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Teaching Sustainable Purchasing and Supply Management Competences Using Critical Incidents

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Abstract. Many companies struggle with implementing sustainable purchasing and supply management (SPSM) practices within their supply chains. The question arises as to how to teach SPSM to develop individuals' SPSM-related competences. Addressing sustainability issues often requires dealing with ambiguous and dilemma-like situations, which this research translates into a problem-based learning (PBL) approach, specifically highlighting the value and potential of the critical incident technique (CIT). This paper proposes the use of critical incidents, developed in the context of an SPSM competence model, as a basis for SPSM education and training within a PBL approach. The paper underlines the value of utilizing critical incidents in teaching and provides examples of critical incidents aligned to specific SPSM competences. The paper contributes to the literature on competences in the field of Operations and Supply Chain Management (OSCM) and problem-based learning (PBL).

Keywords: sustainable purchasing and supply management, competences, critical incident technique, education.

1. Introduction

In recent years, regulatory activities to combat sustainability issues in value chains have increased. One of the first regulations that started in 2010 was the Dodd-Frank Wall Street Reform and Consumer Protection Act in the US (Dodd-Frank Wall Street Reform and Consumer Protection Act, 2017), followed for example by the UK Modern Slavery Act 2015 (UK Modern Slavery Act 2015), the French legislation on mandatory due diligence in 2017 and finally the EU conflict minerals law (European Commission 2017). Currently, the European community is discussing a new regulation towards a mandatory EU system for due diligence in supply chains (European Parliament Legislation 2021). In Germany, the supply chain due diligence law for

companies just entered into force in 2021. Also, the United Nations Sustainable Development Goals (SDGs) stress the importance of businesses reflecting sustainability values throughout their entire value chains: "The greatest social and environmental impact that your company has on the SDGs [Sustainable Development Goals] may be beyond the scope of the assets it owns or controls, with the greatest business opportunities being potentially further upstream or downstream in the value chain" (UNGC, GRI, WBSC 2015, p. 12). These examples highlight the call of the international community for businesses to take on responsibility and to contribute to sustainable development when managing their global supply chains.

Both from a private and public procurement perspective, the role of buyers can be highlighted as a factor for enabling sustainable supply chains, e.g. by modifying tenders and requests for proposals accordingly, and adapting approaches to supplier relationship management (Patchett 2020a, 2020b). Further, in the public sector, a new social value procurement model in the UK requires that "[a]ll government commercial teams will need to complete training courses on the new model and how to ensure contracts deliver maximum social value" (Patchett 2020b).

While previous sustainable purchasing and supply management (SPSM) research has shed light on how to manage sustainability at an organisational level (Foerstl, Kähkönen, Blome, & Goellner 2020; Johnsen, Miemczyk, & Howard 2017; Miemczyk, Johnsen, & Macquet 2012; Rijkkinen, Kauppi, & Salmi 2017; Schneider & Wallenburg 2012; van den Brink, Kleijn, Tukker, & Huisman 2019; Walker, Miemczyk, Johnsen, & Spencer 2012), there is much less research at the individual level, focusing on purchasing professionals. But in order to implement SPSM, individuals must be both qualified (i.e. have the right skills and competences) and be allowed to integrate sustainability into their daily work (Etse, McMurray, & Muenjohn 2021; Goebel, Reuter, Pibernik, Sichtmann, & Bals 2018; Schulze, Bals, & Johnsen 2019). Similarly, corporate initiatives around sustainability cannot be expected to be successful unless staff are empowered with the right skills and so it is important that staff are trained to develop sustainability-related competences (Baumgartner & Winter 2014).

While research has begun to shed light on the PSM and SPSM competences of modern purchasing professionals (Bals, Schulze, Kelly, & Stek 2019; Neessen, Caniëls, Vos, & Jong 2020; Schulze *et al.* 2019; Schulze & Bals 2020; Schütz, Kässer, Blome, & Foerstl 2020; Swobodnik, Stek, & Zunk 2018), there is little research relating to the teaching of SPSM competences within higher education and company settings, despite the fact that "[i]nitiatives such as the UN's Principles of Responsible Management Education (PRME), the Academy of Business in Society (ABIS) and CEEMAN, as well as several accreditation agencies, request that business schools integrate responsibility and sustainability into their curricula and co-

curricula activities" (Kolb, Fröhlich, & Schmidpeter 2017, p. 280f.). Further, in relation to operations and supply chain management (OSCM) classes, Pullman and Collins (2013) assert that sustainability should ideally be part of core OSCM classes, but that suitable pedagogical approaches so far remain underexplored.

Since sustainability-related challenges often come in ambiguous, dilemma-like and uncertain, risk-related situations (Knight, Meehan, Tapinos, Menzies, & Pfeiffer 2020; Roy, Schoenherr, & Charan 2020; Wannags & Gold 2020) and require application of a variety of competences simultaneously (Schulze *et al.* 2019; Schulze & Bals 2020), this paper proposes the adoption of a problem-based learning (PBL) approach using critical incidents (CIs) as a pedagogic approach to teaching SPSM competences. The paper discusses the strengths of such an approach and suggests a set of CIs that could be used to improve SPSM competence development in both higher education and in the workplace. Therefore, the main research questions addressed in this paper are: *1) Can critical incidents be considered as an appropriate pedagogical tool for developing SPSM competencies? 2) Which critical incidents could form a basis for competence development in the SPSM context?*

The paper considers the use of CIs as a basis for learning, presents insights on how to derive CIs appropriate to SPSM competence development, and highlights a set of critical incidents derived for the purpose of teaching SPSM competences.

2. Literature Review

2.1. Sustainability and SPSM Training

There are a number of previous studies that have underlined the importance of establishing a clear link to practice when training sustainability. Walker *et al.* (2012) designed, delivered and evaluated a virtual course for sustainable procurement in the public sector suggesting a combination of online learning and interactive, face-to-face learning phases, including work with practical examples, tailored to fit with the specific professional background of the training participants. Pullman and Collins (2013), dealing with the integration of sustainability into curricula for OSCM at business schools, includes sustainable purchasing as one topic amongst others. They suggest working with students to increase the awareness of risk in the upstream supply chain or foster the understanding of third-party certifications. Finally, although focusing on SSCM, Dubey and Gunasekaran (2015) elaborate on a professional training framework that should include hard and soft skills, combining theoretical inputs and case analysis.

The work of Kanashiro, Iizuka, Sousa, and Ferreira Dias (2020) discusses the teaching of sustainability within management education noting that it tends to be more successful when non-traditional teaching approaches are used. Active learning techniques are beneficial in this context as they prioritise student participation over the simple sharing of knowledge. They comment that an active learning pedagogy can be advantageous since "students tend to display higher levels of motivation and engagement as they are responsible for building and sharing the knowledge with their peers and instructors" (Kanashiro *et al.* 2020, p. 677).

Aragon-Correra, Marcus, Rivera, and Kenworthy (2017) give five recommendations for developing teaching resources for sustainability management. Their recommendations include that "Effective models for teaching sustainability require the inclusion of representative cases, vivid illustrations and experiential learning" (Aragon-Correra *et al.* 2017, p. 481).

Thus for SPSM and SSCM courses, the literature promotes the use of interactive and practically-oriented learning methods and this, in turn, strongly suggests taking an active learning approach when teaching SPSM competences.

2.2. Problem Based Learning

Within the literature, approaches to active learning are often grouped under the general heading of problem-based learning (PBL). PBL is "an instructional (and curricular) learner-centered approach that empowers learners to conduct research, integrate theory and practice, and apply knowledge and skills to develop a viable solution to a defined problem" (Savery 2006, p. 9). This approach is powerful as it provides benefits within the realm of pedagogy, which also extend into the world of work (Alvarstein & Johannesen 2001; Hung 2006).

Pedagogically, traditional transmission methods of teaching focus on the lower levels of Bloom's Taxonomy (i.e. knowledge, understanding and usage) whereas the PBL approach allows students to seek out knowledge, evaluate what is found and synthesise their results into the problem solution reflecting higher levels of Bloom's taxonomy (Bloom, Engelhart, Furst, Hill, & Krathwohl 1956). PBL is often conducted within a group setting so that students can gain advantages through shared ideas, knowledge, viewpoints and experiences.

In terms of the workplace, Alvarstein and Johannesen (2001) discuss how employability skills (i.e. teamworking, problem identification, problem solving, analysis etc.) are actively developed though the PBL process. Data acquisition, research, the application of personal learning and experience also