. 9-19.
- Netland, T., Alfnes, E., 2011. Proposing a quick best practice maturity test for supply chain operations. *Measuring Business Excellence*, Vol. 15, No. 1, pp. 66-76.
- Ortner, W., Hanusch, S., Tschandl, M., 2011. *Abnehmer-Lieferanten-Beziehungen optimieren: Management of Requirements*, Graz.
- Paulraj, A., Chen, I.J., Flynn, J., 2006. Levels of strategic purchasing: impact on supply integration and performance. *Journal of Purchasing and Supply Management*, 12, pp. 107-122.
- Reck, R.F., Long, B.G., 1988. Purchasing: a competitive weapon. *Journal of Purchasing and Materials Management*, 24 (3), pp. 2-8.
- Reuter, C., Foerstl, K., Hartmann, E., Blome, C., 2010. Sustainable global supplier management: The role of dynamic capabilities in achieving competitive advantage. *The Journal of Supply Chain Management*, Vol 46, No.2, pp.45-63.
- Reyes, H., Giachetti, R., 2010. Using experts to develop a supply chain maturity model in Mexico. *Supply Chain Management: An International Journal*, 15/6, pp. 415-424.
- Roland Berger, 2014. *The CPO Agenda 2014*, 01/2014.
- Rousseau, D.M., Manning, J., Denyer, D., 2008. Evidence in management and organizational science: assembling the field's full weight of scientific knowledge through syntheses. *Academy of Management Annals* 2(1), pp. 475-515.
- Rozemeijer, F.A., van Weele, A.J., Weggeman, M., 2003. Creating corporate advantage through purchasing: toward a contingency model. *The Journal of Supply Chain Management*, 39, pp. 4-13.
- Sartor, M., Orzes, G., Nassimbeni, G., Jia, F., Lamming, R., 2013. International purchasing offices: Literature review and research directions. *Journal of Purchasing & Supply Management*, 20, pp. 1-17.
- Schiele, H., 2007. Supply-management maturity, cost savings and purchasing absorptive capacity: Testing the procurement-performance link. *Journal of Purchasing & Supply Management*, 13, pp.274-293.
- Schober, H., Middendorf, A., Jahns, C., 2001. *Neupositionierung des Einkaufs im Unternehmen: Der Integrierte St.Galler Beschaffungsmanagement-Ansatz*. BA Beschaffung aktuell, Heft 2.
- Schumacher, S., Schiele, H., Contzen, M., Zachau, T., 2008. *Die 3 Faktoren des Einkaufs*, Weinheim.
- Schweiger, J./Ortner, W./Busse, K./Dieringer, T., 2009. *Roadmap to Procurement Excellence*, Kapfenberg/Wien.

- Spina, G., Caniato, F., Luzzini, D., Ronchi, S., 2013. Past, present and future trends of purchasing and supply management: An extensive literature review. *Industrial Marketing Management*, 42, pp.1202-1212.
- Supply Chain Council, 2012. Supply Chain Operations Reference SCOR® Model 11.
- Syson, R., 1994. Purchasing for the nineties. *BPICS Control*, Feb/Mar, pp. 35-37.
- Tate, W., Ellram, L., Dooley, K., 2012. Environmental purchasing and supplier management (EPSM): Theory and practice. *Journal of Purchasing & Supply Management*, 18, pp. 173-188.
- Van Weele, A., 2010. *Purchasing and Supply Chain Management*, 5th Edition, Hampshire.
- Vault Career Intelligence: Ranking Consultants Operations 2014, <http://www.vault.com/company-rankings/consulting/best-firms-in-each-practice-area/?sRankID=82>, Download: 2014-06.14.
- Voegele, A., Schwientek, R., 2002. Purchasing EmPowerment, in: Hahn, D., Kaufmann, L. *Handbuch industrielles Beschaffungsmanagement*, 2nd Edition, Wiesbaden, pp.301-318.
- Wallner, M., Schweiger, J., 2012. Design of a framework for rationalizing the supplier base. *Pioneering supply chain design: a comprehensive insight into emerging trends, technologies and applications*. Blecker, T., Kersten, W., Ringle, C. (Eds.), Lohmar, pp. 349-363.
- Wildemann, H., 2008. *Einkaufspotenzialanalyse: Programme zur partnerschaftlichen Erschließung von Rationalisierungspotenzialen*. München.
- Wong, A., 2003. Achieving supply chain management excellence. *Total Quality Management*, Vol. 14, No. 2, pp. 151-159.
- Wynstra, F., 2010. What did we do, who did it and did it matter? A review of fifteen volumes of the (European) *Journal of Purchasing and Supply Management*. *Journal of Purchasing & Supply Management*, 16, pp. 279-292.

