


The PERFECT Consortium


# Project PERFECT Intellectual Output 6

## White Paper

### Massive Open Online Course (MOOC) for Purchasing and Supply Management (PSM) Fundamentals



[Studium](#)
[Weiterbildung](#)
[Für Unternehmen](#)
[Deutsch \(de\)](#)
[Login](#)



### Purchasing and Supply Management (PSM) Fundamentals (#PERFECT)

course duration: Self-study course  
 Instructor: PERFECT  
 Language: English

★★★★★

free

[enrol now](#)

[f teilen](#)
[tweet](#)
[teilen](#)
[in mitteilen](#)
[teilen](#)

#### What is this course about?

More than half of the total turnover of a modern industrial firm in Europe is directly transferred to suppliers and the bulk of supplies is no longer of domestic origin but European and international. Network economies with a low depth of production and high reliance on international suppliers let firms struggle to cope with the complexity and the new responsibilities. There is no harmonised skill profile and competence set for Purchasing & Supply Management (PSM).

This course arises from the Erasmus+ project PERFECT (project-perfect.eu) which develops a harmonised curriculum in PSM and aims at an increase in the number of highly qualified students who are suitable for entering the workplace in PSM related jobs in any size of organization and industrial setting.

**! What do you learn in this course?**

#### How is the course structured?

Over the course, you have the chance to participate in the following sequences on Purchasing & Supply Management (PSM) basics.

0. Introduction to project PERFECT
1. Definition and Meaning of PSM
2. PSM Organisation and Roles
3. PSM Processes
4. Strategic Procurement
5. Offers, negotiations, contracts
6. Supplier Relationship Management
7. Procurement Technology & Digitalisation
8. PSM Controlling
9. Risk Management in PSM

August 2018

#### Disclaimer

The creation of these resources has been (partially) funded by the ERASMUS+ grant program of the European Union under grant no. 2015-1-DE01-KA203-002174. Neither the European Commission nor the project's national funding agency DAAD are responsible for the content or liable for any losses or damage resulting of the use of these resources.

## Content

|  |    |
|--|----|
| Glossary and Key Definitions .....   | 3  |
| 1. Executive Summary.....  | 5  |
| 2. Introduction to Project PERFECT.....  | 6  |
| 3. Intellectual Output 6 – Development of a Massive Open Online Course on PSM Fundamentals | 10 |
| 3.1 Outline and Goals of the Course.....   | 10 |
| 3.2 Building on Project PERFECT’s Previous Results .....                                   | 11 |
| 3.3 Theoretical Background .....   | 15 |
| 3.4 Course Concept and Content.....  | 19 |
| 3.5 MOOC Platform and Technical Realisation.....   | 23 |
| 4. Conclusions and Outlook .....   | 32 |
| 5. Additional Material .....   | 33 |
| 5.1 Feature 1: Broader and Deeper Questions to the MOOC.....                               | 33 |
| 5.2 Feature 2: Negotiation Role-play .....   | 35 |
| 5.3 Feature 3: PSM Careers .....   | 36 |
| 5.4 Feature 3: PSM Consultancy .....   | 39 |
| 6. References Whitepaper and MOOC development .....  | 41 |
| 7. References MOOC content .....   | 43 |
| 8. Appendix 1 – MOOC Quiz Questions .....  | 48 |
| 9. Appendix 2 – Responses to Additional Activity Questions .....                           | 53 |
| 10. Appendix 3 – Negotiation Role-play Material.....                                       | 57 |

### Disclaimer

The creation of these resources has been (partially) funded by the ERASMUS+ grant program of the European Union under grant no. 2015-1-DE01-KA203-002174.  
 Neither the European Commission nor the project’s national funding agency DAAD are responsible for the content or liable for any losses or damage resulting of the use of these resources.

## Glossary and Key Definitions

**Activity Leader (AL)** – project lead for a certain main activity/work package of the project

**EC – European Commission** – the European Union’s politically independent executive arm, which is responsible for drawing up proposals for new European legislation and implements the decisions of the European Parliament and the Council of the European Union

**Erasmus +** - Key Action 2 of the programme is designed to develop the education, training and youth sectors through five main activities of which one is strategic partnerships to support innovation in the sector as well as joint initiatives to promote cooperation, peer-learning and the sharing of experience: [https://ec.europa.eu/programmes/erasmus-plus/about\\_en](https://ec.europa.eu/programmes/erasmus-plus/about_en).

**EU – European Union** - an international political and economic organisation of 28 member countries

**Higher Education (HE)** – in the context of this white paper HE is used to denote education at universities or similar educational establishments, especially to degree level

**IFPSM** – International Federation of Purchasing & Supply Management

**Intellectual Output (IO)** – the six main parts/work packages/activities of the overall PERFECT Project resulting in defined outputs depending on the nature of the IO

**IPSERA** – International Purchasing & Supply Education & Research Association

**Massive Open Online Course (MOOC)** – “an E-Learning possibility with a high amount of participants, who can participate without any registration or enrolment fee in online available offers” [LEIMEISTER et al. 2014, p. 127; SCHULTZ 2014, p. 10/11]

**MOOIN** – former name of oncampus

**oncampus** – MOOC platform and a MOOC provider founded and run by the University of Applied Sciences in Lübeck, Germany, available at <https://www.oncampus.de/?lang=en>

**PERFECT** – Purchasing Education and Research for European Competence Transfer, name of the project ([www.project-perfect.eu](http://www.project-perfect.eu))

**Postgraduate (PG) degree** – a master’s degree, a degree requiring about one or two years of university-level full-time study beyond an undergraduate degree

**Purchasing & Supply Management (PSM)** – comprises the management of external inputs – materials, services, capabilities and knowledge – that are required for building, running and maintaining the focal firm's processes, while simultaneously managing the external and internal stakeholder network with an extended upstream supply network understanding (definition established for project PERFECT).

**Sequence** – part/lesson of a MOOC

**SME** – small and medium-sized enterprise

**Undergraduate (UG) degree** – a bachelor's degree (B.Sc., B.A., etc), a degree requiring about three or four years of university-level full-time study beyond secondary/high school

## 1. Executive Summary

- The increasing relevance of Purchasing and Supply Management (PSM) in the business context makes it even more necessary to foster the required skills and competences.
- Project PERFECT has developed an empirically validated curriculum for PSM, which is accompanied by the development of a PSM fundamentals Massive Open Online Course (MOOC).
- The MOOC is developed according to conceptual fundamentals of MOOC literature and modern didactics.
- Subordinate learning goals are defined for the MOOC:
  - Identify the basic role, benefits, processes and aspects of a PSM department and a variety of specific job roles. Apply a range of purchasing techniques and tools to purchasing activities.
  - Describe cross-functional connections between purchasing and other departments, and departments' connections to external stakeholders.
  - Identify opportunities and challenges when acting as the interface between internal customer requirements and external supply networks.
  - Understand the impact of supplier relationship management on PSM performance and apply collaboration tools.
  - Evaluate trends and developments in PSM and interpret their consequences.
- The MOOC broadly covers one module of the project PERFECT curriculum and 9 sequences dealing with the basic topics of PSM.
  - Introduction to project PERFECT
  - Definition and Meaning of PSM
  - PSM Organisation and Roles
  - PSM Processes
  - Strategic Procurement
  - Offers, negotiations, contracts
  - Supplier Relationship Management
  - Procurement Technology & Digitalisation
  - PSM Controlling
  - Risk Management in PSM
- Target groups of MOOCs are various individuals such as e.g. students, teachers, vocational training providers and participants, people with personal interest in the topic.
- The MOOC can be flexibly integrated in existing curricula as an alternative, self-regulated method.
- The developed MOOC is officially available and enrolment is free of charge:  
<https://www.oncampus.de/weiterbildung/mooc/perfect>

## 2. Introduction to Project PERFECT

The PSM function in any organisation is a key contributor to firm performance (Drake 2012), as more than half of the total turnover of a modern industrial firm in Europe is directly transferred to suppliers (e.g. Van Weele, 2010). In addition, the bulk of supplies is now no longer of domestic origin, but of a European and international nature. As this network economy with a low depth of production and high reliance on international suppliers is a recent phenomenon that has emerged in the last two decades, firms are still struggling to find effective and efficient ways to cope with these circumstances (e.g. Van Weele and Van Raaij, 2014). This highlights the need and request for employees possessing the necessary skills and competences in this field.

Although buying organisations are increasingly dependent on their international suppliers, many of them lack the capabilities to deal with these situations. A basic root cause of this struggle is a lack of access to personnel with PSM knowledge and skills. Despite this importance, unlike other disciplines such as marketing or finance, PSM does not have any harmonized PSM higher education curriculum as yet. This issue is seen at national, European and regional/international (e.g. North American) levels and means. It is necessary for companies to hire university graduates with other specializations, often spending years bringing them up to a skill level that graduates in other disciplines already possess.

For students, a significant challenge lies in finding appropriate university courses and matching them to their course portfolio during international exchanges. For the higher education (HE) institutions involved, the varying course contents and depth in exchange programmes hinder teaching of the basic modules first, and then building on them further for PSM. Changing this offers a significant opportunity to the European Union: if a harmonized PSM curriculum in higher education was implemented, the currently unused human potential could be made available to European companies and student mobility in international programmes could be increased significantly.

The question addressed by the project is how such a competence building programme, i.e. a pan-European purchasing and supply management curriculum, could be structured. To seize this opportunity, the overall objective of project PERFECT is to develop an empirically validated harmonized European curriculum for PSM education. The aim is to establish an international study programme for higher education in PSM at universities. For this purpose, the curriculum or parts of the concept will be implemented and disseminated by the universities participating in the project. Simultaneously it would be disseminated through the project's relevant networks and associations and thereby made available to any higher education institution in Europe.

In order to achieve the objectives and milestones, a consortium has been formed, which brings together leading universities, European project management competence and practical exposure (e.g. associations and by industry partner workshops) with a very strong background and international network in PSM. Through this pan-European approach, students in future will be enabled to pursue their curricula across Europe, giving them the early international exposure ideal for later careers in the PSM field.

The development of a pan-European curriculum for PSM education that is based on a combination of identified best practices and industry requirements will ensure that individual students are provided with the necessary knowledge and learning to join a purchasing department of any size of organisation, and are ready to engage in different aspects of PSM. It provides opportunities for students to gain experience in other European countries through more harmonisation in the variety of study programmes fostering opportunities of student exchange and through more informal discussions and activities which will help them to further develop their professional skills as well as their personalities. For the participating academic organisations, this provides an opportunity to strengthen their pan-European ties and ensure that their PSM curricula reflect the requirements of an increasingly pan-European industry. Pan-European organisations often adopt collaborative buying activities and an understanding of the European dimension of these activities will ensure that their staff are prepared. Companies in general benefit from employees that are prepared to cope with current and future requirements of PSM. Additional target groups include PSM related associations. Reaching them is facilitated through the participants' memberships of various relevant associations such as IPSERA (International Purchasing and Supply Education and Research Association) and IFPSM (International Federation of Purchasing and Supply Management).

The goal of project management in PERFECT is to organise the work in an efficient, flexible and economical way and to monitor project results that are reached according to the work plan. This will be achieved by means of an appropriate project management structure with properly assigned responsibilities and decision-making bodies, carefully selected project activity leaders with the necessary competences, and effective and efficient communication. The management approach avoids superfluous complexity and leads to efficient procedures to support the success of the project.

PERFECT is managed by TU Dortmund University. Both leadership components—scientific and administrative—are closely related and the people involved constitute de facto one coordination and management team. The scientific management is done by the coordinator as the project lead and by the project activity leaders for each respective project activity. In each project activity scientific management is included. The project organisation has been developed based on the sample

experience of the management, resulting from the coordination of EU projects since the Fifth Framework Programme. It is designed for a stringent project management and decision making and for efficient exchange of knowledge.

The work is divided into six scientific project activities and additional project activity for the management of the consortium, communication and dissemination and exploitation of results (see table 1).

Each of the six main Activities (A1-A6) leads to an Intellectual Output (IO) as follows:

|      |  |
|------|--|
| A0   | Project management, coordination and promotion                     |
| A1   | Development of Purchasing & Supply Management (PSM) Skills Concept |
| IO 1 | PSM Skills Concept   |
| A2   | Development of Benchmarking Cases (Case Study Interviews)          |
| IO 2 | Best Practice Benchmark  |
| A3   | Pan-European Survey PSM Skills                                     |
| IO 3 | PSM Skills and Training Survey Results                             |
| A4   | Development of PSM Curriculum for higher education                 |
| IO 4 | Designed PSM Curriculum for higher education                       |
| A5   | Development of PSM competence assessment tool                      |
| IO 5 | PSM Skill ladder   |
| A6   | Development of Introductory Massive Open Online Course on PSM      |
| IO 6 | Massive Open Online Course on PSM                                  |

Table 1: Overview PERFECT Activities and Intellectual Outputs

The evaluation and exploitation of project results is considered a crucial issue. Therefore, an Advisory Board (AB) has been created as an independent body can accompany the project and support its dissemination. It includes experts in the fields of PSM education and practice, whose task is to advise and guide PERFECT on promising directions and the long-term vision of the project, based on both their knowledge of the current state and global trends in their fields and also their practical experience. The AB will also comment on the implementation of the project activities regarding the research, mobility, networking of researchers, dissemination of information, and exploitation of results.

The PERFECT project includes the following milestones, as outlined in Table 1:

- [IO1] The project started with an in-depth **theoretical analysis** of PSM, reviewing different sources such as
  - Academic and practitioner literature dealing with PSM skills



- European PSM educational landscape
- PSM Job adverts
- Studies on trends and future requirements for PSM
- [IO2] In addition to the desk based literature review, the project conducted **Case Study interviews** with industry PSM practitioners in a range of job roles and organisation types to identify the required skills and competences to cope with current requirements and future trends.
- [IO3] The insights gained were validated and developed further by a **survey** with European firms in order to identify those skills and competencies that distinguish successful companies and effective and efficient PSM, which link to performance outcomes and future requirements. Moreover, this provides a comprehensive and systematic analysis of skills and competences needed to be covered in the curriculum.
- [IO4] Based on the skills and competencies identified in the first three IOs, PERFECT has also designed the first every pan-European **PSM curriculum**.
- [IO5] In order to promote fast and broad dissemination, PERFECT has developed a **self-assessment tool (PCA)** for PSM skill evaluation
- [IO6] In parallel with the **PCA tool**, the project team has prepared an Introductory **Massive Online Open Course (MOOC)** for basic PSM skills, which can be used by students and organisations to gauge the levels of the PSM skills.

This IO6 White Paper focuses on the development and design of the Massive Open Online Course (MOOC) on PSM fundamentals. The online course can be integrated into teaching, e.g. as a part of lectures (e.g. of a PSM fundamentals module, comp. IO4 white paper on new PSM curriculum contents), but is also publicly available at no charge for anybody who is interested in getting some initial insights into the core basics of PSM.

The course content, the technical realisation and production of the content, and the implementation of the MOOC platform are described in detail in the next chapters. This work package is led by TU Dortmund University, Germany, with the support of all project partners.

### 3. Intellectual Output 6 – Development of a Massive Open Online Course on PSM Fundamentals

#### 3.1 Outline and Goals of the Course

In this sixth and final project activity, the didactic concept and the content of an introductory Massive Open Online Course (MOOC) on PSM based on the curriculum developed in IO4 and gap analyses conducted throughout IOs 1, 2 and 3, is planned, designed, developed, technically implemented and disseminated.

The MOOC methodology creates an opportunity for sharing ideas and knowledge and also helps to improve lifelong learning skills by providing easy access to global resources in PSM. It can improve cross-cultural relationships which leads to collaboration between institutions' educators and learners locally and internationally, when being applied in a number of existing and new study programmes. The MOOC content in the form of a series of sequences relating to different PSM areas can be easily embedded via a flipped classroom approach of in more traditional lectures dealing with the individual topics included in the MOOC in more detail or as add-ons for short insights in additional relevant aspects of PSM. Research shows that students learn more through active learning (i.e. when they have assignments or engage in a discussion on an issue) rather than just through listening to lectures. Students listen to lectures more attentively if they have been given a problem or task to solve before the lecture. In order to promote active learning, most of the MOOC sequences make use of more interactive aspects, such as mini-assignments and quizzes. In addition, there are a series of tutorial style questions and suggested responses relating to the sequences that individuals can use to go into more depth on particular PSM activities.

The MOOC contains a number of different sequences, each relating to an area of PSM and which have been informed by the previous work of the project, specifically the clustering of skills and competencies required by modern PSM practitioners collected in IOs 1, 2 and 3, as well as the PSM curriculum developed in IO4. The specific learning objectives for the individual sequences are shown on the [MOOC webpage](#) and in summary, are as follows: , are as follows:

- Identify the basic role, benefits, processes and aspects of a PSM department and a variety of specific job roles.
- Apply a range of purchasing techniques and tools to purchasing activities.

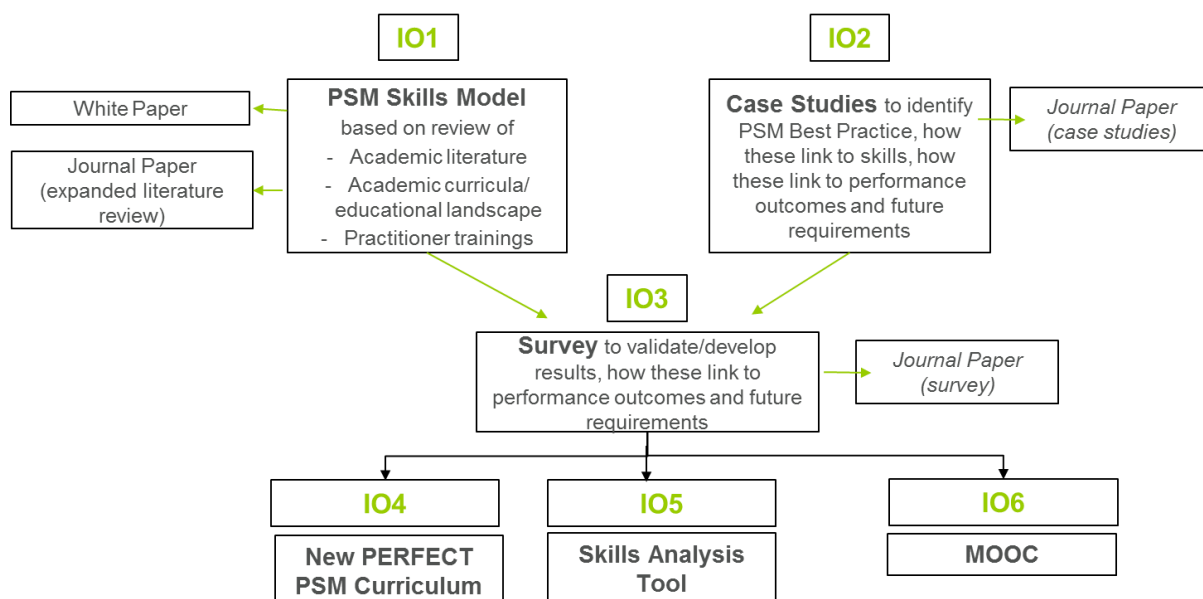
- Describe cross-functional connections between purchasing and other departments, and departments' connections to external stakeholders.
- Identify opportunities and challenges when acting as the interface between internal customer requirements and external supply networks.
- Understand the impact of supplier relationship management on PSM performance and apply collaboration tools.
- Evaluate trends and developments in PSM and interpret their consequences.

These learning objectives are supported by the following **course structure** giving insights into PSM related topics that are taken out of the modules defined for the new harmonised curriculum (IO4: <http://www.perfect.lfo.tu-dortmund.de/intellectual-output-4-programme-specification-and-guidance-document/>):

- 0 Introduction to project PERFECT
- 1 Definition and Meaning of PSM
- 2 PSM Organisation and Roles
- 3 PSM Processes
- 4 Strategic Procurement
- 5 Offers, negotiations, contracts
- 6 Supplier Relationship Management
- 7 Procurement Technology and Digitalisation
- 8 PSM Controlling
- 9 Risk Management in PSM

## 3.2 Building on Project PERFECT's Previous Results

Project PERFECT has used the different IOs in an integrated manner, using the outputs from them to inform the development of later ones. An overview of these interrelationships can be seen in the following diagram:



In IO4 of the project, a programme specification for undergraduate (UG) and postgraduate (PG) study programmes in PSM was developed and published and this IO used inputs from empirical (IOs 2 and 3) and desk-based research (IO1) to ensure that it reflected the current and future skills and competency requirements of PSM professionals in a variety of industrial settings. One of the modules in this curriculum drew together some core PSM aspects, entitled Purchasing Fundamentals and this formed the basis of different sequences that constitute the MOOC developed by the Project PERFECT team. The findings of each of the previous IOs are wide ranging and detailed in nature and they all have their own white papers and associated documents, which can be found at the project PERFECT website (at <http://www.perfect.lfo.tu-dortmund.de/category/project-results/>). The corresponding module descriptor template of the Purchasing Fundamentals module is as follows:

. The “LEAVE BLANK” fields are supposed to be filled by institutions which apply the module in their own courses individually (see Intellectual Output 4).

|   |                                     |                                |
|---|-------------------------------------|--------------------------------|
| 1 | Module code                         | LEAVE BLANK                    |
| 2 | Module title                        | <b>Purchasing Fundamentals</b> |
| 3 | Level                               | LEAVE BLANK                    |
| 4 | ECTS credits                        | LEAVE BLANK                    |
| 5 | Excluded combinations               | LEAVE BLANK                    |
| 6 | Pre-requisite or co-requisite       | LEAVE BLANK                    |
| 7 | Class contact time: total hours     | Total Hours: LEAVE BLANK       |
| 8 | Independent study time: total hours | Total Hours: LEAVE BLANK       |

|    |   |             |
|----|---|-------------|
| 9  | Semester(s) of delivery   | LEAVE BLANK |
| 10 | Main campus location  | LEAVE BLANK |
| 11 | Module co-ordinator   | LEAVE BLANK |
| 12 | <p><u>Module Aim</u></p> <p>The purpose of this module is to provide an introduction to organisational purchasing in a business environment. The PSM function in any organisation is a key contributor to firm performance and much supply is now no longer of domestic origin, but of a European and international nature. This creates a reliance on suppliers to sustain on-going operational activity. This module will provide students with an understanding of the core tasks and responsibilities of a PSM organisation and its contribution to the organisation's overall strategy, through the application of core PSM strategies, processes and tools. It will enable students to discuss the role and responsibilities of PSM as the interface between the internal customers and an external supply network.</p>   |             |
|    | <p><u>Intended learning outcomes</u></p> <p><i>By successful completion of the module, you will be able to:</i></p> <ol style="list-style-type: none"> <li>1. Identify the basic role, benefits, processes and aspects of a PSM department and a variety of specific job roles.</li> <li>2. Apply a range of purchasing techniques and tools to purchasing activities.</li> <li>3. Describe cross-functional connections between purchasing and other departments, and departments' connections to external stakeholders.</li> <li>4. Identify opportunities and challenges when acting as the interface between internal customer requirements and external supply networks.</li> <li>5. Understand the impact of supplier relationship management on PSM performance and apply collaboration tools.</li> <li>6. Evaluate trends and developments in PSM and interpret their consequences.</li> </ol>  |             |
| 13 | <p><u>Indicative Content</u></p> <ul style="list-style-type: none"> <li>• After introducing some core definitions in the field, this module will broadly follow a procurement process through using a number of examples and case studies.</li> <li>• Defining Purchasing and Supply Management (PSM)</li> <li>• The development and the importance of PSM</li> <li>• Purchasing job roles</li> <li>• Purchasing as an organisation (various organisational models)</li> <li>• Benefits of effective PSM</li> <li>• Core PSM processes: Source-to-contract, purchase-to-pay</li> <li>• Strategic Sourcing: Supplier Classification, Supply Market Analysis, Category Strategy Development, Sourcing Matrix, Kraljic Matrix, Supplier Management</li> <li>• Customer Orientation: Spend Analysis, Interpersonal Communication, Cross-functional Working, Conflict Resolution</li> <li>• Exemplary commodity and domain specific knowledge (e.g. manufacturing &amp; service industry, private &amp; public procurement)</li> <li>• eProcurement Technology, ERP/MRP etc. and their functions in purchasing context</li> <li>• Enterprise Resource Planning / Material Requirements</li> <li>• Planning / Advanced Planning and Scheduling</li> <li>• RFX; Request for Information/Proposal/Quotation - Solicit Offers</li> </ul> |             |

|    |  |                       |                        |               |
|----|--|-----------------------|------------------------|---------------|
|    | <ul style="list-style-type: none"> <li>• Risk management</li> <li>• Negotiation, pricing, cost calculation, cost savings</li> <li>• Evaluation of offers, supplier selection</li> <li>• Contract management</li> <li>• Procurement Controlling and KPI reporting</li> <li>• Supplier Relationship Management: Supplier Development; Supplier Evaluation, Collaboration</li> <li>• Trends &amp; Future Developments for PSM: Make or Buy Decisions, Digitisation, Sustainability</li> </ul>   |                       |                        |               |
| 14 | <u>Learning activities and teaching methods</u><br><br>The module combines lectured concepts and practices, including self-studied online trainings with case studies, games and role-play exercises.  |                       |                        |               |
| 15 | <u>Assessment</u> (may use multiple assessments)   |                       |                        |               |
|    | Form of Assessment   | % weighting of module | Size of the assessment | ILOs assessed |
|    | Written Report   | 100                   | 3000 words             | All           |
| 16 | <u>Feedback to students</u><br><br>Students will receive feedback on their performance in the following ways: <ul style="list-style-type: none"> <li>• Both formative and summative feedback will be made available within the delivery of the module</li> <li>• Formative feedback will provide opportunity for students to develop academic, personal and professional development → will be given on an ongoing base in class</li> <li>• Summative feedback will be clearly aligned with the assessment criteria which will be made available → will be given as part of the formal assessment</li> </ul>   |                       |                        |               |
| 17 | <u>Learning resources &amp; key texts</u> <ul style="list-style-type: none"> <li>• Johnson, P. F. and Flynn, A. E. (2015) Purchasing and Supply Management. 15th Edition. Mc Graw Hill: New York, USA.</li> <li>• Monczka, R. M., Handfield, R. B., Giunpero, L. C., Patterson, J. L. (2015) Purchasing &amp; Supply Management. 6th Edition. Cengage Learning: Boston, USA.</li> <li>• Van Weele, A. (2014). Purchasing and Supply Chain Management. 6th Edition. Cengage Learning: Hampshire, England.</li> <li>• Tate, Wendy/Fawcett, Stan/Schoenherr, Tobias/Ashenbaum, Bryan/Carter, Craig/Bals, Lydia (2016): Purchasing &amp; Supply Management: Enhancing Competitiveness and Customer Value, My Educator, LLC: Orem, UT.</li> <li>• Bals, Lydia/Laine, Jari/Mugurusi, Godfrey (conditionally accepted): Evolving Procurement Organizations: External and Internal fit Considerations, Journal of Purchasing &amp; Supply Management.</li> <li>• Bals, Lydia/Turkulainen, Virpi (forthcoming): Achieving Efficiency and Effectiveness in Purchasing and Supply Management: Organization Design and Outsourcing, Journal of Purchasing &amp; Supply Management, Special Issue IPSERA 2016.</li> </ul> Selected articles from: <ul style="list-style-type: none"> <li>• Journal of Purchasing &amp; Supply Management</li> <li>• Journal of Supply Chain Management</li> <li>• Supply Chain Management: An International Journal</li> <li>• International Journal of Operations and Production Management</li> <li>• Journal of Operations Management</li> </ul> |                       |                        |               |

|    |   |             |
|----|---|-------------|
| 18 | <u>Preparatory work (if applicable)</u> |             |
| 19 | Last revision date                      | LEAVE BLANK |

Table 2: Module Purchasing Fundamentals

The module is suggested to be included into a Bachelor degree. Moreover, it is suitable for everybody with the motivation to start learning about PSM. Practitioners are a relevant target group as modules of the curriculum as well as the MOOC can be integrated in vocational training.

### 3.3 Theoretical Background

We used some existing literature on teaching with MOOCs and results of the PERFECT project as a theoretical background to robustly inform the development of the MOOC. As recommended in a guide for MOOC development developed by the Technical University of Munich, for example, we started early in the process to check the media support for the production of MOOC content by the university. In addition, we followed this guide throughout the MOOC creation process and initially designed the courses as a presentation with the help of PowerPoint templates [TU München, 2017].

To develop the course concept and to get an overview about existing MOOC practices we used research which gave a good introduction to the topic of MOOCs in general and the specific advantages and disadvantages of different MOOC forms and providers [e.g. García-Peñalvo et al., 2017; Baturay, 2015; Pomerol, 2015].

For a long time, the change from an industrial society to a knowledge society has not involved a disruption in the learning context. In the 2000s education institutions or teachers started to offer courses with disruptive and chaotic models supported by open, informal, cooperative, connectivist, autonomous and self-guided training [García-Peñalvo et al., 2017].

MOOCs have started to penetrate the corporate environments especially in knowledge-based economies and companies with great dependence on knowledge, information and high employee competence requirements. Rapid technological advances shape the industrial environments and new competencies need to be acquired by employees in order to strive towards innovation and sustainable business success. “It is therefore in the interest of both corporations and individual employees to not only retain existing knowledge, but continuously enhance it, by expanding it and utilizing it more efficiently” [Karnouskos, 2017, p. 1].

Neither distance education nor online courses are new, but MOOCs have increasingly been the subject of attention by the public, especially in the field of technology enhanced learning. Ebner et al. (2014) mention bringing education to a broad range of people as the main focus of MOOCs. Such courses gather attention, especially in the field of technology enhanced learning, as they exceed the advantages of more traditional and less variable forms of distance education and online courses [Ebner et al., 2014].

One big advantage of MOOCs is the support of the pursuit of lifelong learning through their availability, flexibility and usability and, therefore, broad fields of application also apart from the higher education environment for vocational or personal training and development [Pomerol, 2015; see figure 1].

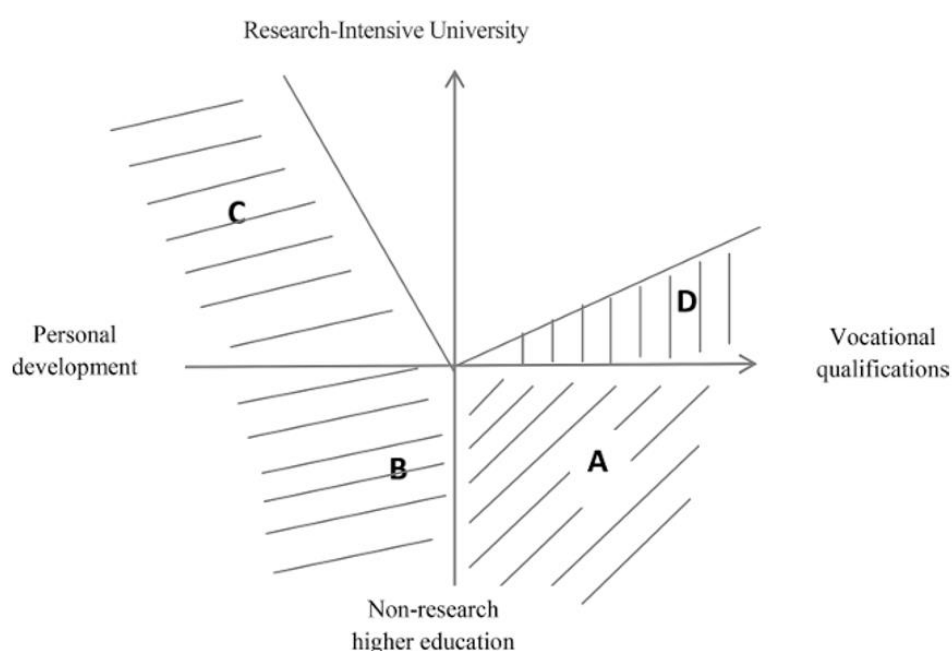


Figure 1: The sphere of influence of MOOCs [Pomerol, 2015]

According to Porter (2015), additional benefits of MOOCs are to develop markets through flexibility and build new relationships as well as bespoke course development with partners. University partnerships are fostered or newly built up by working with other academic institutions through a global consortium, as is happening in project PERFECT, and also working with professional associations to develop MOOCs jointly [Porter, 2015].

Fundamental characteristics of a MOOC are being open, participatory and distributed. MOOCs require individual learners to be able to self-regulate their learning, and self-determine their engagement. They attract a diverse range of learners with different motivations and prior experience. MOOCs are



normally based on three areas of student engagement: video lectures, assessment and forums [Baturay, 2015; Littlejohn et al., 2016].

Demographic data of MOOC users are displayed by the MOOC providers of Harvard University and Massachusetts Institute of Technology (MIT). They show that a high variety of students form an open global classroom [Chuang and Ho, 2016]:

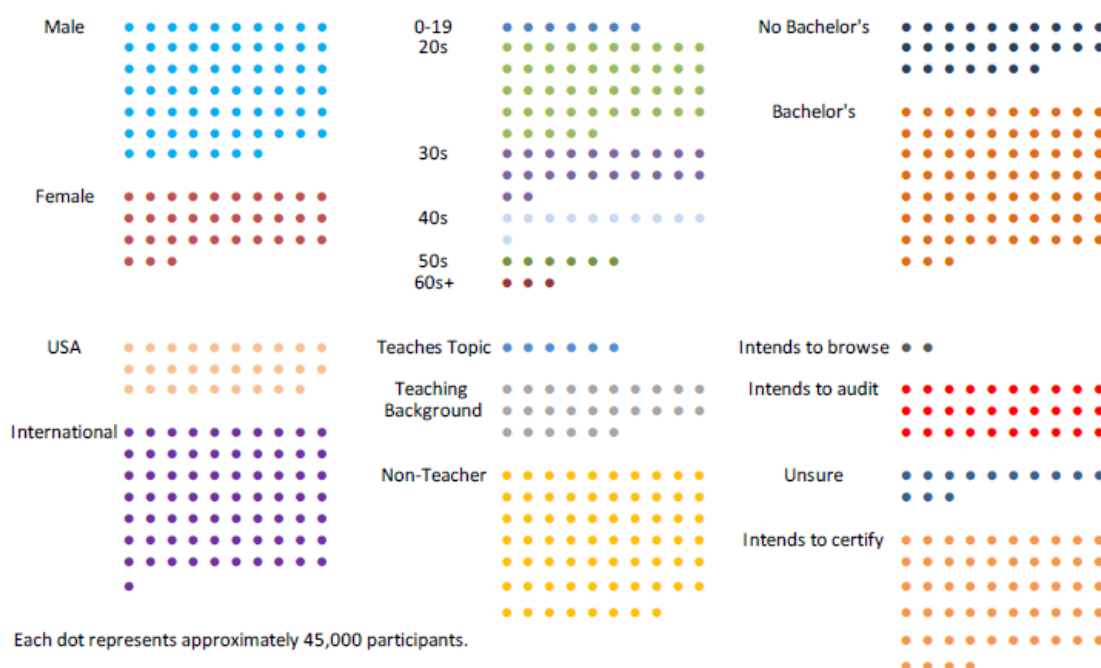


Figure 2: If a MOOC classroom held 100 students, who would they be? [Chuang & Ho, 2016]

The huge effort and resources needed are also discussed in recent literature on MOOCs. Teachers, instructional designers, video, graphic designers and webmasters, integrators, testers and a project manager are the human resources necessary for the building of a MOOC [Pomerol, 2015].

Ebner et al. (2014) have considered key factors for didactical, technical and administrative conception and summarised these in a checklist, which could be referred to during the course planning and development in project PERFECT (see table 3).

### Do a MOOC – Checklist

| Cat. | Issue   |
|------|---|
| 1.   | Core requirements   |
| 1.1  | Attend a MOOC yourself  |
| 1.2  | Consider the open character of a MOOC                               |
| 1.3  | Select a topic for a large community instead of a specific audience |
| 1.4  | Select the appropriate course language                              |
| 1.5  | Plan for a heterogeneous target group                               |

#### Disclaimer

The creation of these resources has been (partially) funded by the ERASMUS+ grant program of the European Union under grant no. 2015-1-DE01-KA203-002174. Neither the European Commission nor the project's national funding agency DAAD are responsible for the content or liable for any losses or damage resulting of the use of these resources.

- 1.6 Select an appropriate platform
- 1.7 Test the platform and its features
- 1.8 Consider the use of tools outside the platform
- 1.9 Provide a tutorial for MOOC-Newbies
- 1.10 Provide a tutorial about how to work in a forum, a chat etc.
- 1.11 Select supplementary tools (outside the platform)
- 1.12 Provide tutorials for those supplementary tools (outside the platform)
- 1.13 Test all activities, assignments and tests before they go online
- 1.14 Promote your course
- 1.15 Clarify institutional guidelines concerning certificates/ confirmations of participation
- 1.16 Determine the desired level of interaction
2. Structure
- 2.1 Divide the course into equal parts ("course units")
- 2.2 Think about a recognizable structure of the different units and design it
- 2.3 Divide the units into different environments (according to the objectives)
- 2.4 Organize the activities and assignments so that they are feasible ("time management")
- 2.5 Create a preliminary course unit ("socializing") before starting with content
3. Participant requirements
- 3.1 Tell the students at the beginning the requirements for a certificate
- 3.2 Consider peer-review as an assessment method (announce the "peer-review-rules")
- 3.3 Decide if continually opened checks or a final artefact lead to a certificate
- 3.4 Decide if it's possible to earn a certificate though skipping course units
- 3.5 Announce the average weekly workload to facilitate student time management
- 3.6 Define learning outcomes ("learning objectives")
- 3.7 Design an appropriate quiz design
- 3.8 Use different question types
- 3.9 Provide wrong answers with feedback (thus, further information)
4. Assignments
- 4.1 Formulate assignments in a clear and understandable way
- 4.2 Formulate assignments according to a heterogeneous audience
- 4.3 Formulate assignments that stimulate communication processes
- 4.4 Reduce terminological problems or misunderstandings by means of a glossary, for example
- 4.5 Be aware of a gender-sensitive language
- 4.6 Create assignments according to the needs of different learning types
- 4.7 Ensure transparent assessment criteria when doing peer-reviewed assignments
5. Media design
- 5.1 Choose media according to the content ("multimedia")
- 5.2 Choose adequate methods according to the content
- 5.3 Test tools before using them to create content
- 5.4 Create resources as Open Educational Resources (OER) under a Creative Commons Licence
- 5.5 Use materials from the web provided you are allowed to ("licences")
- 5.6 Produce short videos (<1 minute) to provide information/content
- 5.7 Insert questions into the videos
- 5.8 Divide the content into small pieces of information
- 5.9 Choose supplementary tools that work independently from a specific operating system

**Disclaimer**

The creation of these resources has been (partially) funded by the ERASMUS+ grant program of the European Union under grant no. 2015-1-DE01-KA203-002174. Neither the European Commission nor the project's national funding agency DAAD are responsible for the content or liable for any losses or damage resulting of the use of these resources.

|      |   |
|------|---|
| 5.10 | Create resources that can be worked on independently from a specific operating system (e.g. create pdf instead of docx) |
| 5.11 | Create resources for different levels, standards, grades (e.g. for beginners, experts)                                  |
| 5.12 | Use gender-sensitive examples   |
| 5.13 | Create materials that can easily be read on the screen  |
| 5.14 | Create barrier-free materials and resources   |
| 5.15 | Create materials and resources following a consistent layout ("master template")  |
| 6.   | Communication   |
| 6.1  | Set up a newsletter to inform participants about the course schedule  |
| 6.2  | Create spaces for communication (e.g. open a forum or a wiki)   |
| 6.3  | Encourage the participations to open groups, forums and wikis on their own  |
| 6.4  | Give impetus to animate discussion processes in and outside of the MOOC   |
| 6.5  | Set up (communication) rules ("netiquette" or "chatiquette")  |
| 6.6  | Create a hashtag for the course   |
| 6.7  | Aggregate a newsfeed using the hashtag  |
| 6.8  | Be present (perhaps with the help of an e-tutor)  |
| 6.9  | Pay attention to the changed framework when planning synchronous meetings (e.g. time zones)                             |
| 7.   | Resources   |
| 7.1  | Check the framework: are e-tutors available?  |
| 7.2  | Plan more time creating multimedia content (e.g. video lectures)  |
| 7.3  | Contact your IT or multimedia department (e.g. support for creating multimedia content)                                 |
| 7.4  | Create a network with colleagues  |
| 7.5  | Do the MOOC in a team or invite colleagues to be guest teachers   |
| 7.6  | Plan some extra time to promote the course  |
| 7.7  | Plan some extra time to find resources and materials  |
| 7.8  | Ask the participants for their feedback   |
| 7.9  | Document your MOOC experience in social networks or on a blog   |
| 7.10 | Plan some extra time to check the content (e.g. links) and to answer to student needs                                   |

Table 3: Do a MOOC – Checklist, adapted from [Ebner et al., 2014]

This comprehensive framework for an organisational and technical MOOC conception, clustered by criteria to be recalled with sequential steps for each, approved as an applicable guideline for an initial MOOC development.

### 3.4 Course Concept and Content

A didactic course concept was designed based on the Constructive Alignment method. It is briefly described below and the application to project PERFECT'S MOOC is pointed out. The Constructive Alignment (CA) approach serves as a theoretical background concept for course developments under didactic good practice standards.

CA was developed by Prof. John Biggs. It is an integrative concept to enhance the quality of teaching and learning. CA is a pedagogical approach that is embedded in the constructivist theory of learning outcomes, teaching and learning activities and assessment tasks. It is believed that courses with the features of CA will enhance student learning experiences and facilitate students' achievement of intended learning outcomes [Wang et al., 2012].

It is clearly stated before teaching takes place that students should learn how to express their learning aims. Teaching is then designed to engage students in learning activities that optimise their chances of achieving those outcomes, and assessment tasks are designed to enable clear judgements as to how well those outcomes have been attained. Such a teaching design is assumed in everyday learning. For example, a learner driver learns through the act of driving itself until the specified standard is reached. The target act is at once the intended outcome, the method of teaching, and the means of assessing whether the desired criterion or standard of the outcome has been met. This approach to teaching is learner-centred in that the target is what the learner has to achieve and how the learner may best be engaged in order to achieve it to the required standard. The teaching design is outcomes-based and assessment is necessarily criterion-referenced.

Teaching in institutions on the other hand has traditionally been conceived in precisely the opposite manner on all counts: teaching is teacher-centred, the focus being on what content the teacher has to “cover”, teaching is largely held constant with lecturing as the default method, and assessment is norm-referenced. Until very recently most universities adhered to this teacher-centred design [Biggs, 2014].

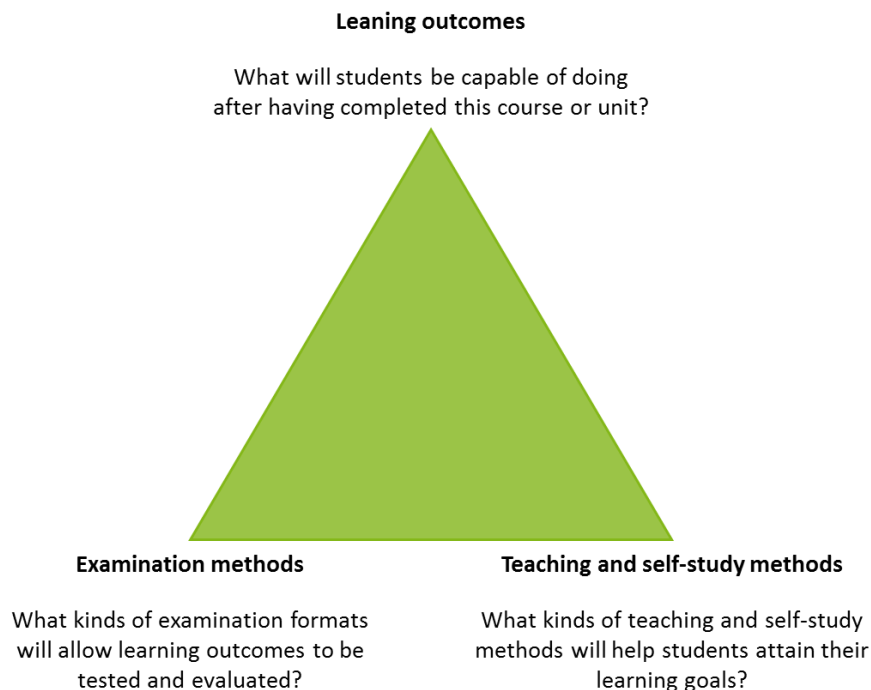


Figure 3: Constructive Alignment Approach [Edström et al., 2007]

CA is based on three components: intended learning outcomes, assessment, and teaching and learning activities. Essentially the three components are independent of each other. If this principle of independence is adhered to, the lecture conforms to the concept of CA. It means that in practice the lecture is constructed in a way that the students can achieve the learning targets and that in the exam the students are exactly tested on the learning targets [Baumert, 2013, p. 23].

The application of CA in the development of the PERFECT MOOC is reflected in each of its sequences.

The following lists give overviews of the content of the 9 PSM fundamentals sequences that form the project PERFECT MOOC:

| # | Sequence Title                | Content (based on IO4 programme spec. and teachers' expertise)   | Responsible partner        |
|---|-------------------------------|--|----------------------------|
| 0 | Introduction                  | Brief overview on the project, its organization and results  | TU Dortmund                |
| 1 | Definition and Meaning of PSM | Terms and definitions of PSM; short overview of processes, benefits and importance of PSM  | TU Dortmund                |
| 2 | PSM Organisation and Roles    | Impact of organizational models on PSM performance; the optimal structure and its influencing factors; purchasing job roles and profiles | HS Mainz                   |
| 3 | PSM Processes                 | PSM processes: source-to-contract, purchase-to-pay and supporting processes  | HS Mainz/<br>Staffordshire |

|   |   |   |               |
|---|---|---|---------------|
| 4 | Strategic Procurement                   | Supplier classification, Supply Market Analysis, Effective Specification Management, Supplier's perspective and Relationship Management, Supplier Performance Measurement, Purchasing Performance Measurement | Staffordshire |
| 5 | Offers, negotiations, contracts         | Supplier selection and assessment, Tendering, e-bidding processes, Negotiation, Pricing, Total Costs of Ownership, Contracting  | LUT           |
| 6 | Supplier Relationship Management        | Operative and strategic supplier evaluation, Supplier development   | UTwente       |
| 7 | Procurement Technology and Digitisation | Definitions, Digital Transformation, eProcurement, modern approaches and developments   | TU Dortmund   |
| 8 | PSM Controlling                         | Bottom-up and top-down planning, Purchasing controlling – challenges, Purchasing strategy and performance, Performance measuring  | LUT/UTwente   |
| 9 | Risk Management in PSM                  | Risk sources in PSM, Core elements of Risk Management, 4 Maturity levels of Risk Management, Modern approaches and developments   | TU Dortmund   |

Table 4: Final content of MOOC sequences and responsibilities

The characteristics of the PERFECT MOOC are summarized in table 5.

| <b>Teaching and self-study methods</b>   |   |
|--|---|
| Number of sequences  | 10  |
| Number of slides in each sequence  | 10 to 15  |
| Length of video  | 10 to 20 minutes  |
| Used Media   | Video lecture and animated presentation   |
| Number of Quizzes in each sequence   | 5 to 10   |
| References and Further Information   | Various educational books, websites and existing videos and courses   |
| Content  | Basic models and concepts of PSM and modern approaches and developments in PSM  |
| <b>Examination methods</b>   |   |
| Continuous, self-regulated control of learning success by different types of quizzes | Multiple and Single choice, Drag and Drop, Fill in the blanks, True/False Questions   |
| <b>Learning outcomes</b>   |   |
| Learning goals of the complete course  | <ul style="list-style-type: none"> <li>Identify the basic role, benefits, processes and aspects of a PSM department and a variety of specific job roles.</li> <li>Apply a range of purchasing techniques and tools to purchasing activities.</li> <li>Describe cross-functional connections between purchasing and other departments, and departments' connections to external stakeholders.</li> </ul> |

|                                 |   |
|---------------------------------|---|
|                                 | <ul style="list-style-type: none"> <li>• Identify opportunities and challenges when acting as the interface between internal customer requirements and external supply networks.</li> <li>• Understand the impact of supplier relationship management on PSM performance and apply collaboration tools.</li> <li>• Evaluate trends and developments in PSM and interpret their consequences.</li> </ul> |
| Learning goals of the sequences | For each sequence specific learning goals are defined.  |

Table 5: MOOC characteristics

In the MOOC, **each sequence is 10-20 minutes** plus quizzes and other exercises. **Different media types are combined in each sequence** (e.g. slides + voice, lecture videos, animations, process visualisation, etc.). First, a presentation with around **10-15 slides for each sequence** is developed **as basis** for the MOOC sequences. These slides form the content that is covered with the respective MOOC sequence. Former project results, e.g. **trends** in PSM, are consistently **reflected in the different sequences**. **Examples for slide titles** are already specified in template slides for a consistency and clear structure along the course. Focus is on **basic models/concepts plus modern approaches/developments/trends**. **References** used for our course material and **further material suggestions** (existing literature, videos, current discussions, papers, articles, etc.) are noted down. Furthermore, due to the overall timings of the individual MOOC sequences, **5 to max. 10 quiz elements are installed** in each sequence (see figure 4). In addition to slides, quizzes and videos also transcriptions of the video lecture talks are written down for putting together the MOOC.

### 3.5 MOOC Platform and Technical Realisation

The following section shows the technical guidance given to each of the institutions and examples are given from the development that was done at TU Dortmund.

In literature, different MOOC platforms are described and compared briefly. They are difficult to evaluate and prioritise due to different origins, purpose and target groups. Still, it can be said that in the meantime most established MOOC platforms attract a variety of course providers and participants. A variety of MOOC platforms exists on the market. The best known globally active ones are shown in Figure 4.



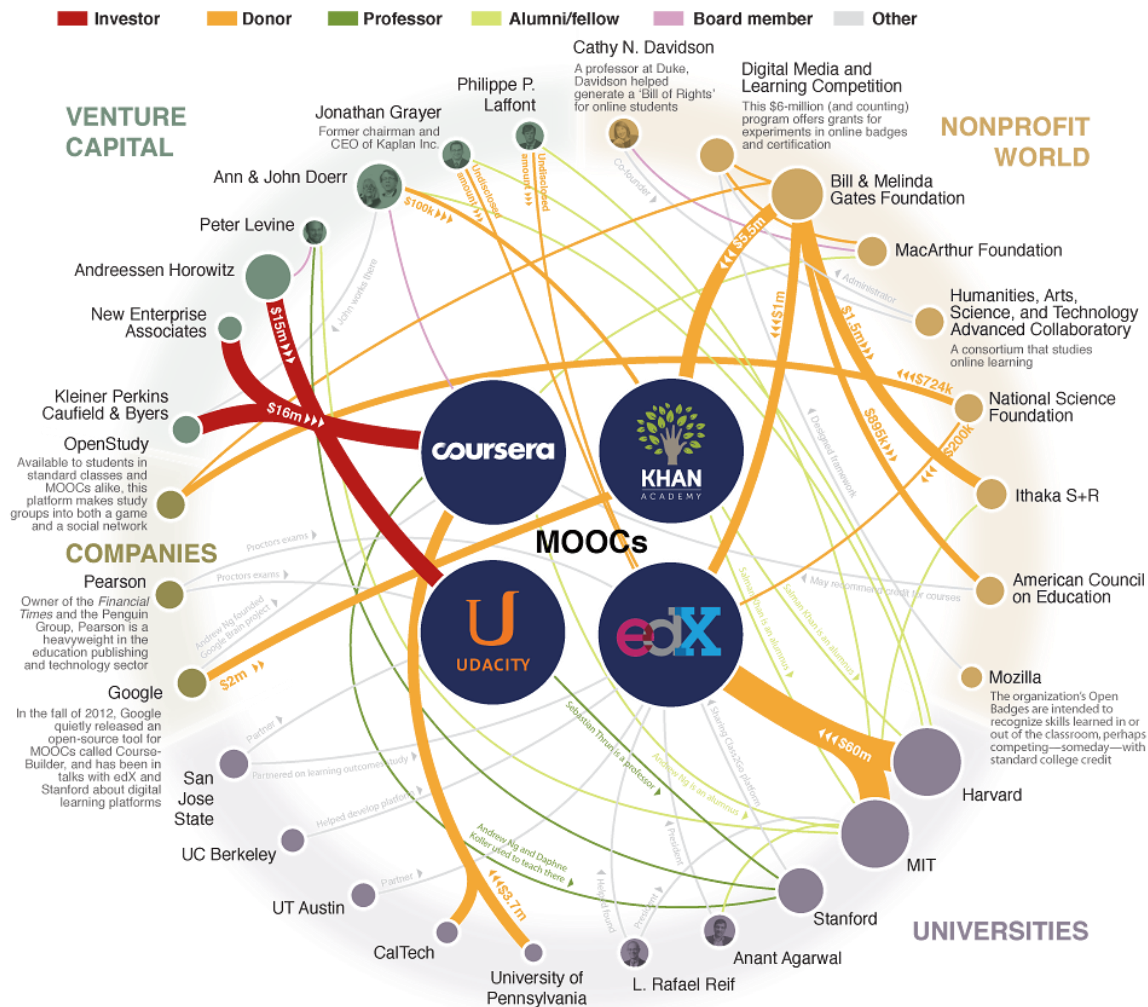


Figure 4: Major players in the MOOC universe [N.N., 2013]

In table 6 and 7, some features and characteristics of the most well-known platforms hosted in the USA and in Germany are listed to show a general overview of possible partners.

| Platform              | Udacity                             | Coursera                                       | edX  |
|-----------------------|-------------------------------------|--|--|
| Foundation            | 2012, Sebastian Thrun               | 2012, Daphne Koller, Andrew Ng                 | 2012, MIT and Harvard                              |
| Number of Participant | 4 million                           | 22 million                                     | 10 million   |
| Number of courses     | approx. 175                         | approx. 2550                                   | approx. 1270                                       |
| Fields                | Computer science, mathematics, etc. | Computer science, economics, mathematics, etc. | Mathematics, computer science, music, physics etc. |
| Language              | English, German, Chinese etc.       | English, German, Chinese etc.                  | English, German, Chinese etc.                      |
| Costs                 | For profit                          | For profit                                     | Non-profit   |
| Interactivity         | Blog                                | Webcam   | Blog, social media, forum                          |
| Certification         | 89 USD                              | 50-90 USD                                      | 90-250 USD   |

Disclaimer

The creation of these resources has been (partially) funded by the ERASMUS+ grant program of the European Union under grant no. 2015-1-DE01-KA203-002174. Neither the European Commission nor the project's national funding agency DAAD are responsible for the content or liable for any losses or damage resulting of the use of these resources.



|          |   |   |                    |
|----------|---|---|--------------------|
| Provider | New Enterprise Associates, Kleiner Perkins Caufield & Byers, Google, Amazon, Facebook, AT&T, etc. | Andressen Horowitz, Stanford University, etc. | MIT, Harvard, etc. |
|----------|---|---|--------------------|

Table 6: Comparison of MOOC platforms in the USA: Udacity, Coursera and edX; adapted from [Epelboin et al., 2015; Rhoads, 2015; N.N., 2015]

| Plattform             | OpenHPI                              | Mooi/oncampus                                    | iversity                                       |
|-----------------------|--------------------------------------|--|--|
| Foundation            | 2012                                 | 2014   | 2013   |
| Number of Participant | max. 18000 participants per course   | max. 2000 participants per course                | > 1 million                                    |
| Number of courses     | > 40 courses                         | Approx. 44 courses                               | Approx. 61 courses                             |
| Fields                | Coding, information technology, etc. | Physics, business, etc.                          | Business informatics, politics, business, etc. |
| Language              | German, English, Chinese etc.        | German, English                                  | German, English, Chinese etc.                  |
| Costs                 | Non-profit                           | For profit and non-profit                        | For profit and non-profit                      |
| Interactivity         | Blog; Foren; Peer-to-Peer            | Social Media; Foren                              | Foren  |
| Certification         | 50-90 EUR                            | Free   | 49 EUR   |
| Provider              | Hasso-Plattner-Institut              | ASG; vhs; Hamburger Volkshochschule; iMOOX, etc. | WHU; LUIS; KIT; htw, etc.                      |

Table 7: Comparison of MOOC platforms in Germany: OpenHPI, mooi and iversity; adapted from [N.N. 2015a]

A variety of MOOC platform providers are available and the rationale for the selection of oncampus is shown below.

PERFECT defined several requirements of technical, sustainable, usable und methodological aspects to be fulfilled by a suitable platform:

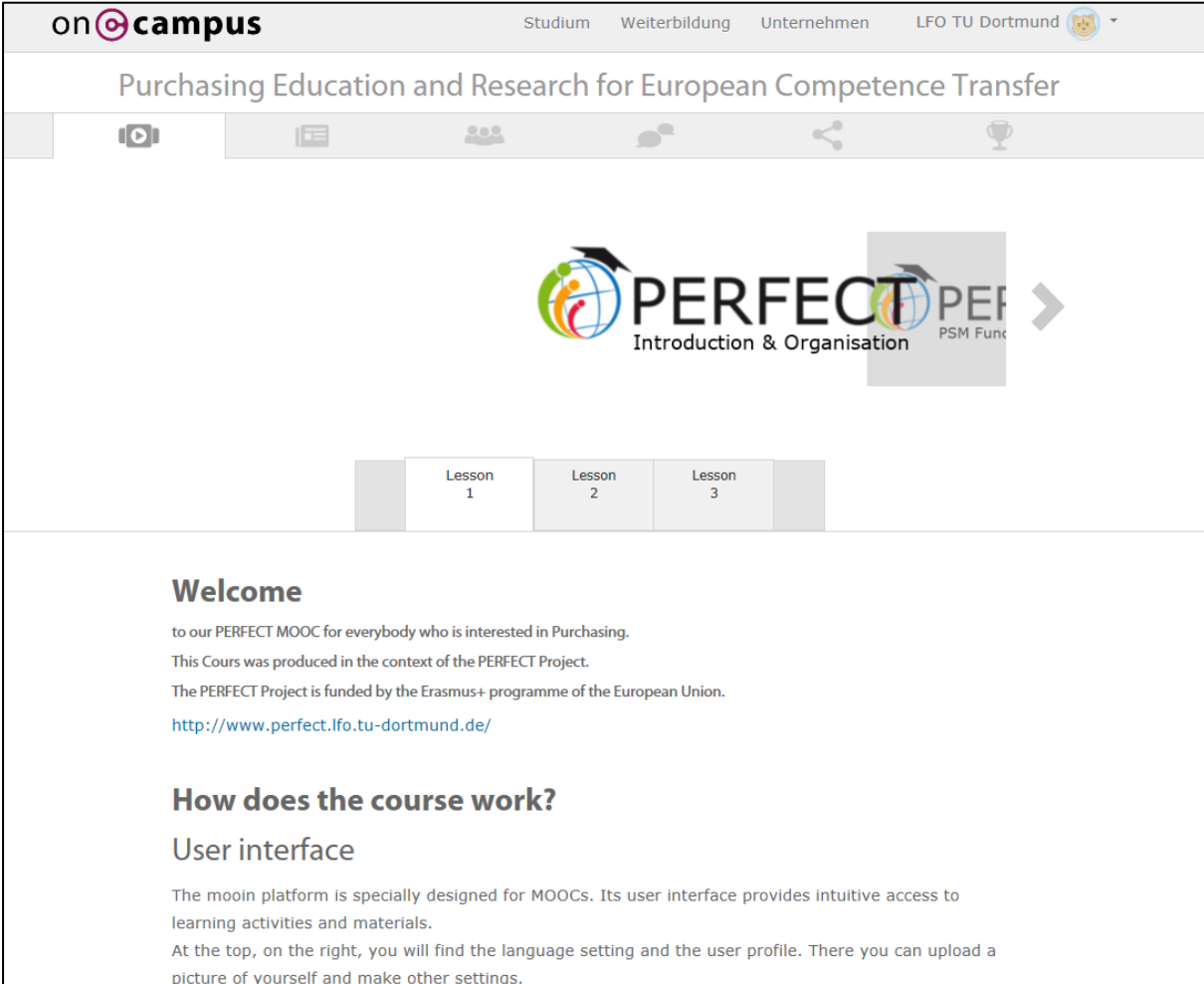
- Reliably and sustainably hosted
- Simple operation and editing
- Renowned platform with lots of members and courses
- Former experience of project partners with the platform
- Easily approachable contacts for initial questions
- Free of charge: placement and hosting of courses as well as participation
- Customisable
- Possibilities of testing learning success, e.g. integrated quizzes
- Multimedia
- Open access for participants

It was decided to place the PERFECT MOOC on the platform oncampus (former named mooin, see table 7). It fulfils the most important requirements and was recommended by members of the PERFECT network.

The platform oncampus provides an easy and free-of-charge offer to publish the PERFECT MOOC. The videos are hosted on YouTube. The former name of the provider was “mooin”. The oncampus GmbH is a 100% subsidiary of the University of Applied Sciences Lübeck, Germany.

It is certified by the quality management systems ISO 9001 and has also certification according to ISO 29990, which systematizes and evaluates the special processes of learning services. As a European provider in e-learning, they have been opening up universities to new target groups for more than 15 years. One can study part-time or learn new things in continuing education programmes, flexible self-study courses or free MOOCs.

The course page of a MOOC on oncampus contains an overview of the course purpose, content and structure as well as the learning goals. The teachers are introduced. After enrolling to the course, one is directed to a page explaining functionalities and detailed structure of the course.



The screenshot shows the oncampus website interface. At the top, the 'oncampus' logo is on the left, and navigation links for 'Studium', 'Weiterbildung', 'Unternehmen', and 'LFO TU Dortmund' are on the right. Below this is a header for 'Purchasing Education and Research for European Competence Transfer'. A secondary navigation bar contains icons for video, documents, users, chat, share, and a trophy. The main content area features the 'PERFECT' logo with the tagline 'Introduction & Organisation' and a 'PSM Fund' label. Below the logo is a horizontal menu with 'Lesson 1', 'Lesson 2', and 'Lesson 3'. The page content includes a 'Welcome' section with text about the PERFECT MOOC, its funding by the Erasmus+ programme, and a URL. It also has a 'How does the course work?' section with a 'User interface' subsection, explaining the mooin platform and user settings.

#### Disclaimer

The creation of these resources has been (partially) funded by the ERASMUS+ grant program of the European Union under grant no. 2015-1-DE01-KA203-002174. Neither the European Commission nor the project's national funding agency DAAD are responsible for the content or liable for any losses or damage resulting of the use of these resources.

Figure 5: Landing Page after enrolling for the PERFECT MOOC

In a first lesson, project PERFECT is introduced and the later section focuses on the PSM fundamentals themselves. The section PSM Fundamentals contains the different purchasing topics presented by the professors of the PERFECT consortium. The core of each lesson is the interactive video. At different points, tasks and quizzes are installed for an active participation of the listener and control of attention and learning success.

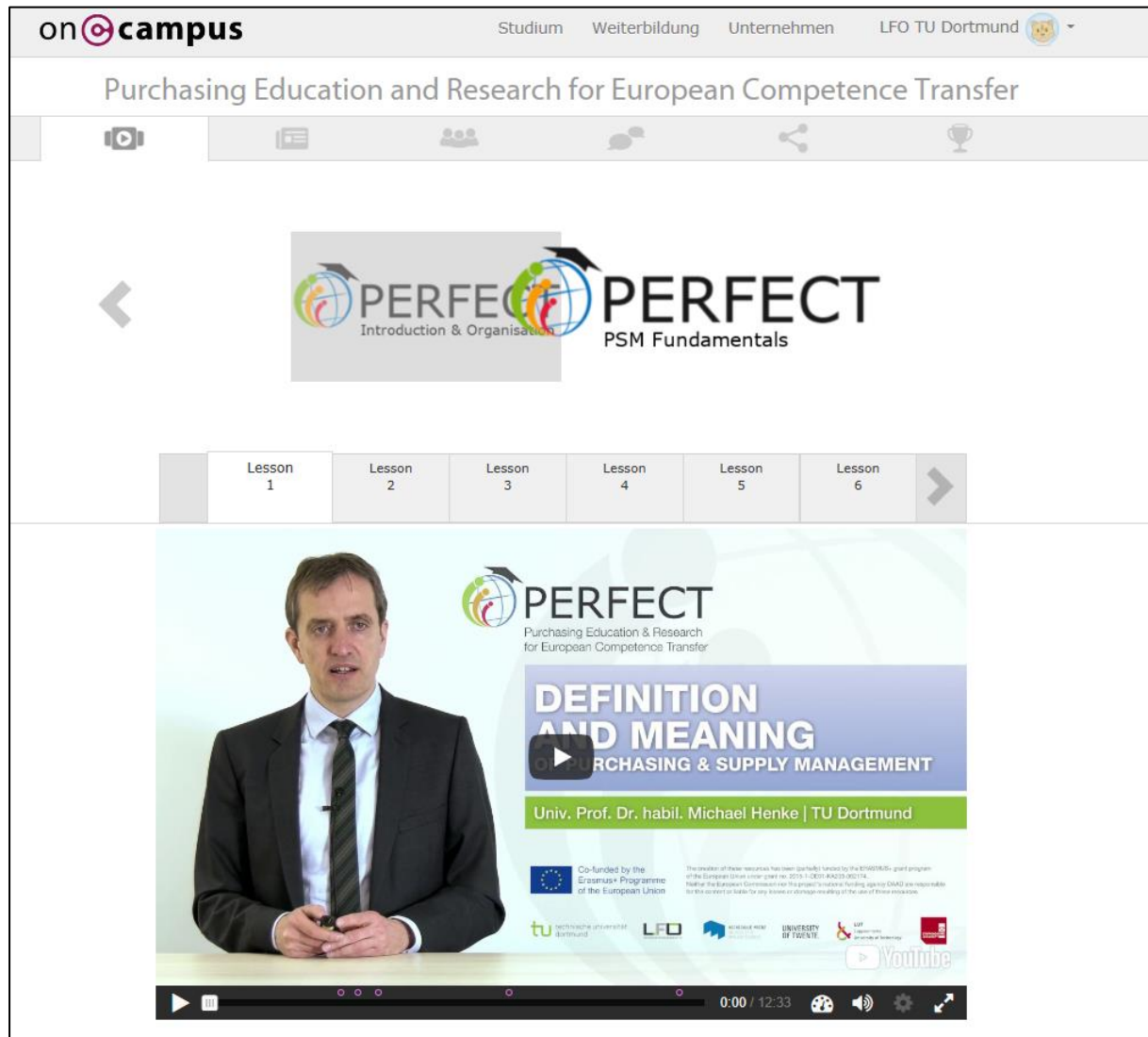


Figure 6: Start of the first Sequence

Below the interactive video of each topic, the learning goals, references and advice for further information are noted down.

#### Disclaimer

The creation of these resources has been (partially) funded by the ERASMUS+ grant program of the European Union under grant no. 2015-1-DE01-KA203-002174. Neither the European Commission nor the project's national funding agency DAAD are responsible for the content or liable for any losses or damage resulting of the use of these resources.

### Learning Goals

- Identify the basic role, benefits, processes and aspects of a PSM department and a variety of specific job roles.
- Apply a range of purchasing techniques and tools to purchasing activities.
- Describe cross-functional connections between purchasing and other departments, and departments' connections to external stakeholders.
- Identify opportunities and challenges when acting as the interface between internal customer requirements and external supply networks.
- Understand the impact of supplier relationship management on PSM performance and apply collaboration tools.
- Evaluate trends and developments in PSM and interpret their consequences.

### Further Information

- van Weele, Arjan J. (2014a): College Tour Purchasing Video 3 Purchasing's impact on ROI. Online available <https://www.youtube.com/watch?v=ev08w2dIJWA&t=2s> .
- van Weele, Arjan J. (2014b): College Tour Purchasing Video 1 What is Purchasing? Online available [https://www.youtube.com/watch?v=eB\\_1Z6oC5ZU&t=3s](https://www.youtube.com/watch?v=eB_1Z6oC5ZU&t=3s)
- van Weele, Arjan J. (2014c): College Tour Purchasing Video 9 Purchasing Development Model. Online available <https://www.youtube.com/watch?v=jCZU9OYm5GM&t=1s>
- The Deloitte Global CPO Survey 2017, available from <https://www2.deloitte.com/uk/en/pages/operations/articles/cpo-survey.html>

### References

- Kummer, Grün, Jammerneegg (2013). Grundzüge der Beschaffung, Produktion und Logistik. (3rd ed.), München: Pearson.
- Van Weele, A.J. (2010). Purchasing and supply chain management: Analysis, strategy, planning and practice. (5th ed.) London: Cengage Learning.
- Van Weele, A.J. and Van Raaij, E.M., (2014). The future of purchasing and supply management research: About relevance and rigor. Journal of Supply Chain Management, 50 (1), pp. 56 – 72.
- Monczka, R.M., Handfield, R. B., Guinipero, L. C., Patterson, J. L., & Waters, D. (2010). Purchasing and supply chain management, London: Cengage Learning
- Institute for Supply Management, ISM Methodology, available from <https://www.instituteforsupplymanagement.org>

Figure 7: Construction of the remaining sequence

For the integration of the videos on the MOOC platform, it is necessary to make them available online in order to integrate them onto the platform. This is possible on different portals (e.g. YouTube, vimeo etc.) but also on own servers. The important thing is that the file is in a suitable format and can be accessed directly from the platform. The PERFECT team has decided to use the service YouTube because of the great popularity and the recommendation of the platform operators. For the upload of the videos a YouTube account was created by the Chair of Enterprise Logistics and the videos were uploaded there. Some edits of the course are done in YouTube and some directly on the platform.

After uploading the videos, they can be integrated on the MOOC platform. The video link is inserted into the appropriate sequence using the free and open source H5P software so that the video content can be retrieved from YouTube. By integrating the video with the help of the H5P software, it is also possible to implement the interactive tasks into the videos.

For the PERFECT project team it was important to make the MOOC barrier free to make it accessible for handicapped people, as well. The project team decided to implement subtitles into the developed videos, so deaf people are able to follow the course progress. For this, the subtitles were implemented directly in Youtube, where the videos are hosted by the channel of the Chair of Enterprise Logistics of TU Dortmund.

One core element of a MOOC is to implement mentioned exercises and activities for students to participate in and as tests of learning success (so-called quizzes). Oncampus provides the possibility to integrate quizzes into course videos. Therefore, for each sequence, the project partners developed some exercises. They can be embedded at every stage of the video – somewhere in between or at the end. Following are possible tasks for videos to be installed on the platform oncampus:

- Single and Multiple Choice Tests
- True /False Questions
- “Fill in the Blanks” tasks
- “Drag and Drop” tasks
- “Mark the Words” tasks

Some examples of the quizzes from the PERFECT MOOC are shown below (see Figures 8-11).

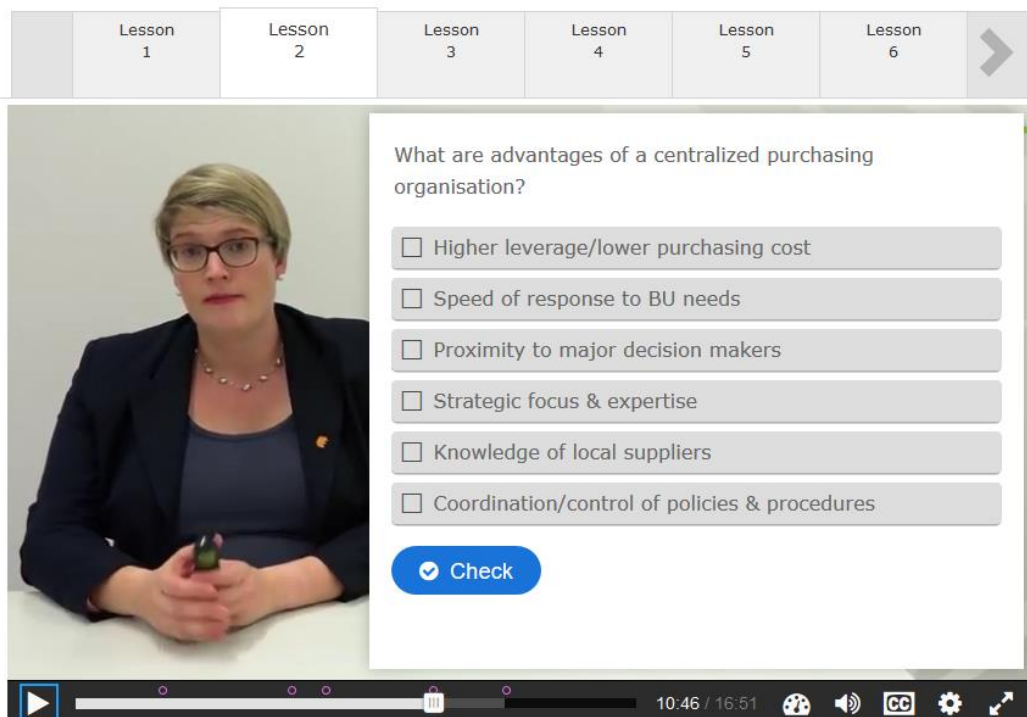


Figure 8: Example for a Multiple Choice Test

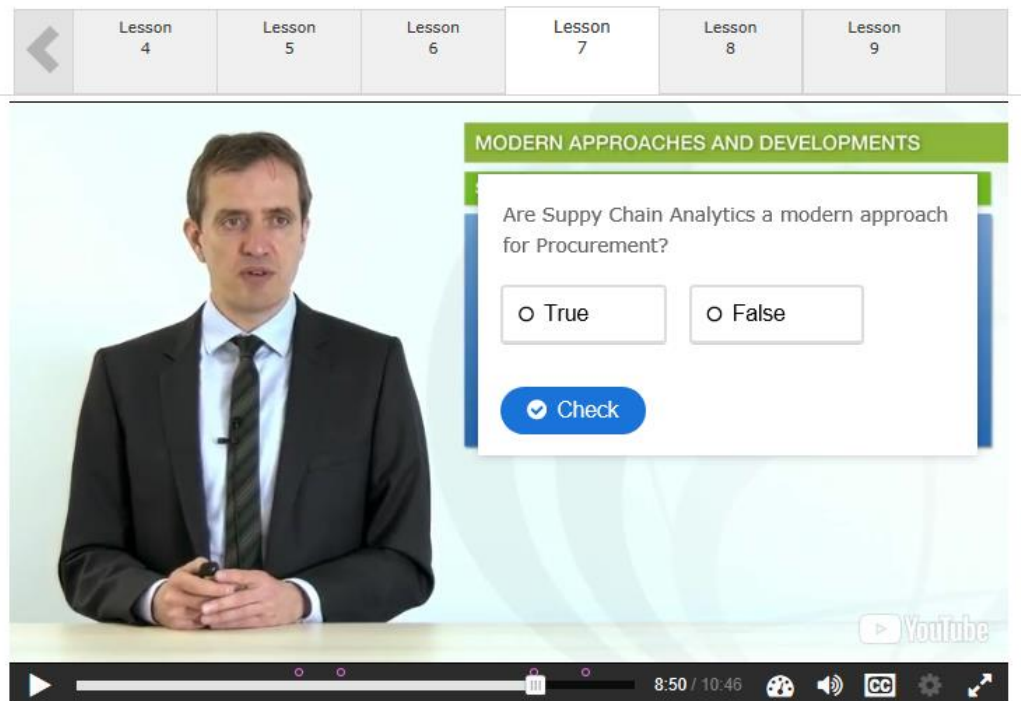


Figure 9: Example for a True or False Question

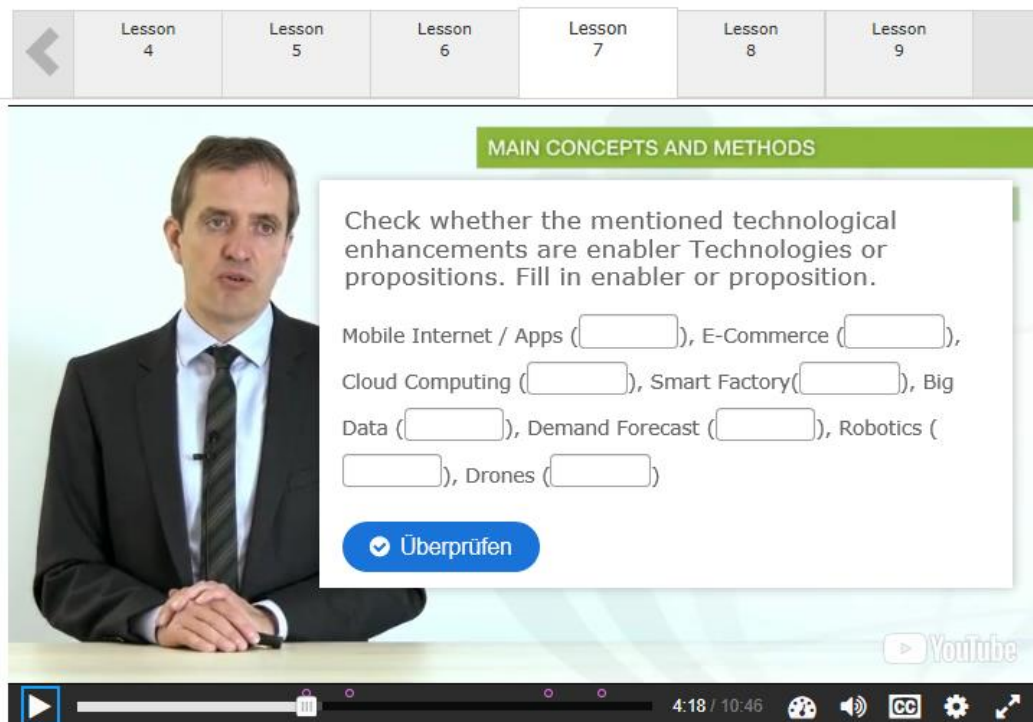
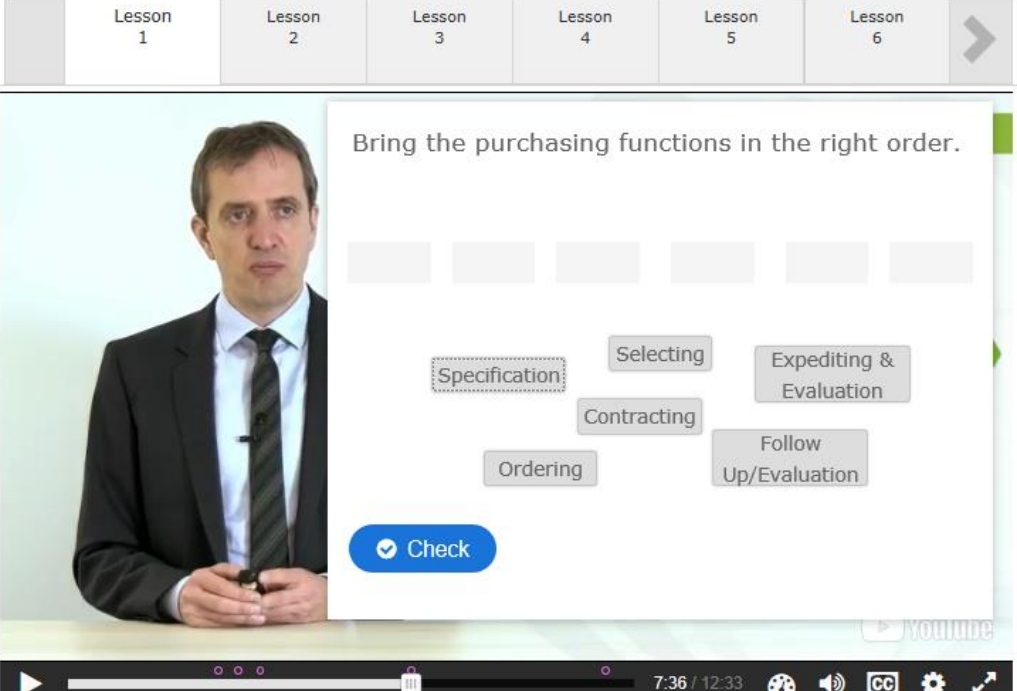


Figure 10: Example for a Fill in the Blanks task

Disclaimer

The creation of these resources has been (partially) funded by the ERASMUS+ grant program of the European Union under grant no. 2015-1-DE01-KA203-002174. Neither the European Commission nor the project's national funding agency DAAD are responsible for the content or liable for any losses or damage resulting of the use of these resources.





Lesson 1 Lesson 2 Lesson 3 Lesson 4 Lesson 5 Lesson 6

Bring the purchasing functions in the right order.

Specification Selecting Expediting & Evaluation Contracting Ordering Follow Up/Evaluation

Check

7:36 / 12:33

Figure 11: Example for a Drag and Drop task

## 4. Conclusions and Outlook

Education institutions such as universities change and improve teaching and learning methods in order to keep up with the requirements of their target groups in the age of digitalisation. A MOOC is an attractive learning format for self-regulated, flexible, mobile learning in a big community for a broad variety of target groups.

A PSM Fundamentals MOOC assists positioning the highly relevant topics of the PSM field with increasing importance in open education.

The MOOC dissemination is ongoing and the course is being integrated into ongoing teaching activities, existing curricula as well as newly designed modules and courses. Any students and teachers can make use of the MOOC, as it is freely available. Continuous further development is planned. The MOOC can be updated and maintained for an open period of time.

For any suggestions or comments to the course, the Chair of Enterprise Logistics at TU Dortmund can be contacted.



## 5. Additional Material

In the framework of project PERFECT and the Purchasing and Supply Management (PSM) Fundamentals MOOC, further learning concepts and material have been developed. They are displayed in the features of this chapter. In the first one, additional exercises and questions for discussion are displayed for a further enrichment of existing courses or as a deepening supplement to the MOOC. Secondly, teaching materials for a negotiation role-play is included, as negotiation is one of the main tasks for procurement jobs and, in addition, relevant social personal and team skills can be developed with such role-plays. Finally, advice on carrier and trends in PSM is given.

### 5.1 Feature 1: Broader and Deeper Questions to the MOOC

These questions and suggested/indicative responses have been developed alongside the different MOOC sequences, in addition to the Multiple Choice Questions, to allow you to go into more depth on the particular subject areas. They can be used as tutorial/seminar questions by educators, tailored to the specific requirements and experiences of a group of students, to facilitate broader and deeper discussions. They can also be used by students and other interested participants in exploring different Purchasing & Supply Management activities and processes in a variety of relevant organisational settings. The questions can be considered first and then the suggested responses referred to after reflection. Please note that the suggested responses should be seen as indicative in nature and are intended to stimulate and provoke discussion and further reflection. The responses do not necessarily cover every single "answer", as the context, experience and setting will have an effect on what this is. In addition, these are not intended to be organisational guides to respond in a specific manner in certain scenarios or situations.

Suggested Responses to the additional activity questions can be found in Appendix 2.

#### Additional activity questions:

1. Identify what different types of products or services that an organisation might buy?
2. Identify what challenges might be found when buying services (rather than goods)?
3. You are responsible for buying buttons from suppliers that your organisation uses to make jeans. Apart from the unit cost of the button itself, discuss what other costs might make up the total cost you have to incur?
4. What are some of the advantages and disadvantages an organisation might get by operating centralised or decentralised Purchasing & Supply Management activities?
5. Identify some different types of specification?

6. You have been asked by your commercial director whether or not your organisation should outsource its manufacturing and to identify the benefits and risks of doing this. Discuss what these are.
7. Pick a standard set of commercial Terms and Conditions from the internet and review these and identify which areas you think might be too onerous for you to agree on if you were a buyer of their goods or services.
8. You have been appointed as the new Purchasing Manager for a legal services organisation and your first task is to centralise the purchasing spend for stationary which is currently bought by whoever needs it whenever they want. You have a total spend of €50k per annum across “standard” items. Evaluate the supply market for this using the market summary template in the Strategic Procurement MOOC sequence.
9. There are lots of different terms that relate to Purchasing & Supply Management, so how would you define the following:
  - Purchasing
  - Procurement
  - Sourcing
  - Purchasing Management
  - Supply Chain Management
  - Value Chain Management
10. Identify some of the disadvantages associated with the use of formal competitive tendering.
11. Why is it not always appropriate to work towards a fully cooperative relationship?

## 5.2 Feature 2: Negotiation Role-play

A key part of the role of Purchasing and Supply Management professionals is how they engage with the external supply base of their organisation and one aspect of this is how they negotiate with these suppliers. To give interested parties the opportunity to practice a negotiation in a constructive manner, a negotiation role-play has been prepared. This can be used by educators as the basis of a tutorial/seminar activity to run in groups of and also by others who wish to use it in a different group setting, for example, students wishing to work together or organisations as a way of introducing those new to PSM to the process of negotiation.

The introductory slides provide details of how to structure and run the role-play, but in essence, there is a buyer (Fruitblast) and supplier (Euroglass) briefings, setting out requirements for their own organisations and brief details of the other party. It is suggested that a group of buyers and suppliers is made up of 2 to 5 people and that these groups are given time to prepare for the negotiation bargaining phase and that the briefings are kept confidential within the buying or selling group. Once the groups have prepared, they come back together and bargain, using the parameters they have been given, for a specified amount of time. After this, the groups can reflect on how successful their strategy and approach was and also feedback can be given.

A set of slides has been provided, which provide some background to negotiation and some strategies, tactics and approaches that could be used in the role-play. In addition, the briefings for both Fruitblast and Euroglass and a summary sheet for capturing the results have been provided.

Material for the described negotiation role-play can be found in Appendix 3.

## 5.3 Feature 3: PSM Careers

The research of the Project PERFECT (<http://www.perfect.lfo.tu-dortmund.de/>) shows that Purchasing and Supply Management jobs require an ever more complex and differentiated skill set that will ensure that the overall aims and objectives of an organisation can be achieved. This means that the job market for PSM evolves quickly and so, this feature has been put together to help those interested in a career in PSM or those wanting to further develop their current career path. The document provides links to a number of different national agencies, which contain specific guides and information on a wide variety of PSM careers. It also contains links to videos and other documents explaining what PSM do and the different roles and opportunities that are available to those interested in the profession, as well as some company/organisation specific examples.

*The information contained in these documents does not constitute legal or professional advice and Project PERFECT, and its member institutions, cannot accept any liability whatsoever for actions arising from its use. Project PERFECT and its member institutions cannot be held responsible for the contents of any pages, websites and other sources referenced by an external link.*

### IO6 Purchasing & Supply Management Careers Document and Links

All organisations need to buy goods, products and services, in both the public and private sector and across all industrial fields. The role of those involved in Purchasing and Supply Management (PSM) activities depends on the size of the organisation and the way PSM activities are organised within the structure of the organisation. In smaller organisations, these activities may be done by different parts of the organisation, as they may not have the size or resources to have a dedicated PSM function or team. Traditional views of PSM as only placing orders, engaged in transactional and operational activities, have evolved into a more strategic perception of how PSM can add real value to an organisation, as the external supply base becomes ever more important in ensuring that an organisation can deliver its own goods, products and services to its own customers in the most effective and efficient manner.

The research of the Project PERFECT (<http://www.perfect.lfo.tu-dortmund.de/>) shows that this requires a more complex and differentiated skill set that will ensure that the overall aims and objectives of an organisation can be achieved. You can read about these skills and competences in more detail at the following links:

<http://www.perfect.lfo.tu-dortmund.de/the-project-perfect-intellectual-output-2-white-paper/> - The aim of this part of the project was to conduct case study interviews with PSM practitioners to identify the competences, knowledge and skills that are required to cope with current requirements and future trends.

<http://www.perfect.lfo.tu-dortmund.de/intellectual-output-3-white-paper-european-survey-on-purchasing-competences/> - The aim of this part of the project was to setup a survey to identify the purchasing skills leading to success. The analyses in the paper base on the answers of about 600 PSM practitioners.

Typical specialist PSM roles are varied and include; Head of Purchasing, Senior Purchasing Manager, Purchasing Manager, Contracts Manager, Sourcing Manager, Supplier Manager, Supplier Relationship

Manager, Expediter. There may also be other individuals engaged in PSM activities, such as those working in Facilities Management, Marketing, Engineering, IT and Logistics. This will depend on the type of goods, products or services being bought and may involve liaising with a wide range of relevant internal stakeholders to ensure that the requirements of the organisation can be communicated to the external supply base in the most appropriate manner. It will also be necessary to select the most suitable supplier and then to manage the delivery of goods and the provision of services in a structured way.

As there is so much information publicly available, we have brought some useful websites together in one place that provide information on a variety of PSM careers and job roles:

1. The International Federation of Purchasing and Supply Management (IFPSM) website:

<http://www.ifpsm.org>

IFPSM is the union of 48 National and Regional Purchasing Associations worldwide. Within this circle, about 250,000 Purchasing Professionals can be reached.

2. Chartered Institute of Procurement & Supply (CIPS) websites:

Career development:

[www.cips.org/en-gb/knowledge/procurement-topics-and-skills/people-and-skills/career-development/](http://www.cips.org/en-gb/knowledge/procurement-topics-and-skills/people-and-skills/career-development/)

CIPS have worked with Hays (a global recruitment group) to develop a set of “Procurement Salary Guide and Insights” (found at the link above), which relate to different geographical regions.

CIPS iBuy website, which provides careers advice, along with some case study examples:

<http://www.cipsibuy.com/>

CIPS Careers – be a buyer:

<https://www.youtube.com/watch?v=oqy5JL2-3uc>

CIPS are a United Kingdom-based global professional body working for the purchasing and supply professions, which aims to promote good practice and provides services for the benefit of their procurement community. Their main website is <https://www.cips.org/>.

3. BME website:

[www.bme.de/en/association-supply-chain-management-procurement-and-logistics/](http://www.bme.de/en/association-supply-chain-management-procurement-and-logistics/)

BME is the professional association for supply chain managers, buyers and logisticians in Germany and Central Europe.

4. NEVI website:

<https://nevi.nl/>

NEVI is the Dutch Procurement Association, the world’s third largest global procurement and supply management association.

5. Logy website:

<http://www.logy.fi/en/>

Logy is the Finnish Association of Purchasing and Logistics.

6. Institute for Supply Management (ISM) careers section website:

[www.instituteforsupplymanagement.org/careers/content.cfm?ItemNumber=12996&SSO=1](http://www.instituteforsupplymanagement.org/careers/content.cfm?ItemNumber=12996&SSO=1)

The ISM is a US based professional supply management organisation and their main website can be found at:

<https://www.instituteforsupplymanagement.org/index.cfm?SSO=1>

7. Procurious is a networking platform specifically focused on PSM:

[www.procurious.com](http://www.procurious.com)

In addition, there are many individual PSM groups that have been established on LinkedIn ([www.linkedin.com](http://www.linkedin.com)) that can provide useful networking opportunities.

8. Inside careers about “What is PSM all about”

[www.insidecareers.co.uk/career-advice/what-is-purchasing-and-supply-management/](http://www.insidecareers.co.uk/career-advice/what-is-purchasing-and-supply-management/)

9. The Chartered Institute of Logistics & Transport (CILT) guide to procurement careers website:

<https://ciltuk.org.uk/Careers/Careers-Information/Career-Profiles/Procurement-Management>

CILT is a professional association for those involved in all aspects of logistics and transport.

10. Learnthat website (from the US) which looks at the role of the Purchasing Manager:

<http://learnthat.com/career-guide-for-purchasing-managers/>

11. Prospects UK website (graduate careers guidance), which looks at the role of the Purchasing Manager, identifying responsibilities, working hours and job expectations.

<https://www.prospects.ac.uk/job-profiles/purchasing-manager>

12. Supplyjobs website (from Canada) showing career progression in PSM, as well as salaries and also clicking on each job title provides additional details:

<http://supplyjobs.ca/procurement-career-progression/>

13. NIGP website, the US Institute for Public Procurement:

<http://www.nigp.org/grow-professionally/job-opportunities/careers-in-public-procurement>

14. An interview with Nikki Bell, Head of Scottish Procurement Policy & Strategy for the Scottish Government about working in PSM:

<https://www.youtube.com/watch?v=zZBW2MlslhA>

15. An interview with a PSM professional at Marathon Oil about working in PSM:

Disclaimer

The creation of these resources has been (partially) funded by the ERASMUS+ grant program of the European Union under grant no. 2015-1-DE01-KA203-002174. Neither the European Commission nor the project's national funding agency DAAD are responsible for the content or liable for any losses or damage resulting of the use of these resources.

<https://www.youtube.com/watch?v=aiyl2o5OXxl>

16. Interviews with a variety of PSM professionals at Nestle about working in PSM:

<https://www.youtube.com/watch?v=0rrwn0f06b8>

17. An interview with a PSM professional at the Scottish Parliament about working in PSM:

[https://www.youtube.com/watch?v=ScFcVE9u\\_5w](https://www.youtube.com/watch?v=ScFcVE9u_5w)

## 5.4 Feature 3: PSM Consultancy

As Purchasing and Supply Management evolves as a profession, it is important to keep up to date with current and future trends that may effect how the activities are carried out. As this developmental process is ongoing, this feature identifies and discusses a range of links to consultancy and other news-led websites that continually promote developing trends in the field and provide a wealth of information that can be used to inform the thinking of those that are considering entering the profession and also those who may use such developments to meet their own organisational challenges.

*The information contained in these documents does not constitute legal or professional advice and Project PERFECT, and its member institutions, cannot accept any liability whatsoever for actions arising from its use. Project PERFECT and its member institutions cannot be held responsible for the contents of any pages, websites and other sources referenced by an external link.*

- CapGemini Consulting-

<https://www.capgemini.com/consulting/build-your-career/>

<https://www.capgemini.com/consulting/2013/09/procurements-role-in-managing-supply-network-structures/>

<https://www.capgemini.com/consulting/2017/10/the-future-of-supply-chain-management-a-trend-analysis/>

<https://www.capgemini.com/consulting/2018/02/how-cognitive-solutions-will-change-the-future-of-procurement-and-supply-chain/>

<https://www.capgemini.com/consulting/2018/06/cryptocurrencies-scaled-up-quickly-why-blockchain-in-scm-still-lacks-success/>

<https://consulting.ey.com/rise-challenge-transforming-digital-supply-chain/>

- IBM consulting

<https://www.ibm.com/uk-en/customer-engagement/supply-chain>

(webinars, research, articles can be found about recent issues, cognitive technology, predictive supply chain, impact of AI on supply chain visibility)



- Hillman- consulting (specialise also in SCM)

<https://www.hillman-consulting.co.uk>

- E&Y- consultancy (specialise in SCM)

<https://www.ey.com/uk/en/services/advisory/supply-chain-and-operations>

<https://consulting.ey.com/steps-evolving-procurement-cost-function-providing-competitive-advantage/>

<https://consulting.ey.com/rise-challenge-transforming-digital-supply-chain/>

<https://consulting.ey.com/operationalizing-ai-strategy-moves-strategy-action/>

<https://consulting.ey.com/supply-chain-making-leap-digital/>

## 6. References Whitepaper and MOOC development

Drake, M. 2012. Global Supply Chain Management. 1st ed. New York: Business Expert Press. In: Essex, A., Subramanian, N. & Gunasekaran, A., 2015. The relationship between supply chain manager capabilities and performance: empirical evidence. *Production Planning & Control*, 7287 (February), pp.1-14.

Baturay, M. H. (2015). An Overview of the World of MOOCs. *Procedia - Social and Behavioral Sciences* 174 , p. 427 – 433. Available at: <http://doi.org/10.1016/j.sbspro.2015.01.685>.

Baumert, B., May, D. (2013). Constructive Alignment als didaktisches Konzept. Lehre planen in den Ingenieur- und Geisteswissenschaften. Available at: [http://www.zhb.tu-dortmund.de/hd/media/publikationen/artikel/journal\\_HD\\_1-2\\_2013\\_artikel\\_baumert\\_may.pdf](http://www.zhb.tu-dortmund.de/hd/media/publikationen/artikel/journal_HD_1-2_2013_artikel_baumert_may.pdf).

Bharti, P. (2015): Social Pages, Accounts, Channels and Boards to Follow to Learn About Flipping the Classroom. Available at: <http://edtechreview.in/news/1928-social-pages-accounts-channels-and-boards-to-follow-to-learn-about-flipping-the-classroom>.

Biggs, J. 2014. Constructive alignment in university teaching. *HERDSA Review of Higher Education* Vol. 1, p.5-22. University of Hong Kong, Hong Kong & University of Tasmania, Australia. Available at <http://www.herdsa.org.au/herdsa-review-higher-education-vol-1/5-22>.

Chuang, I., Ho, A. (2016). HarvardX and MITx: Four Years of Open Online Courses. Fall 2012-Summer 2016 (December 23, 2016). Available at SSRN: <https://ssrn.com/abstract=2889436> or <http://dx.doi.org/10.2139/ssrn.2889436>.

Ebner, M., Höfler, E., Kopp, M. (2014). „How to MOOC? – A Pedagogical Guideline for practitioners“. The 10th International Scientific Conference eLearning and software for Education Bucharest, April 24-25. Available at: [https://www.researchgate.net/profile/Martin\\_Ebner2/publication/261949012\\_How\\_to\\_MOOC\\_-\\_A\\_pedagogical\\_guideline\\_for\\_practitioners/links/0c960535fe82fcc423000000/How-to-MOOC-A-pedagogical-guideline-for-practitioners.pdf](https://www.researchgate.net/profile/Martin_Ebner2/publication/261949012_How_to_MOOC_-_A_pedagogical_guideline_for_practitioners/links/0c960535fe82fcc423000000/How-to-MOOC-A-pedagogical-guideline-for-practitioners.pdf).

Edström, K., Soderholm, D., Wedel, M., Brodeur, D. (2007). Chapter 6 -Teaching and Learning. *Rethinking Engineering Education: The CDIO Approach* p.130-151. Available at: <https://link.springer.com/book/10.1007/978-0-387-38290-6>.

European Commission (2018). Erasmus+. Available at: [https://ec.europa.eu/programmes/erasmus-plus/about\\_en](https://ec.europa.eu/programmes/erasmus-plus/about_en).

Essex, A., Subramanian, N. & Gunasekaran, A. (2015). The relationship between supply chain manager capabilities and performance: empirical evidence, *Production Planning & Control*. Drake, M. (2012). *Global Supply Chain Management*. 1st ed. New York: Business Expert Press. 7287 (February), pp.198-211. Available at: <https://doi.org/10.1080/09537287.2015.1091519>.

FH Lübeck (2018). OnCampus. Available at: <https://www.oncampus.de/?lang=en>.

García-Peñalvo, F.J., Fidalgo-Blanco, Á., Sein-Echaluce, M.L. (2017). An adaptive hybrid MOOC model: Disrupting the MOOC concept in higher education. *Telematics and Informatics*. Available at: <http://dx.doi.org/10.1016/j.tele.2017.09.012>.

Grover, S., Franz, P., Schneider, E., & Pea, R. (2013). The MOOC as distributed intelligence: Dimensions of a framework & evaluation of MOOCs. Stanford Graduate School of Education. Available at: <https://web.stanford.edu/~shuchig/docs/Framework%20for%20Design%20&%20Evaluation%20of%20MOOCs-Grover-Franz-Schneider-Pea.pdf>.

Karnouskos, S. (2017). Massive open online courses (MOOCs) as an enabler for competent employees and innovation in industry. Computers in Industry 91, p. 1–10. Available at: <http://dx.doi.org/10.1016/j.compind.2017.05.001>.

Littlejohn, A., Hooda, N., Milligan, C., Mustain, P. (2016). Learning in MOOCs: Motivations and self-regulated learning in MOOCs. Internet and Higher Education 29, p.40–48. Available at: <http://dx.doi.org/10.1016/j.iheduc.2015.12.003>.

N.N. (2013). Major Players in the MOOC Universe. THE CHRONICLE OF HIGHER EDUCATION. Available at: <https://www.chronicle.com/article/Major-Players-in-the-MOOC/138817?cid=wc>.

N.N. (2015). MOOC-Plattformen im Vergleich. Available at: <http://www.bpb.de/lernen/digitale-bildung/werkstatt/211098/mooc-plattformen-im-vergleich>.

N.N. (2017). Technische Universität München. Mobilising Agro-Food Expertise Project. MOOC Documentation & Future Production Guide. Available at: [http://mafe.wzw.tum.de/fileadmin/user\\_upload/MOOC\\_Guide\\_Final.pdf](http://mafe.wzw.tum.de/fileadmin/user_upload/MOOC_Guide_Final.pdf).

PERFECT Consortium (2018). PERFECT MOOC landing page. Available at: <https://www.uncampus.de/weiterbildung/mooc/perfect?lang=en>.

PERFECT Consortium (2018). PERFECT website. Available at: <http://www.perfect.lfo.tu-dortmund.de/>.

PERFECT Consortium (2017). PERFEC - Intellectual Output 4. Available at: <http://www.perfect.lfo.tu-dortmund.de/intellectual-output-4-programme-specification-and-guidance-document/>.

Porter, S. (2015). To MOOC or Not to MOOC – How Can Online Learning Help to Build the Future of Higher Education? Chandos Publishing. Available at: <http://dx.doi.org/10.1016/B978-0-08-100048-9.00017-2>.

Pomerol, J.-C., Epelboin, Y., Thoury, C. (2015). MOOCs: Design, Use and Business Models. Focus Series. ISTE Ltd and John Wiley & Sons, Inc.

Rhoads, R. A. (2015): MOOCs, High Technology, and Higher Learning. Johns Hopkins University Press, Baltimore.

Van Weele, A.J. (2010). Purchasing and supply chain management: Analysis, strategy, planning and practice. 5th ed. Cengage Learning, London.

Van Weele, A.J., & Van Raaij, E.M. (2014). The future of purchasing and supply management research: About relevance and rigor. Journal of Supply Chain Management, 50(1), p. 56–72. Available at: <https://doi.org/10.1111/jscm.12042>.

Wang, X., So, Y., Cheung, S., Wong, E., Kwong, T. (2012). An exploration of Biggs' constructive alignment in course design and its impact on students' learning approaches. Assessment & Evaluation in Higher Education Volume 38, p.477-491. Available at: <https://www.tandfonline.com/doi/abs/10.1080/02602938.2012.658018>.

## 7. References MOOC content

### Sequence 0 – Introduction to Project PERFECT

Project results in detail

- [Intellectual Output 1](#)
- [Intellectual Output 2](#)
- [Intellectual Output 3](#)
- [Intellectual Output 4](#)
- [Intellectual Output 5](#)
- Intellectual Output 6: not finalised/not published yet

PERFECT project website

- <http://www.perfect.lfo.tu-dortmund.de/>

### Sequence 1 – Definition and Meaning of PSM

Crawshaw, Graham (2017): The top six challenges facing procurement <https://www.cips.org/supply-management/opinion/2017/september/the-top-six-challenges-facing-procurement-/>

Institute for Supply Management, ISM Methodology, available from <https://www.instituteforsupplymanagement.org>

Johnson P.F., Flynn, A.E. (2015). Purchasing and Supply Management. (15th ed.) New York: McGraw-Hill Education

Kummer, Grün, Jammerneegg (2013). Grundzüge der Beschaffung, Produktion und Logistik. (3rd ed.), München: Pearson.

Monczka, R.M., Handfield, R. B., Guinipero, L. C., Patterson, J. L., & Waters, D. (2010). Purchasing and supply chain management, London: Cengage Learning

Porter, M. E. (1985) Competitive Advantage, New York: The Free Press.

Tassabehji R., Moorhouse A. (2008). The changing role of procurement: Developing professional effectiveness. Journal of Purchasing & Supply Management 14, 55-68

Van Weele, A.J. (2010). Purchasing and supply chain management: Analysis, strategy, planning and practice. (5th ed.) London: Cengage Learning.

Van Weele, A.J. and Van Raaij, E.M., (2014). The future of purchasing and supply management research: About relevance and rigor. Journal of Supply Chain Management, 50 (1), pp. 56 – 72.

Van Weele, A.J., Eßig, M. (2017). Strategische Beschaffung: Grundlagen, Planung und Umsetzung eines integrierten Supply Management. (1st ed.) Wiesbaden: Springer Gabler

### Sequence 2 – PSM Organisation and Roles

Bals, L., Laine, J., & Mugurusi, G. (2018). Evolving Purchasing and Supply Organizations: A contingency model for structural alternatives. Journal of Purchasing and Supply Management, 24 (1), 41-58.

- Bals, Lydia/Turkulainen, Virpi (2017): Achieving Efficiency and Effectiveness in Purchasing and Supply Management: Organization Design and Outsourcing, *Journal of Purchasing & Supply Management*, Volume 23, Number 4, 256-267.
- BME (2012). Leitfaden Karriere im Einkauf, [http://www.bme.de/fileadmin/\\_horusdam/1992-web\\_2012\\_BME-Leitfaden\\_Karriere\\_im\\_Einkauf.pdf](http://www.bme.de/fileadmin/_horusdam/1992-web_2012_BME-Leitfaden_Karriere_im_Einkauf.pdf) (14.03.2018)
- Caniato, F., Caridi, M., Crippa, L., Moretto, A., 2012. Environmental sustainability in fashion supply chains: An exploratory case based research. *International Journal of Production Economics*, 135(2), 659–670.
- Giunipero, L.C., Monczka, R.M. (1997). Organizational Approaches to Managing International Sourcing. *International Journal of Physical Distribution and Logistics Management*, 27 (5/6), 321–336.
- Glock, C. H., & Hochrein, S. (2011). Purchasing Organization and Design: A Literature Review. *Business Research*, 4(2), 149-191.
- Iravani, S.M., Van Oyen, M.P., Sims, K.T. (2005). Structural flexibility: a new perspective on the design of manufacturing and service operations. *Management Sciences*, 51 (2), 151–166.
- Johnson, P.F., Klassen, R.D., Leenders, M.R., Fearon, H.E. (2002). Determinants of purchasing team usage in the supply chain. *Journal of Operations Management*, 20 (1), 77–89.
- Johnson, P.F., Leenders, M.R. (2001). The supply organizational structure dilemma. *Journal of Supply Chain Management*, 37 (2), 4–11.
- Johnson, P. F., Shafiq, A., Awaysheh, A., & Leenders, M. (2014). Supply organizations in North America: A 24 year perspective on roles and responsibilities 1987–2011. *Journal of Purchasing and Supply Management*, 20(2), 130-141.
- Johnston, W.J., Bonoma, T.V. (1981). The buying center: structure and interaction patterns. *Journal of Marketing*, 45 (3), 143–156.
- Kotteaku, A.G., Laios, L.G., Moschuris, S.J. (1995). The influence of product complexity on the purchasing structure. *Omega* 23 (1), 27–39.
- KPMG (2011). Procurement Reporting Alignment, <https://assets.kpmg.com/content/dam/kpmg/pdf/2014/11/procurement-reporting-alignment-O-201112.pdf> (14.03.2018)
- Narasimhan, R., & Carter, J. R. (1990). Organization, Communication and Co-ordination of International Sourcing. *International Marketing Review*, 7(2), 6-20.
- PSC [Procurement Strategy Council], 2013. Procurement Organizational Structure: Aggregate Trends, <http://www.executiveboard.com/exbd/procurement-operations/procurement/index.page>, Accessed October 8, 2013.
- PSC [Procurement Strategy Council], 2009. Fit for Purpose: Designing the right structure and learning to live with it, <http://www.executiveboard.com/exbd/procurement-operations/procurement/index.page>, Accessed October 22, 2010.
- Rozemeijer, F. (2000). Creating corporate advantage in purchasing. Universiteits Drukkerij: Technische Universiteit Eindhoven.

Rozemeijer, F., van Weele, A., Weggeman, M. (2003). Creating corporate advantage through purchasing: Toward a contingency model. *Journal of Supply Chain Management*, 39(1), 4–13.

Schiele, H. (2007). Supply-management maturity, cost savings and purchasing absorptive capacity: Testing the procurement–performance link. *Journal of Purchasing and Supply Management*, 13(4), 274–293.

Schneider, L., Wallenburg, C.M. (2013). 50 Years of research on organizing the purchasing function: Do we need any more? *Journal of Purchasing and Supply Management*, 19(3), 144–164.

Trautmann, G., Bals, L., Hartmann, E. (2009a). Global sourcing in integrated network structures: the case of hybrid purchasing organizations. *Journal of International Management*, 15 (2), 194–208.  
Trautmann, G., Turkulainen, V., Hartmann, E., Bals, L., 2009b. Integration in the global sourcing organization – an information processing perspective. *Journal of Supply Chain Management*, 45 (2), 57–74.

Trent, R.J. (2004). The use of organizational design features in purchasing and supply management. *Journal of Supply Chain Management*, 40 (3), 4–18.

Van Weele, A.J. (2014). *Purchasing and supply chain management: Analysis, strategy, planning and practice*, Cengage Learning, London.

### Sequence 3 – PSM Processes

Johnsen, T.E., Howard, M. and Miemczyk, J. (2014), *Purchasing and supply chain management: A sustainability perspective*, London & New York: Routledge.

Miemczyk, J., Johnsen, T.E., Macquet, M., 2012. Sustainable purchasing and supply management: a structured literature review of definitions and measures at the dyad, chain and network levels. *Supply Chain Management: An International Journal* 17 (5) 478-496.

Monczka, R.M., Handfield, R.B., Guinipero, L.C., Patterson, J.L. and Waters, D. (2016), *Purchasing & supply chain management*, Cengage Learning, London.

Van Weele, A.J. (2014), *Purchasing and supply chain management: Analysis, strategy, planning and practice*, Cengage Learning, London.

### Sequence 4 – Strategic Procurement

Kraljic, P., (1983). Purchasing must become supply management. *Harvard Business Review* 61 (5), 109–117.

Leenders, M., Johnson, P., Flynn, A. and Fearon, H. (2010). *Purchasing & Supply Management*. 14th Edition, McGraw-Hill, New York.

Monczka, R., Handfield, R., Giunipero, L., Patterson, J. and Waters, D. (2010). *Purchasing & Supply Chain Management*, 4th Edition, Cengage Learning, Hampshire.

Paul Steele, P. & Court, B. (1996), *Profitable Purchasing Strategies*, McGraw Hill, New York.

Porter, M. (1980). *Competitive strategy*. New York: Free Press.

### Sequence 5 – Offers, negotiations, contracts

e-Auctions in Sourcing web page: [http://www.esourcingwiki.com/index.php/E-Auctions\\_in\\_Sourcing](http://www.esourcingwiki.com/index.php/E-Auctions_in_Sourcing)

[https://news.ihsmarkit.com/press-release/design-supply-chain/falling-commodity-prices-give-buyers-using-cost-analysis-upper-han](https://news.ihsmarkit.com/press-release/design-supply-chain/falling-commodity-prices-give-buyers-using-cost-analysis-upper-hand)

Lysons, K., & Farrington, B. (2006). Purchasing and supply chain management. Pearson Education.

Riggs, D. A., & Robbins, S. L. (1998). The Executive's Guide to Supply Management Strategies. New York: American Management Association.

Van Weele, A. J. (2014) Purchasing & supply chain management – Analysis, strategy, planning and practice. 6.p. London, Cengage Learning.

#### Sequence 6 – Supplier relationship management

Mortensen, M.H. & Arlbjørn, J.S. (2012). Inter-organisational Supplier Development: The Case of Customer Attractiveness and Strategic Fit. Supply Chain Management: An International Journal, 17 (2), 152-171.

Neely, A., Richards, H., Mills, J., Platts, K. & Bourne, M. (1997). Designing performance measures: A structured approach. International Journal of Operations and Production Management, 17 (11), 1131-1152.

Schiele, H. (2012). Accessing Supplier Innovation By Being Their Preferred Customer. Research-technology Management, 55 (1), 44-50.

Schumacher, S., Schiele, H., Contzen, M. & Zachau, T. (2008). Die 3 Faktoren des Einkaufs: Einkauf und Lieferanten strategisch positionieren. Weinheim, Wiley-VCH.

Sundtoft Hald, K. & Ellegaard, C. (2011). Supplier evaluation processes: the shaping and reshaping of supplier performance. International Journal of Operations & Production Management, 31 (8), 888-910.

#### Sequence 7 – Procurement Technology & Digitalisation

A Blog By Oleg Shilovitsky Beyondplm.com

Bounfour, A. (2016). Digital Futures, Digital Transformation: From Lean Production to Acceluction. (1st ed.) New York: Springer.

BusinessDictionary (2018). <http://www.businessdictionary.com/definition/electronic-procurement-e-procurement.html>

Coinsutra <https://coinsutra.com/wp-content/uploads/2017/06/Smart-contracts-in-the-Internet-of-Things-delivery.png>

Demary, V., Engels, B., Röhl, K.-H., Rusche, C., 2016. Digitalisierung und Mittelstand. Eine Metastudie. Institut der deutschen Wirtschaft Köln Medien GmbH, Cologne.

Fraunhofer Institute for Material Flow and Logistics IML (2016). [https://www.iml.fraunhofer.de/en/fields\\_of\\_activity/einkauf\\_finanzen\\_supply\\_chain\\_management/services/procurement-engineering/procurement-4-0.html](https://www.iml.fraunhofer.de/en/fields_of_activity/einkauf_finanzen_supply_chain_management/services/procurement-engineering/procurement-4-0.html)

Schallmo, D., Rusnjak, A., 2017. Roadmap zur Digitalen Transformation von Geschäftsmodellen. In: Schallmo, D., Rusnjak, A., Anzengruber, J., Werani, T., Jünger, M. (Eds.). Digitale Transformation von Geschäftsmodellen. Grundlagen, Instrumente und Best Practices. Gabler, Wiesbaden



The Deloitte Global CPO Survey 2017

Unterschiedliche Planungsverfahren entlang der Planungshorizonte (Bildquelle: TU Dortmund eigene Bildquelle, Vorlesungsmaterial Unternehmenslogistik und Supply Chain Management, 2017)

Van Weele, A.J. (2010). Purchasing and supply chain management: Analysis, strategy, planning and practice. (5th ed.) London: Cengage Learning.

Wallmüller E. (2017). Praxiswissen Digitale Transformation: Den Wandel verstehen, Lösungen entwickeln, Wertschöpfung steigern (1st ed.) München: Hanser.

Weigel, U., Rücker, M. (2015). Praxisguide Strategischer Einkauf (2nd ed.) Wiesbaden: Springer Gabler

### Sequence 8 – Purchasing Controlling

Scheffler, P., Schiele, H. & Horn, P. (2016). How to measure competition? The role of price dispersion in B2B supply markets. International Journal of Procurement Management, 9 (5), 568-586.

Van Weele, A.J. (2018). Purchasing and supply chain management: Analysis, strategy, planning and practice. 7th edition, Cengage Learning Emea, London.

### Sequence 9 – Risk Management

GABATH, C. (2010): Risiko- und Krisenmanagement im Einkauf: Methoden zur aktiven Kostensenkung. Wiesbaden: Gabler

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION <https://www.iso.org/standard/51073.html>

MIT Forum for Supply Chain Innovation and PWC: Supply Chain and Risk Management (2012)

RiskNET (2013) Chancen-/Risiko-Radar 2013 – Status Quo einer risiko- und chancenorientierten Unternehmenssteuerung, Brannenburg

ROMEIKE, F. (2018): Risikomanagement. Wiesbaden: Gabler

SIEPERMANN, C.; VAHRENKAMP, R.; SIEPERMANN, M. (2015): Risikomanagement in Supply Chains: Gefahren abwehren, Chancen nutzen, Erfolg generieren. 2. Aufl., Berlin: E. Schmidt

UN PROCUREMENT PRACTITIONERS'S HANDBOOK (2012).  
<https://www.ungm.org/Areas/Public/pph/ch04s01.html#d0e8085>

## 8. Appendix 1 – MOOC Quiz Questions

### Sequence 1 - Definition and Meaning of PSM

Choose challenges facing procurement.

Risk Management, decreasing prices for raw materials, Innovation management, social irresponsibility, Stakeholder Engagement

Bring the purchasing functions in the right order.

Specification, Selecting, Contracting, Ordering, Expediting & Evaluation, Follow Up/Evaluation

Which functions of a company comprises Supply Chain Management?

PSM, Logistics, Distribution, After Sales, Human Resources, Accounting

Which definition is correct?

- *Purchasing and Supply Management* is the identification, acquisition, access, positioning, and management of resources and related capabilities that an organization needs or potentially needs in the attainment of its strategic objectives.”
- *Purchasing and Supply Management* comprises the management of external inputs – materials, services, capabilities and knowledge – that are required for building, running and maintaining the focal firm’s processes, while simultaneously managing the external and internal stakeholder network with an extended upstream supply network understanding.
- *Purchasing and Supply Management* is the part of the operations management discipline that examines three or more organizations involved in the upstream and downstream flows of products, services, finances and/or information from a source to a customer.”

Which flows have to be considered in Supply Chain Management?

Material, Finance, Information

### Sequence 2 - PSM Organisation and roles

Why does it matter how PSM is organised within an organisation?

- Depending on how PSM is structured, it contributes more or less to enhance profitability
- Changing goals beyond savings or operative efficiency, like innovation and sustainability, require organisational structures that help to fulfil new targets
- PSM is an internal service provider: The better it is organised according to internal needs, the better it can create benefit and deliver high standards of customer service
- PSM manages the external supply network: The better it is organised according to external needs, the better the quality and efficiency of managing the supply network
- The PSM organisation impacts how products are developed

What are the macro-level dimensions that dominate the organizational set-up?

Category, Purchasing prices, Business Unit/Customer, Geography, Size of the Company, Activity

What are the micro-level dimensions that dominate the organizational set-up?

Degree of de-/centralization, Degree of product innovation, Degree of formalization, Degree of specialization, Degree of participation/involvement, Degree of standardization

What are advantages of a centralized purchasing organisation?

Coordination/control of policies & procedures, Strategic focus & expertise, Proximity to major decision makers, Speed of response to BU needs, Knowledge of local suppliers, Higher leverage/lower purchasing cost

### Purchasing job roles...

... depend on the way purchasing is organised within the structure of the organisation and the size of the organisation

... Are the same in every company

... might evolve and change due to future changes

...depend on the qualification of employees

### Sequence 3 - PSM Processes

Which of the following variables affect the purchasing process?

Familiarity with the purchase situation (e.g. new buy, modified rebuy or straight rebuy)

Characteristics of the product or service (e.g. technical complexity)

Centralized or de-centralized purchasing organisation

Strategic importance of the purchase – the higher the importance, the higher general management involvement

IT infrastructure of the organization

Financial value of the purchase – the higher the volume, the higher general management involvement

What are the main goals of the process step “demand management”?

Negotiate a contract

Evaluate customer requirements and compare these to external supply market conditions

Evaluate risks

Select a supplier out of a pre-defined set of suppliers

Develop a sourcing strategy and a plan how to select suppliers

Which part of the purchasing process is described by the statement below:

“If someone now needs office supplies she/he creates a purchase request in the system, which is automatically running against the implemented contract conditions; depending on the volume approval is sought from managers (via the system), then the order is processed (often) automatically. When the requester confirms her/his receipt of the material or service (via the system), the invoice will be approved and payment initiated according to the agreed payment terms (all implemented in the system).”

Source-to-contract, Data & Systems, **Purchase-to-Pay**

Developments in Automation and Digitization are changing and will continue to change especially which part of the purchasing process in the near future?

**Purchase-to-Pay**, Source-to-contract, Strategic sourcing part

Please name the main drivers and main challenges for PSM with regard to sustainability:

Growing regulation, Shortage of graduates, Required transparency within multi-tier supply chains, Cooperation with suppliers in the entire supply network, Dialogue & communication with various stakeholders, The organization of the PSM department, Growing impact of customers and public

### Sequence 4 – Strategic Procurement

#### Disclaimer

The creation of these resources has been (partially) funded by the ERASMUS+ grant program of the European Union under grant no. 2015-1-DE01-KA203-002174. Neither the European Commission nor the project's national funding agency DAAD are responsible for the content or liable for any losses or damage resulting of the use of these resources.

For most organisations, in which quadrant of the Kraljic matrix would stationery normally sit? Leverage items, Bottleneck items, **Non-critical items**, Strategic items

If a buying organisation does not pay their invoices on time, does not have a good reputation in the marketplace, yet spends a relatively large amount of money with a supplier, in which quadrant of the Supplier Preferencing Model would they normally sit?

Nuisance, Core, Development, **Exploitable**

Which of the following is a primary goal of Purchasing & Supply Management activities?

**Ensure uninterrupted flows of raw materials, products and services at the lowest total cost.**

Make sure that no maverick or off contract spending happens within an organisation.

Aggressively negotiate with all suppliers to make sure that they make very little profit.

Develop specifications that meet their own departmental requirements.

Which of the following would more fully enable a Purchasing & Supply Management department to contribute real value to an organisation?

Reduce the number of purchase orders being placed with suppliers.

Limit the number of suppliers that an organisation does business with.

**Ensure that there is a link between the objectives of the PSM department and the overall organisation.**

Make sure that all specifications are as simple as possible.

Which of the following is a key benefit of performing a focused supply market analysis?

**Assist in developing effective Purchasing & Supply Management strategies for significant areas of spend.**

Results in the development of clear and concise specifications.

Reduces the quantity of purchase orders being placed with suppliers.

Develops the skills and competencies of Purchasing & Supply Management workers.

You work in the Purchasing & Supply Management department of a manufacturing organisation and have been asked to categorise a category of spend. Which of the following would be the most relevant first stage?

Action planning, **Purchase classification**, Market analysis, Strategic positioning.

Which of the following measures of Purchasing & Supply Management performance would most likely lead to an increase in delivery reliability?

The percentage of products being rejected for quality concerns.

The cost of the individual items being bought.

**The amount of materials shortages.**

The number of purchase orders being placed.

Which of the following measures of supplier performance measures would most likely lead to an increase in product quality?

Consumable purchasing rates are benchmarked for value for money.

Stocks maintained to appropriate levels to ensure continuity of service.

**Management systems and processes are clear and documented.**

Products are delivered within the agreed periods of availability.

A \_\_\_\_\_ relationship is characterised by limited exchange of information, lack of trust and short timescales?

Co-destiny, Strategic, Single sourced, **Adversarial**.

#### Sequence 5 - Offers, negotiations, contracts

Which is the right order and content of the events in a bidding process?

**Define specification, select supplier, contract agreement, ordering, expediting, evaluation**

Define specification, select supplier, request internal approval, ordering, expediting, evaluation

Define specification, select supplier, contract agreement, ordering, delay management, evaluation

Select supplier, define specification, ordering, contract agreement, expediting, evaluation

In evaluation phase, what document a purchaser needs?

**Supplier ranking scheme**

letter to a local politician

Press release

A short history of purchasing, written by academics

What is the meaning of RfQ?

**A request of quotation**

A request of quota

A request of quinea pigs

Invitation for second negotiation round

What is open tender?

**Suppliers are invited to compete for a contract advertised in the press or on the Internet**

The specification has been left open

The tender is open only for members of firm's pre-defined supplier community

The tender is open continuously for everybody over time

What is compliance criteria?

**Compliance criteria investigate if the supplier is compliant or not -It is not subjective, as it is basing on the requirements and specifications of the tender**

Compliance criteria examine the supplier's supplier friendliness towards buyer

Compliance criteria are used to send false salesman to jail

Compliance criteria investigate attitudes of the supplier's personnel

What is Total Cost of Ownership (TCO)?

**It includes all the costs that the company will incur over the lifetime of the product that is purchased**

It is about all supplier's costs related to the purchase

It includes the costs of purchase but not costs after 5 years

It includes the costs of purchase but not costs after 2 years.

#### Sequence 6 - ...

No Quizz available

#### Sequence 7 - ...

Check whether the mentioned technological enhancements are Enabler technologies or propositions.

Mobile Internet/ Apps (Enabler), E-Commerce (Proposition), Cloud Computing (Enabler), Smart Factory (Proposition), Big Data (Enabler), Demand Forecast (Proposition), Robotics (Enabler), Drones (Propositions)

Which two aspects can be assigned directly to eProcurement?

E-Sourcing, E-Ordering, E-Mobility, E-Commerce

Are Supply Chain Analytics a modern approach for Procurement?

True, False

Are Smart Contracts a modern approach for Procurement?

True, False

### Sequence 8 - ...

No Quizz available

### Sequence 9 – Risk Management in PSM

Are the following challenges reasons for an implementation of a systematic Risk Management?

Increasing global connectivity, fragmented supply chains, reduction of inventory

Match risk examples to the different types of risk sources.

SupplierRisks: Quality Risks and Insolvency Risks

MarketRisks: Price risks or changed behavior of customers

SupplyChainRisks: Delivery risks and Storage risks

Order the four core elements of Risk Management.

1. Risk identification
2. Risk Evaluation
3. Countermeasures
4. Risk Monitoring

Match the four Levels of risk Management to their meanings.

Level 1: ad hoc risk management

Level 2: Ability to absorb disruptions

Level 3: proactive risk management

Level 4: Fully flexible risk management

The Blockchain technology can help to mitigate risks, how?

The Blockchain can:

... increase Data availability.

... reduce transactions costs and faster settlements.

... decrease transparency and traceability.

## 9. Appendix 2 – Responses to Additional Activity Questions

### Suggested responses to additional activity questions:

1. Identify what different types of products or services that an organisation might buy?
  - Raw materials; materials which have undergone no transformation or a minimal transformation and which serve as the basis materials for a production process
  - Supplementary materials; materials that are not absorbed physically in the end product
  - Semi-manufactured products; products that have already been processed once or more times and that will be processed further at a later stage
  - Components; manufactured goods that will not undergo additional physical changes, but which will be incorporated in a system with which there is a functional relationship by joining it with other components
  - Finished products; all products which are purchased to be sold, after negligible added value, either together with other finished products and/or manufactured goods
  - Investment goods or capital equipment; products that are not consumed immediately, but which purchasing value is depreciated over a period of time
  - Maintenance, repair and operating materials (MRO items); materials, which are necessary for keeping the organization running in general and for the support activities in particular
  - Services; labor intensive, non-material activities that are executed by third parties on a contract basis

(Van Weele, 2010)

#### Types of service:

- Facility services
- Financial services
- Information and communication technology services
- Business organization services
- Research and development technical services
- Transportation and distribution services
- Marketing services

(OECD, 2010)

- Consumption services - used solely within buying org. (e.g. cleaning)
- Instrumental services - modify the way the buying org. carries out its primary activities and processes (e.g. management consultancy)
- Semi-manufactured services - an input into the buying org's customer processes (e.g. weather forecasts to determine a flight plan for an airline service)
- Component services – supplying org's service is "passed" on directly to the buying org's customers (e.g. luggage handling for an airline)

Wynstra et al (2006)

2. Identify what challenges might be found when buying services (rather than goods)?
  - Designing a specification for services that meets the needs of the organisation
  - How much supplier input is required and what effect this has on the balance of power in the relationship
  - May create a dynamic contracting process in which the exact requirements and how the relationship/contract will be governed may change across its lifecycle
  - How quality can be measured in the delivery of the service and how relevant key performance indicators that are going to lead to improvements in the service can be developed



- How the price for the service may be established and what type of mechanism will be in place to govern this

3. You are responsible for buying buttons from suppliers that your organisation uses to make jeans. Apart from the unit cost of the button itself, discuss what other costs might make up the total cost you have to incur?

The aim of this activity is to think about the need to focus on total cost rather than (just) the unit cost and here are some examples of different areas to consider in building up the total cost from the supplier:

- Freight (with possible increases in transportation costs due to oil price increases etc.)
- Inventories
- Lead time
- Quality
- Working capital
- Stock outs
- On time delivery
- Minimum Order Quantities (MOQs)
- Supply chain visibility
- Communication
- Currency hedging and fluctuations
- Invoicing errors
- Risk factors

4. What are some of the advantages and disadvantages an organisation might get by operating centralised or decentralised Purchasing & Supply Management activities?

Advantages - Centralisation

- Concentrated volume-
- Leveraging purchase volume
- Avoid duplication
- Specialization
- Lower transportation costs
- No competition within units
- Common supply base

Advantages - Decentralisation

- Closer knowledge of requirements
- Local sourcing
- Less bureaucracy

5. Identify some different types of specification?

Those that relate to things:

- Raw materials
- Components
- Assemblies
- Final products
- Systems
- Complex structures

Lysons & Farrington (2006)

Those that relate to actions:

- Functions (intended to do)
- Processes (how made)
- Procedures (how tested)
- Services
- Performance (should achieve)

Lysons & Farrington (2006)

6. You have been asked by your commercial director whether or not your organisation should outsource its manufacturing and to identify the benefits and risks of doing this. Discuss what these are.

Benefits

- Economies of scale
- Risk pooling
- Reduce capital investment
- Focus on core competency
- Increased flexibility

Risks

- Loss of competitive knowledge
- Conflicting objectives

7. Pick a standard set of commercial Terms and Conditions from the internet and review these and identify which areas you think might be too onerous for you to agree on if you were a buyer of their goods or services.

These will depend on the exact goods or services being bought and also the balance of power between your organisation and the supplier. However, areas to consider are as follows:

- Payment terms (what and when)
- Who owns any Intellectual Property
- How far confidentiality should be protected
- Levels of indemnity
- What happens if the contract is terminated
- What happens when the contract comes to an end
- What happens in the event of contract breach
- What liabilities should you agree to
- What remedies should be included
- How performance of the contract will be measured
- How to manage any changes in the contract if this arise
- What goods or services will be provided under the contract
- What responsibilities you as a buying organisation have
- What happens when a force majeure ('from a greater force') event occurs
- What jurisdiction should the contract be subject to
- How disputes may be resolved under the contract

8. You have been appointed as the new Purchasing Manager for a legal services organisation and your first task is to centralise the purchasing spend for stationary which is currently bought by whoever needs it whenever they want. You have a total spend of €50k per annum across "standard" items. Evaluate the supply market for this using the market summary template in the Strategic Procurement MOOC sequence.

This analysis will depend on a number of factors, such as the country of operation, current market conditions and economic climate. However, there is a significant amount of publicly available data and information that could be used, which would then be supported by networking with other buyers in other organisations, attending professional association events, going to relevant trade events/conferences and also from discussions with suppliers.

9. There are lots of different terms that relate to Purchasing & Supply Management, so how would you define the following:

- **Purchasing** - All activities for which the company receives an invoice from outside parties. “Managing the company’s external resources in such a way that the supply of all goods, services, capabilities and knowledge which are necessary for running, maintaining and managing the company’s primary and support activities is secured at the most favorable conditions”.
- **Procurement** - All activities that are required in order to get the product from the supplier to its final destination.
- **Sourcing** - Finding sources of supply, guaranteeing continuity in supply, ensuring alternative sources of supply and gathering knowledge of procurable resources.
- **Purchasing Management** - All activities that are required to manage supplier relationships.
- **Supply Chain Management** - The management of all activities, information, knowledge and financial resources associated with the flow and transformation of goods and services up from the raw materials suppliers, component suppliers and other suppliers in such a way that the expectations of the end users of the company are being met or surpassed.
- **Value Chain Management** - Challenging suppliers to improve the value proposition to the end-customers of the value chain. Usually the supplier works closely together with the customer’s technical and marketing staff to reduce the product’s overall costs and add new designs or features to the product which increase the value for the end-customer.

Van Weele (2010)

10. Identify some of the disadvantages associated with the use of formal competitive tendering.

- Price too low leading to later disputes
- Unsuitable for certain contracts – clarifying technical points may lead to cost reduction
- Too slow for emergencies
- No credit for past performance
- Clerically expensive – for open contracts
- Expensive for the contractor

Lysons & Farrington (2006)

11. Why is it not always appropriate to work towards a fully cooperative buyer-supplier relationship?

- Organisation’s culture may be more adversarial
- Long-term working is not appropriate – one-offs may be more appropriate
- Geographical or market issues might prevent closer working
- Time and resources may not be available
- Value of the spend may not warrant this
- There are lots of suppliers in the supply market available to supply the products or services

## 10. Appendix 3 – Negotiation Role-play Material



Massive Open Online Course

Purchasing & Supply Management Fundamentals

### NEGOTIATION ROLEPLAY ACTIVITY

1

Disclaimer  
The creation of these resources has been (partially) funded by the ERASMUS+ grant program of the European Union under grant no. 2015-1-DE01-KA203-002174. Neither the European Commission nor the project's national funding agency DAAD are responsible for the content or liable for any losses or damage resulting from the use of these resources.



#### Structure of the activity

- Negotiation concepts
- Confidential Briefings issued
  - Purchasing Team (Fruit Blast)
  - Selling Team (Euroglass)
- Negotiation preparation (20 minutes)
- Negotiation bargaining phase (30 minutes)
- Wrap-up & feedback (10 minutes)

2

Disclaimer  
The creation of these resources has been (partially) funded by the ERASMUS+ grant program of the European Union under grant no. 2015-1-DE01-KA203-002174. Neither the European Commission nor the project's national funding agency DAAD are responsible for the content or liable for any losses or damage resulting from the use of these resources.



Disclaimer

The creation of these resources has been (partially) funded by the ERASMUS+ grant program of the European Union under grant no. 2015-1-DE01-KA203-002174. Neither the European Commission nor the project's national funding agency DAAD are responsible for the content or liable for any losses or damage resulting from the use of these resources.

## What is "negotiation"

- Something that everyone does, almost daily...with family, friends and a range of people and organisations
- Takes place when two or more interdependent people, groups or organisations, with differing views, come together to attempt to reach agreement on an issue
- Is about getting the best possible deal in the best possible way
- The purpose is to secure an outcome as close as possible to your objectives
- The aim of the people you are negotiating with is to secure an outcome as close as possible to their objectives

5

Disclaimer  
The creation of these resources has been (partially) funded by the ERASMUS+ grant program of the European Union under grant no. 2015-1-DE01-KA203-002174. Neither the European Commission nor the project's national funding agency DAAD are responsible for the content or liable for any losses or damage resulting from the use of these resources.



## Negotiating Strategies

| Bargaining Characteristic | Distributive Characteristic             | Integrative Characteristic                 |
|---------------------------|---|--|
| Available resources       | Fixed amount of resources to be divided | Variable amount of resources to be divided |
| Primary motivations       | I win, you lose                         | I win, you win                             |
| Primary interests         | Opposed to each other                   | Convergent or congruent with each other    |
| Focus of relationships    | Short term                              | Long term                                  |

6

Disclaimer  
The creation of these resources has been (partially) funded by the ERASMUS+ grant program of the European Union under grant no. 2015-1-DE01-KA203-002174. Neither the European Commission nor the project's national funding agency DAAD are responsible for the content or liable for any losses or damage resulting from the use of these resources.



## Distributive strategy - Hardball tactics

- Good cop/bad cop



- Lowball/highball



- Bogey

"TIME TO PRETEND"

- The Nibble



Disclaimer  
The creation of these resources has been (partially) funded by the ERASMUS+ grant program of the European Union under grant no. 2015-1-DE01-KA203-002174. Neither the European Commission nor the project's national funding agency DAAD are responsible for the content or liable for any losses or damage resulting of the use of these resources.



## Dealing with Hardball tactics

- Ignore them
- Discuss them
- Respond in kind
- Co-opt the Other party (befriend them before they use such tactics)

Lewicki, R.J., Bruce, B. & Saunders, D.M. (2010)  
Essentials Of Negotiation, 2<sup>nd</sup> Ed. New York,  
USA: McGraw – Hill.

Disclaimer  
The creation of these resources has been (partially) funded by the ERASMUS+ grant program of the European Union under grant no. 2015-1-DE01-KA203-002174. Neither the European Commission nor the project's national funding agency DAAD are responsible for the content or liable for any losses or damage resulting of the use of these resources.



## Integrative strategy

- Separate people from the problem
- Focus on interests, not positions
  - Interests are the underlying concerns, needs, desires or fears that motivate a negotiator to take a particular position
- Invent options for mutual gains
- Insist on using objective criteria
- Remember that parties can view a negotiation situation differently

Disclaimer  
The creation of these resources has been (partially) funded by the ERASMUS+ grant program of the European Union under grant no. 2020-1-DE01-KA203-002174. Neither the European Commission nor the project's national funding agency DAAD are responsible for the content or liable for any losses or damage resulting from the use of these resources.



## Tips & Techniques

- Prepare fully by considering:
  - What are my objectives
  - Your bargaining range
  - Different roles (e.g. calculator, observer, lead negotiator)
  - What your opening position will be
  - Who talks first
  - When might you break for a team discussion
- Use open questioning techniques:
  - "what would happen if we...?"
  - "suppose we were to..."
  - "what would be the result of?"
  - "what would need to happen for you to be willing to negotiate over this?" (Dealing with stalemates)
- Use active listening (a good listener hears what is said AND hears what is meant)
- Imagine yourself as the other side to the negotiations and consider how they might view or react to your proposals and arguments
- There is no one perfect style of negotiating, as different people do it equally successfully in different styles and successful negotiators range from colourful charismatic performers to quiet, calm and methodical people
- Always get agreement in writing

Disclaimer  
The creation of these resources has been (partially) funded by the ERASMUS+ grant program of the European Union under grant no. 2020-1-DE01-KA203-002174. Neither the European Commission nor the project's national funding agency DAAD are responsible for the content or liable for any losses or damage resulting from the use of these resources.





## Negotiation Roleplay – Fruit Juice

- Negotiation concepts
- Confidential Briefings issued
  - Purchasing Team (Fruit Blast)
  - Selling Team (Euroglass)
- Negotiation preparation (20 minutes)
- Negotiation bargaining phase (20 minutes)
- Wrap-up & feedback (10 minutes)

Disclaimer  
The creation of these resources has been (partially) funded by the ERASMUS+ grant program of the European Union under grant no. 2015-1-DE01-KA203-002174. Neither the European Commission nor the project's national funding agency DAAD are responsible for the content or liable for any losses or damage resulting from the use of these resources.



### EuroGlass [Confidential Briefing – Selling Team]

You represent a glass manufacturing company called EuroGlass. Your company is a relatively new player in what is otherwise a well-established industry. EuroGlass makes a variety of glass products, but is primarily focussed on bottle manufacture for different types of drinks.

Currently, you are overstocked with a small 180-ml bottle sometimes used in the airline industry and have 20,000 of these bottles in stock because a distributor to the airline industry went bankrupt after you agreed to manufacture them. You have had these bottles for almost six months, and there does not seem to be any more orders from the airline industry forthcoming.

Fruit Blast Juice Company has made an inquiry about a smaller than normal bottle and you are about to meet with a purchasing team from Fruit Blast. You would really like to off load the 180-ml bottles, but would also like to develop a long-term relationship as there may be future sales opportunities. Here are some facts to help you with the negotiation:

1. It cost you £0.07 per bottle to manufacture the 20,000 180-ml bottles.
2. To make a worthwhile profit, you need to sell a bottle of this type for at least £0.10 per bottle.
3. A rush order generally is anything less than two weeks and you would normally charge an additional £0.03 per bottle for rush orders.

As you meet the representatives of Fruit Blast, keep in mind that your goal is to sell all 20,000 for the best price possible. Record your agreement with the Fruit Blast representatives on the form that follows. This must be signed by all members of both parties to the negotiation.

Disclaimer

The creation of these resources has been (partially) funded by the ERASMUS+ grant program of the European Union under grant no. 2015-1-DE01-KA203-002174. Neither the European Commission nor the project's national funding agency DAAD are responsible for the content or liable for any losses or damage resulting from the use of these resources.

NB a failure to reach an agreement will be regarded as *total* failure.

### **Fruit Blast Juice Company [Confidential Briefing – Purchasing Team]**

You are working on a launch event for the Fruit Blast Juice Company, a medium sized company that has been in the fruit juice business for more than twenty years. The company grows its own fruit and makes all varieties of fruit juice, specialising in orange juices. With the approaching holiday season, Fruit Blast is looking to capture a good slice of the market with an advertising blitz and a distinctive, 180-ml bottle [The normal size is 250-ml]. The advertising campaign has been months in the making, and this launch event is a key opportunity for promoting the new drink.

Unfortunately, the company that was to have supplied the 180-ml bottles, Murray Glass, is having staff problems and it is likely that a strike will at least slow, if not halt, production.

This is an unusual size for a fruit juice bottle, and the normal production lead-time can be 14-21 days. You need 10,000 of the 180-ml bottle within ten days to meet the event timetable, which is critical for the long term success of the business.

EuroGlass is a company that might be able to help you. It is a small operation but has been known to manufacture a variety of bottle sizes. As members of the Purchasing function at Fruit Blast, you have been asked to determine whether EuroGlass can meet your production needs and, if so, negotiate a deal. Here are some facts that might help you:

1. EuroGlass is a relatively new company, probably looking to build long-term business relationships.
2. You would have paid Murray Glass £0.07 per bottle.
3. To make a profit, you need to keep your costs below £0.09 per bottle.

You need 10,000 of the bottles delivered within ten days or less. In the circumstances you have been authorised to pay as much as £0.15 per bottle to get them in time. Record your agreement with the EuroGlass representatives on the form that follows. This must be signed by all members of both parties to the negotiation.

NB a failure to reach an agreement will be regarded as total failure.

### **Agreement Form**

Fruit Blast agrees to purchase.....180-ml bottles from EuroGlass, to be delivered within.....days of this agreement. The purchase price is.....

Other conditions of this purchase (where relevant) are as follows:

.....

#### **Disclaimer**

The creation of these resources has been (partially) funded by the ERASMUS+ grant program of the European Union under grant no. 2015-1-DE01-KA203-002174. Neither the European Commission nor the project's national funding agency DAAD are responsible for the content or liable for any losses or damage resulting of the use of these resources.

.....

.....

.....

.....

Signed by

.....

.....

.....

[Fruit Blast representatives]

Signed by

.....

.....

.....

[EuroGlass representatives]

Disclaimer

The creation of these resources has been (partially) funded by the ERASMUS+ grant program of the European Union under grant no. 2015-1-DE01-KA203-002174.  
Neither the European Commission nor the project's national funding agency DAAD are responsible for the content or liable for any losses or damage resulting of the use of these resources.