

# IPSERA/JÖNKÖPING 2022

## *BUILDING BRIDGES*

Jönköping, April 10th-13th, 2022

# BOOK OF ABSTRACTS

Programme:



JÖNKÖPING UNIVERSITY  
*School of Engineering*



JÖNKÖPING UNIVERSITY  
*Jönköping International  
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## Foreword by the Conference Chairs

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It is with a great honor we welcome you to the 31<sup>st</sup> International IPSERA Conference here in Jönköping, Sweden. It has been 21 years since the last IPSERA conference in Jönköping and two years since we last gathered in person to share our passion for the field of purchasing and supply chain management. Although the last two years have been extremely challenging for everyone all around the world, we would like to think we have also gained invaluable lessons and skills going through this unprecedented experience. One of them being the use of online platforms to provide learning opportunities in a form and shape that was not possible before. Consequently, this conference will be the very first IPSERA conference to be held in hybrid format, allowing professionals and academics to share their work both in person and online.

The theme of this conference is “building bridges” which is inspired by the overwhelming collaboration across the world in the last two years to overcome global challenges. We believe that *now* is the time to take a step further, move beyond borders, and collaborate at all levels to strengthen our supply chain. We have begun building bridges here at home where in a unique opportunity the School of Engineering (JTH) and Jönköping International Business School (JIBS) are co-hosting IPSERA 2022 at Jönköping University.

The interest in this year’s conference has been heartwarming. We received a total of 191 abstract and paper submissions from 29 countries. Thanks to the effort of our Scientific Committee members, all papers received a double-blind review which yielded 164 final papers to be included in the program. Among these final papers, 43 are competitive, 118 are working papers, and 3 are practitioner papers. These papers will be presented by 236 participants, 170 will be attending the conference in person and 66 will be joining us online. Among the 236 attendees, 93 are PhD students.

The theme of this conference has allowed practitioners and researchers to discuss their papers in the following wide range of purchasing and supply chain topics:

Topic	Nr of Papers
Sustainability	41
Purchasing and Supply strategy	38
Purchasing organisation, skills and competences	34
Sustainable procurement and CSR	31
Supplier Relationship Management	30
Public procurement	23
Supply chain risk and resilience	20
Supply chain transparency, visibility and traceability	18
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IoT and Industry 4.0: implications for Purchasing and Supply	16
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Purchasing and product innovation	14
Global sourcing and outsourcing issues	12
Triads and Networks	10
Purchasing and Supply Theory and Methodology Development	9
Purchasing and Supply: Big Data & Analytics	8
Customer attractiveness and preferred customers	7
Supplier evaluation and performance measurement	7
Agri-Food supply chain management	6
Backshoring/Reshoring/Nearshoring	6
Purchasing services	5
Supply chain finance	5
Creativity and Design Thinking in Purchasing and Supply Management	3
Fashion and Luxury supply chain management	3
Health care procurement	3
Negotiation and Contracting	3
Humanitarian procurement and supply chain management	2

We would like to thank all authors who submitted their work to this conference and patiently collaborated with us to organize the conference. We would like to extend our gratitude to the members of the editorial board and Scientific Committee for their continuous support in this past year. We hope for the 31<sup>st</sup> IPSERA conference to be the one for you to remember, possibly with the help of the social part of the program and our famous Swedish Fika!

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## **Paper 2 (CP) - To Circular procurement – a systematic literature review**

*Asad Ali Qazi (University of Rome Tor Vergata) and Andrea Appolloni (University of Rome Tor Vergata)*

The notion of circular economy (CE) and circular supply chain management (CSCM) have gained considerable attention recently among researchers, practitioners, and policymakers due to the enormous waste generation at all phases of a product life cycle. The incorporation of the CE into supply chain management is known as circular supply chain management (CSCM) similarly incorporation into procurement is known as circular procurement (CP). The objective of this study is to explore the barriers and enablers to adopt CP using systematic literature review. This review covers the available circular supply chain, sustainable, and green procurement literature. Total 100 articles published in journals covering the span of last one decade (2011 to July 2021) are selected. Present study envaulted the current definition and explanation of CP. Moreover, 55 barriers and enablers of CP are explored with respect to micro, meso and macro segments. Therefore, this examination will prop up new opportunities for researchers to figure out the novel dimensions in the field of CP.

## **Paper 4 (WP) - A model to manage the national strategic reserve for critical intermediate and final commodities**

*Aiman Fadil (Dublin City University), Paul Davis (Dublin City University) and John Geraghty (Dublin City University)*

In recent years, the idea of “strategic reserve” has become a prominent public policy concern. COVID-19, Brexit, war and some other similar cases will leave/have left us with a lesson that has had an impact on the chain of supply in almost all product types. However, countries have now recognized that some goods cannot be in a situation of uncertainty. This research covers the gap in developing the purchasing portfolio model from an organizational level to a national / country level. It investigates the relationship between two factors: the casual factor supply risk (independent factor); and the impacted (dependent factors) political, economic, sociocultural, and technological (PEST) factors in terms of classifying critical intermediate and final commodities.

## **Paper 6 (WP) - Batteries for electric vehicles: an investigation into resource scarcity and supply chain structure**

*Carlos Mena (Portland State University).*

This paper aims to develop a conceptual model of resource scarcity in the context of eclectic vehicle (EV) manufacturing, specifically the dependencies associated with the production of batteries. The model, grounded on resource dependency theory (RDT), identifies key factors influencing the dependence of EV manufacturers on suppliers of scarce natural resources and outlines the strategies buying firms can deploy to mitigate their dependence. The research presents a set of propositions concerning the relationships between EV manufacturers and suppliers of scarce natural resources and how to mitigate natural resource dependence. These propositions have theoretical and practical value.

## **Paper 7 (WP) - Creating BSO supplier engagement through third party efforts**

*Susanne Åberg (Uppsala University, Dept. of Business Studies) and Anna Bengtson (Uppsala University, Dept. of Business Studies).*

There is a belief among firms that delivering to big-science organisations (BSOs) is especially demanding and any engagement needs to be well thought through. Customers of this type, with specific requirements, or customers that are perceived as out-of-the-ordinary by their suppliers, may therefore need to take part in activities to create supplier engagement either alone or through the support of third parties. The aim of the paper is to discuss and analyse how BSO supplier engagement can be increased through various efforts towards potential suppliers. Specifically, the paper deals with the construction of a BSO, ESS (the European Spallation Source) outside of Lund, and a number of supplier engagement efforts carried out by different actors to help firms in (primarily) the Scania region of southern Sweden to become successful suppliers to ESS. The paper is based on interviews with various actors involved in these endeavours, as well as on secondary data concerning the endeavours.

**Paper 8 (WP) - Sustainability performance of digitalized manufacturing in Covid era: a comparative study between developed and developing economies.**

*Md Shah Newaz (Tor Vergata University of Rome), Andrea Appolloni (Tor Vergata University of Rome) and Mina Hemmati (University of Malaya).*

Purpose: The study aims to identify the extent to which industry 4.0 adoption impacts the sustainability manufacturing performance of the manufacturing industry, focusing on the comparative analysis between developed and developing economies amid Covid. Design/methodology: Using the cross-sectional design the study proposes a conceptual model formed on seminal theories and literature. For data collection, a purposive sampling method is used where 154 Malaysian (developing) and Australian (developed) manufacturing firms' data are collected. Partial least square-based structural equation modelling is employed to test the hypothesis and proposed framework. Findings: This study finds that adoption of Industry 4.0 technologies does not directly influence the sustainability performance of the manufacturing industry, rather, the trajectories of sustainable manufacturing (efficiency, flexibility, automation and big data & granularity) fully mediate the relationship between IR4.0 and sustainability manufacturing performance. The comparative analysis between Australian and Malaysian firms shows that no significant difference is found amid the relationships or the framework, the differences between developed and developing countries are not significant in this mechanism. [... (see paper for full abstract)]

**Paper 9 (CP) - Paper Leveraging power in a network to secure a supply in shortage: Insights from the semi-conductor crisis at an automotive manufacturer**

*Ala Arvidsson (Chalmers University of Technology), Jose Garcia (Scania AB), Anna Erken (Chalmers University of Technology) and Moa Josefsson (Chalmers University of Technology).*

Many industries including the automotive have been facing a supply crisis for semiconductors and chips in recent years. In this study, we aim to investigate how the purchasing strategies practiced by the OEMs can affect their purchasing position within their supply networks in order to secure supply. A case study of an initiative by an OEM to manage the semi-conductor supply crisis was conducted. Data was collected using a mix of participatory observations and interviews to get the insights needed. The study builds on the antecedents of Resource Dependence Theory. Empirical findings revealed the importance of interconnections and customer attractiveness.

**Paper 10 (WP) - Startup-supplier relationships. How startups attract large suppliers and compete for preferential treatment**

*Juliano Tessaro (University of Twente), Rainer Harms (University of Twente) and Holger Schiele (University of Twente).*

Startups as buyers face challenges appearing as volatile, small, and unattractive to suppliers. Furthermore, startups compete against mature buying firms for suppliers' resources. As a result, startups may not be able to get preferential treatment from suppliers. This paper investigates startups' strategies to attract large suppliers, initiate a business relationship, and receive preferential treatment from suppliers. World café data from 15 startup buyers and suppliers from six countries shows that seven factors explain startup attractiveness and when startups gain preferred customer status: strategic compatibility, innovation potential, startup network, credible growth ambitions, profitability, memorable experiences, and reverse-marketing-oriented purchaser.

#### **Paper 11 (WP) - Cost Driver Uncertainty and Price Risk in the Supply Chain: A Research Agenda**

*George Zsidisin (University of Missouri - St. Louis), Barbara Gaudenzi (University of Verona) and Roberta Pellegrino (Polytechnic University of Bari).*

Uncertainty and risk is a fact of managing supply chains today. There are numerous sources of risk that can detrimentally affect firm and supply chain performance, and in many ways. However, one common factor of risk manifestation concerns financial losses. This paper is the first step of a wider research program aimed at studying the uncertainty associated with cost drivers in the supply chain. The scope of the paper is to – using a systematic literature review (SLR) approach – how recent studies address the frequency and severity of SC disruptive events linked to external environment trends, according to a new interpretation of the PESTLE framework, and how such events may impact on SCs' cost drivers and loss exposure of organizations' and SCs. This study may provide helpful managerial insights and future research directions in order to develop empirical investigations.

#### **Paper 12 (WP) - Literature review on gender related research in purchasing and supply management**

*Gyöngyi Vörösmarty (Corvinus University of Budapest), Tünde Tátrai (Corvinus University of Budapest) and Dybia Rathi (Corvinus University of Budapest).*

Gender related issues are addressed in purchasing and supply management literature for decades. At the same time, the approach and problems of the subject vary over time and across cultures. The aim of this paper is to give an overview of the main research focuses of the topic, to present the directions of change and to identify research gaps. To this end, searches were conducted using the Scopus, Web of Science and Google Scholar databases. We identified 42 papers published in scientific journals in English language that touch on the topics of purchasing and supply management and gender, which will be analysed in our literature review. Five focal points were identified: studies a) focusing on negotiations between man and women (sales and purchasing side), b) describing women's disadvantaged position within the organisation (glass ceiling, glass wall, etc.), c) examining the impact of group diversity, d) identifying differences in personal characteristics/attitudes and e) the use of tools to promote supplier diversity and promote social responsibility. The frequency shows that there is a change in the focus of the research, and that the vocabulary changes over the last decades. While in the 1990s the focus was more on negotiations between sellers and buyers of different genders, in recent years there has been a slight increase in the number of publications, which tend to focus on the other identified focal points [... (see paper for full abstract)].

### **Paper 13 (CP) - Supplier development and social capital as building blocks of preferred customer status**

*Aki Jääskeläinen (Tampere University), Frederik Vos (University of Twente) and Katrina Lintukangas (LUT University).*

This study analyzes how social capital supports in achieving a preferred customer status through supplier satisfaction. Additionally, the impact of a buyer's supplier development efforts on social capital and supplier satisfaction is assessed. Survey receiving 482 supplier responses is utilized and analyzed with partial least squares (PLS) technique and group comparisons. The study contributes to the literature through using the social capital theory to explain the path towards a preferred customer status. In addition, it tests how the knowledge on the antecedents of preferred customer status applies in different contexts, i.e. in the relationships with both manufacturing and services suppliers.

### **Paper 14 (WP) - Unravelling the interface between procurement and outsourcing**

*Björn Oskarsson (Linköping university) and Uni Sallnäs (Linköping university).*

Although there is a strong relation between procurement and outsourcing, there is an unclear use of terminology in the literature. The purpose is therefore to unravel the interface between outsourcing and procurement and clarify how these two concepts relate to each other. The discussion suggests that outsourcing in much of the literature includes more than the definition of outsourcing allows. Leaning against accepted definitions of outsourcing and procurement, we present a description of the interface between these two concepts, thereby clarifying in what sense they overlap, and in which parts the two differ from each other.

### **Paper 15 (PP) - DIGITAL SUPPLY CHAIN TWIN – TECHNICAL REQUIREMENTS, APPLICATION AREAS & POTENTIALS**

*Simon Zarnitz (Technical University of Berlin), Frank Straube (Technical University of Berlin) and Florian Schupp (Schaeffler AG).*

Digital Logistics Twins or Digital Supply Chain Twins (DSCT) are gaining importance in both science and business. The use of Digital Twin concept is a logical step towards overcoming the complexity of international logistics chains. Sector experts from industry refer the DSCT as one of the most disruptive technologies in Logistics and Supply Chain Management (LSCM). Nevertheless, there seems to be no standard understanding of the term in the scientific literature. Which can be justified by the fact that the wide field of LSCM offer a variety of application areas and use cases for the DSCT. The aim of this working paper is to present the results on a consistent definition of DSCTs. Furthermore, a systematic literature review (SLR) and conceptual clarification was used to identify scopes, five main application areas and their respective benefits in LSCM. Lastly, within a case-study at an automotive supplier, the data-related requirements for setting up a DSCT were developed and described.

### **Paper 16 (WP) - Being a female leader in modern logistics**

*Christoph Küffner (Chair of Supply Chain Management at the Friedrich-Alexander University Erlangen-Nuremberg), Henrik Bathke (Chair of Supply Chain Management at the Friedrich-Alexander University Erlangen-Nuremberg) and Prof. Dr.-Ing. Evi Hartmann (Chair of Supply Chain Management at the Friedrich-Alexander University Erlangen-Nuremberg).*

Modern supply chains are interdependent and require a good execution at all levels to achieve business success. One uncertainty increasingly impacting SCs is the ability of the logistics industry to execute necessary shipping requirements. The phenomena of a limited workforce, constantly growing transport needs, and delays in business transformation regarding trends such as digitalization and



green logistics practices are putting pressure on the industry. Facing these challenges requires large investments, especially in human capital. However, it seems surprising that the logistics industry still fails to access the labour market's full potential as the industry is still male-dominated and women, especially in managerial positions, do not perceive the industry as an interesting workplace. Therefore, the purpose of our study is to examine the industry's lack of attractiveness for female leaders and how logistics companies may increase attractiveness for female leaders. To explore these research questions, the social identity theory and the social identity theory of leadership are used as a theoretical framework and semi-structured expert interviews were conducted with experienced female logistics leaders. The study reveals that especially the companies themselves and the industry can influence the attractiveness for female leaders. [... (see paper for full abstract)]

#### **Paper 17 (WP) - Investigating the determinants of supplier payment times: evidence from the UK**

*Anthony Flynn (Cardiff University).*

The time taken to pay suppliers is an issue of critical importance in supply chains and the wider economy. The level of public scrutiny it receives is not matched by conceptualising and empirical evidence in the academic field, however. The purpose of this paper is to address the gap in knowledge by testing a predictive model of supplier payment times using data from large UK firms. The results show that payment codes and profitability shorten payment times. Supply chain finance (SCF) and the manufacturing sector have the opposite effect. Contrary to expectations, e-invoicing does not speed up payment while the onset of the pandemic had no adverse effect on the length of time it took buyers to pay suppliers.

#### **Paper 18 (WP) - Objectives and potentials of AI in PSM: an investigation with expert interviews**

*Dennis Meyer (TU Dortmund University) and Michael Henke (TU Dortmund University).*

This paper examines use cases, objectives and potentials of AI in PSM. For this purpose, a literature analysis is first conducted and followed by interviews with 17 PSM and technology experts. The interview results confirm the objectives and potentials from the literature and expand them with details that increase the understanding. In addition, helpful AI use cases are described in detail and comprehensively and serve as a data basis for further research and as a source of ideas for practice.

#### **Paper 19 (CP) - Disruptions due to COVID-19 – the ultimate stress test for purchasing professionals**

*Sierd Feenstra (Open university of the Netherlands), Cees J. Gelderman (Open university of the Netherlands) and Janjaap Semeijn (Open university of the Netherlands).*

During the COVID-19 pandemic many companies were struggling to maintain an uninterrupted flow of goods and services. Based on expert interviews, we investigate the effectiveness of various solutions and strategies to counter different supply chain disruptions. At the beginning of the pandemic proactive measures such as stock buffering and dual sourcing proved to be useful in case of upstream disruptions (supply shortages), due to closure or reduced production or distribution. A counterintuitive finding is that reactive measures appear more effective than proactive measures in case of downstream disruptions (demand pikes), due to sudden shifts of demand.

#### **Paper 20 (CP) – Blockchain technology in supply chains – improving end-to-end business performance**

*Niels Smit (Open University Netherlands), Janjaap Semeijn (Open University Netherlands) and Cees J. Gelderman (Open University Netherlands).*

Blockchain technology (BCT) is a relatively new technological development, promising strong gains in the areas of product traceability and visibility, coordination, governance, and efficiency of supply chains. The purpose of this study is to understand the impact of BCT on these performance measures. Hypotheses were tested with survey data from 119 supply chain professionals from Northern American SMEs. The results confirm the positive effects of BCT, especially product traceability and supply chain governance appeared to be critical drivers of supply chain performance. We also investigated the varying effects on three dimensions of supply chain performance: financial performance, customer satisfaction, and supplier performance.

**Parper 21 (CP) - Critical incidents and supplier satisfaction – investigating tipping points in seller's markets**

*Cees J. Gelderman (Open university of the Netherlands), Jordy Petersen (Open university of the Netherlands) and Kim Janssens (Open university of the Netherlands).*

Supplier satisfaction is of critical importance for companies, particularly in case of seller's markets. Despite the growing number of studies, processes of how antecedents lead to supplier (dis)satisfaction are not well understood. Antecedents are predominantly investigated by cross-sectional survey data, giving little insights into micro-processes and actual interaction between buyers and suppliers. We explore the tipping points for a radical shift in supplier (dis)satisfaction. The Critical Incident Technique (CIT) was employed to interview supplier representatives, resulting in rich descriptions of 29 critical incidents, extracting first-hand information. We identified triggers and linked them to consequences for the buyer-supplier relationship.

**Paper 22 (WP) - A systematic literature review of modern slavery risk management in the global supply chains: State of the art and research opportunities**

*Vanja Strand (Cardiff University), Maryam Lotfi (Cardiff University), Anthony Flynn (Cardiff University) and Helen Walker (Cardiff University).*

The aim of this paper is to synthesise key elements of modern slavery in business supply chains by identifying the state of the art in academic literature through a systematic literature review. This paper will explain the search strategy and present initial findings from the content analysis.

**Paper 23 (WP) - Customer attractiveness in public procurement**

*Aki Jääskeläinen (Tampere University), Elina Karttunen (LUT University), Katrina Lintukangas (LUT University), Frederik Vos (University of Twente) and Daphne de Vos (University of Twente).*

The aim of this study is to examine public customer and tender attractiveness. Tender attractiveness and customer attractiveness are specified as distinct but related concepts. By examining 5 public procurement cases in Finland and Netherlands from the perspective of suppliers it was found that customer attractiveness factors are typically long-term and future growth oriented whereas tender attractiveness consist of mainly technical procedural factors. To increase tender attractiveness public buyers should provide guidelines and enough time to respond to the tender. The more complex the offering, the more suppliers value flexibility and interaction during the tendering process which adds customer attractiveness.

**Paper 25 (WP) - Perspectives on AI in Public Procurement - work in progress paper for IPSERA 2022**

*Per Andersson (Stockholm School of Economics), Christopher Rosenqvist (Stockholm School of Economics) and Mikaela Trygg (Royal Institute of Technology).*

The economic potential in introducing AI into the Swedish Public administration which is in focus of this study, is substantial and it is calculated to be approximately 140B SEK per year. This is corresponding to 6 % of the current public expenditure. This study analyzes the challenges of an application of AI technology in public procurement in Sweden. AI is an umbrella term for many different technologies and can be divided into three chief categories: Artificial General Intelligence (AG), Artificial Super Intelligence (ASI), and Artificial Narrow Intelligence (ANI). ANI must be programmed by humans and normally solves one particular problem. This study delimits the focus to a particular ANI, a branch of AI called NLP, Natural Language Processing. The empirical research question that has been constructed for this study was: What are the key challenges of introducing AI technologies in public procurement and what are the implications for implementation? The purpose of the study is to develop knowledge on AI in public procurement with the goal to make a knowledge contribution to public procurement research and the adoption of new AI based digital technologies in purchasing in general. This is to fill the gap of research of AI in the public sector (identified by e.g. Wirtz, Weyerer & Geyer 2019). [... (see paper for full abstract)]

**Paper 26 (CP) - Hardware start-up supply chains: Navigating through hell thanks to entrepreneurial ecosystems**

*Hervé Legenvre (eipm), Neale O Connor (Monash University) and Agyar Hardjasudjana (Monash University).*

Our investigation of hardware start-ups brings to attention a theoretical puzzle. While hardware start-ups face uncertain economic and technical conditions, they don't possess the strategic supply chains capabilities, e.g., agile, adaptable, and aligned supply chains described by the literature. They navigate through the supply chain hell without the resources large organizations have at hand. We study the supply chain problems and solutions experienced by 16 hardware start-ups in Asia. We describe how hardware start-ups leverage the knowledge and experience available within local entrepreneurial ecosystems to access, integrate, and monitor productive resources available in Marshallian industrial districts.

**Paper 27 (WP) - Development of a morphological box to illustrate the possibilities for sustainable procurement in electronic marketplaces**

*Michael Fiolka (TU Dortmund University), Christian Schreiner (TU Dortmund University), Matthias Brüggemolte (TU Dortmund University), Tim Vinnemann (TU Dortmund University) and Michael Henke (TU Dortmund University).*

Our investigation of hardware start-ups brings to attention a theoretical puzzle. While hardware start-ups face uncertain economic and technical conditions, they don't possess the strategic supply chains capabilities, e.g., agile, adaptable, and aligned supply chains described by the literature. They navigate through the supply chain hell without the resources large organizations have at hand. We study the supply chain problems and solutions experienced by 16 hardware start-ups in Asia. We describe how hardware start-ups leverage the knowledge and experience available within local entrepreneurial ecosystems to access, integrate, and monitor productive resources available in Marshallian industrial districts.

**Paper 28 (CP) - PURCHASING, VECTOR OF PROCESS INNOVATION? AN ANALYSIS OF THE BUYERS' COMPETENCIES**

*Laurence Viale (EM strasbourg) and Salomé Ruel (Kedge Business School).*

As the pandemic crisis has accelerated change and innovation in organizations, buyers appear to have a role to play in supporting it, in that they have the competencies to mobilize external resources, namely suppliers. This study focuses on process innovations because they often have a significant impact on the product in terms of lead time, quality, and cost - significant advantages in times of crisis. However, they are very little studied in Purchasing and Supply Management (PSM) research. So, using the competency-based view, this study aims at identifying the competencies needed by buyers to support process innovations. Based on 11 semi-structured interviews with buyers, the results identify that the technical competencies are those that best support this type of innovation.

#### **Paper 29 (CP) - Crossing public-private boundaries in the early interaction of public procurement**

*Anne-Maria Holma (University of Vaasa, School of Management) and Outi Keränen (University of Oulu, Department of Marketing, Management and International Business).*

Public-private collaboration is critical to take an advantage of supplier's resources for the public good. However, crossing organizational knowledge boundaries, required in public-private collaboration, has remained under-researched. Thus, we examine how boundary work practices can be employed to cross organizational knowledge boundaries among public and private actors in the early interaction of the public procurement process. We apply boundary work literature and explore two public service procurements to show how boundary work unfolds through the interplay of diverse boundary work practices and discourse to cross public-private boundaries, gaining mutual understanding of the needed public service and meeting the end-user's requirements.

#### **Paper 30 (WP) - Capacity building for strategic public procurement**

*Oishee Kundu (Y Lab, Cardiff University), Jane Lynch (Cardiff University), Emyr Williams (Nesta UK), Kelly Buckley (Cardiff University), Wendy Hardyman (Cardiff University), Muhammad Irfan (Cardiff University), Owen Wilce (Monmouthshire County Council), James Lewis (Y Lab), Owain Hanme (Cardiff University) and Kevin Morgan (Cardiff University).*

This exploratory action research evaluates an innovative approach to transform public service delivery at local government level, particularly addressing capacity issues in public procurement. The executive programme does so by targeting non-procurement professionals and discourses the challenges and purpose of innovative and strategic public procurement as a strategic lever to deliver sustainable policies. Qualitative data is collected weekly from participants during workshops to understand their perceptions of procurement. The contributions of this study build on research gaps and are practical in their application, offering new and unique means of addressing Grand Challenges such as decarbonization and building supportive communities.

#### **Paper 31 (CP) - Integration and isolation as governance strategies in complex client-vendor relationships**

*Ala Arvidsson (Chalmers University of Technology), Henrik Agndal (School of Business of Gothenburg University) and Ulf Nilsson (Sabanci Business School).*

This paper studies how organizations manage governance challenges arising from complexity in client-vendor relationships. Such governance challenges arise when a client organization employs potentially contradicting governance mechanisms in relation to multiple types of activities at the operational level and multiple contracts and categories at the corporate level involving the same vendor.



### **Paper 33 (WP) - Purchasing Team Innovation climates as antecedent of EPI**

*Romarc Servajean-Hilst (Kedge Business School).*

Performing open innovation capacity, the antecedents of this involvement are less known, and especially the work environment dimension. This study investigates the state of the innovation climate in Purchasing departments and its influence on their level of involvement in innovation projects. Based on the evaluation of 300 departments, we identified 4 Purchasing Team Innovation Environments that differ in their increasing ability to influence the level of EPI.

### **Paper 35 (WP) - The influence of funding and reimbursement on healthcare product innovation: a comparative case study.**

*Sanne Allers (Erasmus University Rotterdam).*

Healthcare systems are facing crises, from unsustainable cost pressures to aging populations and shortages of health workers (Garber et al., 2014). Innovative technologies are expected to help create more sustainable healthcare systems (Omachonu & Einspruch, 2010; Varkey et al., 2008). However, on the journey from promising idea to adopted reality many hurdles are experienced. The ways in which innovations are being financed, e.g., via procurement or reimbursement, may well be one such hurdle (Freedman, 2012; Miller & Lehoux, 2020). For innovative technologies to be adopted, it is essential we gain a better understanding of the manner in which innovations are funded and purchased in practice. We aim to uncover the ways in which innovative technologies are financed throughout the process from development to translation to implementation, and what hurdles are experienced in practice.

### **Paper 36 (WP) - Exploring the future of the last mile – a Delphi study on autonomous delivery concepts in 2040**

*Finn Feldmann (Friedrich-Alexander-Universität Erlangen-Nürnberg), Henrik Bathke (Friedrich-Alexander-Universität Erlangen-Nürnberg) and Evi Hartmann (Friedrich-Alexander-Universität Erlangen-Nürnberg).*

Due to increasing customer expectations, procurement of logistics services represents a decisive determinant for e-retailers. Their suppliers have to implement innovative technologies, such as autonomous last-mile delivery (ALMD), to stay competitive. Whereas scholars agree on a future large-scale adoption, the speed of diffusion remains unexplored. Therefore, this study applied a Delphi survey in which twelve provoking projections were developed and evaluated by 53 experts. The findings illustrate a timeline for ALMD large-scale adoption revealing several future research opportunities. Considering practitioners, scenario-based actions for purchasing firms to prepare for mass adoption are recommended. Further, the crucial role of policymakers is stressed.

### **Paper 37 (CP) - Skill-based taxonomy of professional buyers: An AHP approach**

*Jan Vašek (University of Chemistry and Technology Prague) and Vojtech Klézl (Örebro University School of Business).*

Despite growing consensus about the contingent nature of purchasing professional skills, grounded and actionable frameworks remain scarce. Building on the AHP pair-wise comparison of six skill groups and subsequent cluster analysis, we construct a skill-based taxonomy of professional buyers arranged into six distinct profiles: Networker, Architect, Internal consultant, Enabler, Subject matter expert, and Practitioner. Furthermore, we show that the profile distribution is independent of professional experience, seniority, or sector. Finally, we demonstrate the practical relevance of the taxonomy in a real-life context.

### **Paper 38 (CP) - Reshoring for Sustainability: A Multi-Theory Decision-Making Framework**

*Ronan Mclvor (Ulster University), Lydia Bals (Mainz University of Applied Sciences), Tim Dereymaeker (Porsche Consulting GmbH) and Kai Foerstl (EBS University for Business and Law).*

Reshoring research still predominantly focuses on the economic aspects of the reshoring decisions, costs in particular. This paper extends this dominant paradigm to look at value creation instead and brings in the environmental and social dimensions in addition to the economic dimension. Following such a value-oriented perspective and building on the environmentally-dominant logic this conceptual paper integrates sustainability into reshoring decisions from the start and highlights the linkages to the Natural Resource-based View, the Social Resource-based View, the Eclectic Paradigm and Transaction Cost Economics.

### **Paper 39 (WP) - Supply-side resilience: a practice-based view**

*Maximilian Enthoven (University of St. Gallen).*

This study attempts to structure and define supply-side resilience for both researchers and practitioners. Through a systematic literature review, 135 supply chain resilience practices are identified. A survey with CPOs from manufacturing firms illustrates that around 68% of mentioned SCRES practices are relevant for purchasing and supply management. Finally, three cases of practice adoption are investigated in terms of ease and effectivity. A practice typology is developed to describe the adoption context. The Practice-Based View is used as a theoretical underpinning to provide a framework to structure and make sense of the results.

### **Paper 40 (PP) - Autonomy and loss of control, a brake on the specialisation of functions in small companies? The example of the purchasing function in Guadeloupe**

*Mickaël Cita (UNIVERSITE DES ANTILLES) and Paul Rosele-Chim (Université de Guyane).*

The purchasing function and the management of external resources have been growing in recent years in France. However, in small structures, the purchasing function, particularly in the French RUPs, seems to be absent. This observation raises the question of professionalization. Thus, we will try to analyze the current state of the purchasing function in small structures in terms of professionalization and try to put forward hypotheses concerning the apparent difficulties of this last-mentioned. Through this research, we identify the points that slow down professionalization and propose possible paths to improvement among those proposed by Pearson (2003). In order to answer this question, we will use 12 questions from a questionnaire. A preliminary survey was performed within the companies of a given department, Guadeloupe. The main survey was carried out by interview and targeted companies in Guadeloupe, Martinique, and Guyana. At the end of the survey, we note that, among all companies that were questioned, only one is using the time-sharing of the purchasing function. However, this vision does not seem to be in adequacy with the entrepreneurial one shared by the majority. [... (see paper for full abstract)]

### **Paper 42 (WP) - Coordinating activities during supplier-induced critical events through contractual and relational governance mechanisms**

*Juliette Engelhart (University of Bath), Jens K. Roehrich (University of Bath) and Brian Squire (University of Bath).*

Inter-organisational relationships commonly face critical events, such as disruptions, but little insights have been gained to understand the impact of governance mechanisms to manage disruption. This study investigated both contractual and relational coordination and the underlying coordination activities to manage disruptions. This study builds on in- depth interviews in the energy industry in

Europe. The findings showed that buyers tend to use both contractual and relational coordination to manage disruptions, but predominantly used either contractual or relational coordination in specific disruption phases. Second, there are distinct coordination activities that buyers' use to match coordination requirements at each disruption phase.

**Paper 43 (WP) - Developing a productive and sustainable buyer-supplier collaboration: an approach based on Herzberg's Two Factor Theory**

*Hugues Poissonnier (Grenoble Ecole de Management), Oihab Allal-Cherif (KEDGE Business School Bordeaux France) and Marie-Anne Le Dain (Grenoble INP Industrial Engineering and Management).*

This paper aims to identify the most relevant elements of best practice for successful collaboration between buyers and suppliers over the long term. Many papers have addressed best practices aiming to create value through innovation, co-innovation, and open innovation. Despite the abundance of this useful literature, practitioners are still missing more concrete ideas or help allowing them to take more relevant decisions and ensure more productive and sustainable collaboration with suppliers. Starting from all the answers brought to the "why" question, as well as to the "how", we propose, in this paper, to focus on the element level enabling successful best collaborative practice in value creating collaborations. To do so, we develop an approach based on Herzberg's Two-Factor Theory distinguishing motivation and hygiene factors (Herzberg, 1968). We also use grounded theory and relying on a qualitative exploratory methodology, to identify five most relevant motivation factors including sharing investments, risks, industrial property, and economic results – and hygiene factors consisting of respecting the partners, engagements, and payment period – depending on the macro context in which the collaboration is built: tactical collaboration for innovation, long term strategic collaboration, or collaboration in times of crisis.

**Paper 44 (CP) - Successful supply risk management: Uncovering the fundamental variables in risk identification, - mitigation and -monitoring**

*Lukas Nikelowski (Fraunhofer Institut für Materialfluss und Logistik IML), Petra Hoffmann (University of Twente), Holger Schiele (University of Twente) and Michael Henke (Fraunhofer Institut für Materialfluss und Logistik IML).*

This paper supports the design of successful supply risk management, by identifying variables used for risk identification, -mitigation and -monitoring. In detail, the aim is for each of the mentioned risk management steps to determine those variables that are used by successful companies. This is done by a mixed method approach, combining qualitative- and quantitative empirical research. The upcoming variables are analysed by necessary condition analyses and stepwise regression analyses to assess their necessity and sufficiency. The analyses resulted in two necessary- and sufficient variables, three necessary- but not sufficient variables and 17 sufficient- but not necessary variables. The necessary variables are mandatory for successful supply risk management. Sufficient variables can lead to success but are also replaceable by other variables

**Paper 45 (WP) - Evaluating the impacts of public procurement — data limitations and future possibilities**

*Oishee Kundu (University of Manchester), Elvira Uyarra (University of Manchester), Anastasios Kitsos (Aston University) and Raquel Ortega-Argiles (University of Birmingham).*

Despite the growing interest in mobilising procurement for innovation and sustainable development, there are significant knowledge gaps regarding the evaluation of public procurement as a policy. Our study reviews the existing approaches for evaluating the impact of public procurement. Conceptually, we highlight the need for definitional clarity and the often conflated notions of ‘procurement of innovation’ and ‘innovation in procurement’. Methodologically, we highlight the inadequacy of existing data to enable robust research that can trace the causal impact of public procurement on firms, communities, and local economies. To address these gaps, we propose a set of potential actions in research and practice.

#### **Paper 46 (WP) Unpacking attributional complexity in interpretations of buyer-supplier relationship disruptions**

*Sophia Carolina Kertz (WHU - Otto Beisheim School of Management) and Felix Reimann (WHU - Otto Beisheim School of Management).*

While there is rising interest in the role of causal attributions in explaining the consequences of buyer-supplier relationship (BSR) disruptions, there is a surprising lack of research that drills down on the distinct dimensions of attributions, locus of causality, controllability, and stability. Incongruence in disruption interpretation along these dimensions between buyer and supplier can lead to constructive efforts for joint sensemaking or have detrimental effects. We derive the need for a holistic and detailed view on attributional processes, antecedents and consequences, integrate different literature streams into an attributional perspective on BSR disruption management and derive testable propositions on the effects of attributional perception gaps.

#### **Paper 47 (WP) Reorganising Support Activities in Procurement: The Impact of Digital Technologies**

*Wolfgang Buchholz (University of Applied Sciences, Münster), Laura Alassani (University of Applied Sciences, Münster), Franziska Grabbe (University of Applied Sciences Münster) and Maximilian Matlik (GoCon-Consulting).*

This paper addresses the organisation of support activities, which are greatly affected by the impact of digital technologies as well as changes in the skills and roles of procurement employees. Our working paper aims to develop propositions on the influence of digital technologies on the organisation of support activities in procurement. To do so, we firstly analyse models of how to organise support activities in procurement. Secondly, we share insights into how the digital technologies of Big Data, artificial intelligence, robotic process automation and blockchain impact procurement activities, which are categorised as either plan-to-strategy, source-to-contract or procure-to-pay processes. We seek to gain insights into this topic with the help of a mixed-methods approach. In the first step, we present an initial literature analysis of the topics. Based on the findings from the literature, we utilise a survey study on the organisational models as well as expert interviews to address the application of digital technologies. Finally, we derive propositions for how the application of digital technologies will influence the organisation of support activities in procurement.

#### **Paper 48 (WP) - Rightshoring for ambidexterity: Supply chain reconfiguration in response to geopolitical disruptions**

*Hamid Moradlou (University of Warwick), Heather Skipworth (Cranfield School of Management), Lydia Bals (Mainz University of Applied Sciences) and Emel Aktas (Cranfield School of Management).*

Companies have extensively invested in offshoring strategies, creating geographically dispersed, complex networks. The concept of organisational ambidexterity through balancing the exploration (flexibility) and exploitation (efficiency) capabilities in supply chains is important as firms mitigate the

negative impact of supply chain disruptions. In this study, we aim to identify the mechanisms by which companies cope with geopolitical and natural disruptions, such as the US-China trade war, Brexit, and the coronavirus pandemic. This study highlights companies' need to be simultaneously efficient and responsive in operations to cope with the impact of a global pandemic and geopolitical tensions.

**Paper 49 (WP) - Behavioural Science: Adoption of a digital platform through cognitive framing of individual incentive mechanisms to drive ethical adoption**

*David Loseby (University of East Anglia).*

Introduction – Rates of adoption are on average 30-40% for digital procurement platforms and fraught with challenges as they are often seen as a threat to roles (employment) and significant change to the way work is done. Further, the implementation of digital procurement platforms are often seen as being enforced on procurement functions with “no voice” in the decision making, design, development, methodology or implementation. Creating a perceived lack of organisational justice for those who are directly and indirectly impacted. Purpose – This research demonstrates the potential to apply both theories and methods from behavioural science as a means of significantly improving adoption, in terms of both the speed of adoption and sustained use of the (digital procurement) technology... The paper is concerned with the individual mechanisms that address Capability, Opportunity and Motivation to drive Behaviour change (Michie, et al 2009, 2011, 2014, 2015 and 2020) addressing stakeholder engagement, poor communication, ethical considerations, fear of change, individual engagement through methods established and transferred from behavioural economics into procurement. [... (see paper for full abstract)]

**Paper 50 (WP) - Linking Corporate Entrepreneurship and Supply Chain Resilience to strengthen Business Performance: An Empirical Analysis**

*Sebastian Sturm (Chair of Supply Chain Management, University of Erlangen-Nuremberg), Nils-Ole Hohenstein (Department of Supply Chain Management and Logistics, Cooperative State University Mannheim) and Evi Hartmann (Chair of Supply Chain Management, University of Erlangen-Nuremberg).*

This study examines the interactions between corporate entrepreneurship and supply chain resilience and their impact on the financial and commercial dimensions of business performance. Based on a literature review, the authors develop a research model that postulates positive relationships between these elements. The hypotheses are then empirically validated by applying partial least squares structural equation modeling on survey data from 168 global companies. We find significant positive path coefficients for all hypothesized relationships, indicating that corporate entrepreneurship complements supply chain resilience in coping with sudden supply chain disruptions.

**Paper 51 (WP) - Towards a circular economy: impact on public procurement law and practice**

*Steven Van Garsse (University of Hasselt) and Aura Iurascu (University of Hasselt).*

The transition to a circular economy has attracted a lot of interest and is gaining popularity. Government purchasing (using public procurement) is considered to be a key driver in the transition towards the circular economy. Every year, over 250,000 public authorities in the EU spend around €2 trillion on the purchase of services, works, and supplies. In many sectors, public authorities are the principal buyers. This market power allows governments to transform markets and foster innovation. In our working paper, we analyzed how the circular economy is impacting traditional public procurement. We explained how and to what extent new contractual models are used and how public procurement practice and the use of public procurement rules are affected.

## **Paper 52 (WP) - EU public procurements: Traits and value**

*Tünde Tátrai (Corvinus University of Budapest), Péter Juhász (Corvinus University of Budapest) and Gyöngyi Vörösmarty (Corvinus University of Budapest).*

This paper is part of a research project on long-term procurement models. In an earlier IPSERA paper, when we classified typical procurement items of central purchasing organisations. In the course of this work, it became clear that analysing the Tenders Electronic Daily (TED) database, which contains all the notices that open and close public procurement procedures in the European Union. Our contribution is to link the contract notice and the contract award notice databases previously available only separately at the procedural level for the first time. After presenting the difficulties and main decision points of creating the new unified database and the Big Data analysis in public procurement, this paper is first to qualitatively investigate it. Our results show that cleaning the TED database is necessary to end up with statistically significant results when analysing total tender values. Procurement value showed significant differences across procurer type, involvement of a central purchasing body, and subject of purchase. Longer contracts usually are of higher value, while EU funding and electronic tendering are used for more valuable contracts. The type of process has a close link both to the total value and the duration of the contract, however, open processes overwhelmingly dominate the market. Processes with negotiations involved are relatively rare but their average value is almost three times higher than that of the processes without negotiations. When choosing the winner for the higher value and longer duration tenders, the most economically advantageous offer rather than the cheapest tends to be selected.

## **Paper 53 (WP) - Company-level automation and industry-level maturity of automation as moderating factors in reshoring – The context-specific relationship between reshoring and automation**

*Kerstin Schneider (WHU - Otto Beisheim School of Management).*

Many studies focus on the motivations why companies reshore their production. Among them, automation is often mentioned as a reshoring driver. Some studies have focussed on the relationship between automation and reshoring, and found a correlation, yet little is known about the causality. This study addresses the issue that the literature often does not clearly distinguish between drivers and enablers, leaving the levers for targeted managerial and policy actions for reshoring unclear. We define reshoring drivers as factors that directly affect reshoring performance. In contrast, reshoring enablers (or barriers) moderate between reshoring drivers and reshoring performance and, therefore, indirectly affect firm performance. Following this definition, the interrelationships between reshoring and automation are addressed through seven case studies of German reshoring companies. The qualitative study results show that automation is not a driver of reshoring, as commonly incorrectly specified. Instead, automation can be either an enabler or a barrier to reshoring. For that, the maturity of automation in an industry is relevant. [... (see paper for full abstract)]

## **Paper 55 (WP) - The other side of the story – suppliers' perspective on complexities in sustainable purchasing of transport services**

*Maria Björklund (Linköping University), Veronica Ülgen (Linnaeus University) and Helena Forslund (Linnaeus University).*

This study aims to increase the understanding of the complexities experienced in buyersupplier relations of sustainable transport services, particularly highlighting the supplier's view. An interview study of a large transport buyer and a supplier identified a buyer focus on sourcing, including intense communication, compared to little attention to communication related to supply and supplier development. Differing views within the buyer, their unclear priorities of sustainability versus costs and narrow KPIs are complexities that hinder the development of sustainability. Buyer development initiatives are found. Therefore, understanding of complexities are important learnings for purchasers.

**Paper 56 (WP) - Sustainable public procurement and global sourcing: joining forces to enhance sustainability? A systematic and critical review**

*Valentina Bianchini (Università di Roma Tor Vergata) and Andrea Appolloni (Università di Roma Tor Vergata).*

This paper provides a systematic review of the literature on the role that Sustainable Public Procurement (SPP) can play as a leverage for sustainability in relation to Global Sourcing (GS). By performing a systematic literature review of 27 articles from 2002 to 2022, we identified 23 product and process-based practices adopted by public buyers to ensure sustainability of global suppliers and classified the internal and external variables affecting their relationships. Finally, we present a conceptual framework on SPP & GS configurations and propose future research agendas to improve the understanding of the relationship between the two fields.

**Paper 57 (WP) - *Satellite Big Data for enhanced Business Analytics in the field of Supply Chain Management***

*Hendrik Birkel (Friedrich-Alexander University Erlangen-Nuremberg) and Sven Hähner (Friedrich-Alexander University Erlangen-Nuremberg).*

Despite the rapid development and promising potential of satellite remote sensing (SRS), it remains below its potential in terms of utilization. For this purpose, a multiple case study was conducted to analyze the links between SRS, supply chain management (SCM), and sustainability. The study uncovers great potential for application, especially for monitoring and planning tasks as well as supply chain risk management and supply chain transparency leading to improved decision-making. Furthermore, a holistic framework is developed to highlight the relations between SRS characteristics, limitations, applications for SCM, flexible designs of applications, and the impact on sustainability.

**Paper 61 (WP) A future research agenda for sustainable supply chains in the industrialized wood house industry**

*Micael Thunberg (Linköping university), Jenny Bäckstrand (Jönköping university) and Anna Fredriksson (Linköping university).*



Since the Swedish National Board of Housing, Building and Planning removed the height restrictions on wooden houses in 1994, interest in wood as building material has steadily increased. During the period 2011 to 2017, the production of wood based multi-family dwellings increased by 6.8 %. The increased interest in wood as building material is partially a result of the increased need for reducing CO2 emissions in house production. The construction process accounts for 70 to 80% of a building's climate impact and there are also indications that wood-based building structures reduce transport work. However, wood-based house production poses some supply chain related challenges that need to be addressed to reap the benefits. The 'wood-house industry' brings together many different companies and organizations. Everything from furniture and interior design manufacturers, who use wood as raw material in their production, to small house manufacturers, who provide private customers with housing. In addition, there are industrial house manufacturers who use wood-based structures and frameworks. [... (see paper for full abstract)]

#### **Paper 62 (CP) Supply chain applications of the blockchain technology: a contingency approach**

*Philipp C. Sauer (EM Strasbourg Business School – University of Strasbourg), Guido Orzes (Free University of Bozen-Bolzano), Giovanna Culot (University of Udine) and Guido Nassimbeni (University of Udine).*

Despite the hype about supply chain (SC) applications of the blockchain technology, confusion remains on their configurations and potential benefits. Drawing from a multiple case study analysis on SC partners and service providers, this paper seeks to shed light on setups and contingent factors. Based on our empirical analyses, we highlight four different blockchain setups/configurations and three contingencies affecting their choice, i.e., product volume and value, the presence of externally or internally driven traceability needs, and the traceability focus towards products or raw materials. We then develop a set of propositions to guide future research and management practice in the field.

#### **Paper 63 (WP) Antecedent for buyer-supplier sustainability collaboration? Experiment on gender effects behavior**

*Katie Kenny (Aalto University), Katri Kauppi (Aalto University) and Juri Matinheikki (Aalto University).*

This working paper presents the hypotheses and the preliminary research design for an experiment on exploring gender effects in corporate purchasing behavior. Previous literature has demonstrated gender as a behavioral driver in developing sustainable supplier relationships, in negotiations and in ethical decision making and buyer-supplier collaboration. The purpose is to lay the groundwork for future experiments that study the intersecting topics of gender diversity, purchasing behavior and organizational sustainable strategy through buyer supplier collaboration.

#### **Paper 64 (WP) Horizontal collaborations: How firms could share charging infrastructure for electric freight vehicles**

*Lisa Melander (Chalmers University of Technology) and Henrik Wallström (Novoleap).*

The aim of this study is to investigate how actors could share charging infrastructure horizontally. We conduct an embedded case study of firms operating in Stockholm, who are exploring the possibility of sharing charging infrastructure. The study reveals that 1) firms are positive towards the idea of horizontally sharing charging infrastructure. 2, firms are open towards collaborating in networks, with similar firms, with other suppliers to the same customers or with an intermediary. 3, firms would prefer to charge at loading zones, 4, there are uncertainties about how to share between actors and how to share information.

**Paper 66 (CP) User acceptance of digital twins for supply chain optimisation: A customer perspective on three hierarchical digital twin levels**

*Dominik Oehlschläger (Bundeswehr University Munich), Andreas H. Glas (Bundeswehr University Munich) and Michael Eßig (Bundeswehr University Munich).*

By providing holistic access to high-fidelity data, Digital Twin Artefacts (DTA) bear the potential to fundamentally enhance core supply managerial activities. DTA could become an essential means to integrate requirements of value chain members, such as customers, procurers, manufacturers, or retailers, and thus align and control supply chains on a strategic and operational level. To implement DTAs, users' technology acceptance is critical. Depending on the degree of autonomy and competence, DTAs manifest themselves in different levels. It is reasoned that attitude towards usage varies in terms of these levels. Therefore, the purpose of this research is to examine the effects of key determinants for attitude of organisational users towards DTA levels. The Technology Acceptance Model (TAM) is used as baseline for the research framework. TAM propagates that perceived usefulness (PU) and perceived ease of use (PEU) are key factors for attitude towards usage. Beyond that, perceived data security risk (PDSR) is considered as inherent system feature that influences both PU and PEU, and organisational trust is hypothesised to be influential for PDSR. A survey was conducted in the context of organisational procurement and distribution of personal protective equipment, in which designated officers at a major German emergency service organisation [... (see paper for full abstract)]

**Paper 67 (WP) The role organizational asymmetries in triad relationships**

*Rainer Breite (Tampere university).*

This paper focuses on recognizing the situation where the focal firm is forming triad constellations in its supply network. The examination of the paper is based on the resource dependence perspective and presents a synthesis of the theories of collaboration relationships in the context of relational properties and the triad relationships. The methodology utilized and empirical examination lean on the design science approach and a case study. The findings of the theoretical and empirical study suggest that the dissimilarity in organizations must be taken into account when forming triads.

**Paper 68 (WP) Innovative public procurement: What differentiates innovative contract award entities from traditional contract award entities?**

*Maximilian Hammer (Purchasing and Supply Management Research Group - Bundeswehr University Munich), Christian von Deimling (Purchasing and Supply Management Research Group - Bundeswehr University Munich) and Michael Eßig (Purchasing and Supply Management Research Group - Bundeswehr University Munich).*

This paper analyses to what extent public contract award entities display the organizational prerequisites necessary to translate the European Union's policy goal of spurring innovation into action. Thereby, the study aims to identify a group of innovative contract award entities and to outline the characteristics distinguishing this group from their peers. The analysis is based on the strategic fit as profile deviation approach of contingency theory and methodologically builds on the use of maturity models and a selfevaluation questionnaire. The results reveal that only a small percentage of contract award entities in the examined sample have successfully created the prerequisites for innovative procurement. These innovative contract award entities distinguish themselves through an encompassing understanding of the necessity to create coherence between their individual situation, the procurement strategy, procurement structure and processes as well as the behaviour of procurement employees.

#### **Paper 69 (WP) Future procurement competencies, technologies and roles for 2030 – A Delphi study**

*Anna Aminoff (Hanken School of Economics), Jukka Hallikas (LUT University), Harri Lorentz (University of Turku), Sari Hakkarainen (Lantmännen), Kaija Haapasalo (Metropolia University of Applied Sciences), Kari Kaikkonen (City of Espoo) and Hanna van der Steen (Finnish Association of Purchasing and Logistics LOGY).*

In this research we take a pragmatic forward looking approach on the changing requirements for PSM and seek to determine what are the development priorities in terms of procurement (1) competencies, (2) technologies and (3) roles by 2030. We facilitated an industry initiated a Delphi study during the summer and early autumn of 2021 in Finland, in which we engaged 33 subject matter experts (procurement managers and CPOs) in a three-step World café event on a virtual collaboration platform. With several interesting observations in each of the three dimension, we identify five major cross-cutting themes that will characterize the future of procurement by 2030. The themes are as follows: (1) the leveraging of data and knowledge, (2) achieving the next level in terms of risk management, (3) taking a user-driven approach to digitalization, (4) enabling sustainability with resources and technology, and (5) securing ability to innovate and change with adequate resources.

#### **Paper 70 (WP) The role of brands in the strategic selection of logistics service providers**

*Alexander Rapp (University of Stuttgart).*

Prior empirical work on organizational buying often assumes purchasing managers to act as “

The aim of the study is to better understand what purchase and participant characteristics determine the consideration of brands in the selection of logistics service providers. Thereby, the study concentrates on individual behavior of purchasing managers. A literature review was conducted to derive the relevant purchase and participant characteristics. Subsequently, information processing theory and cognitive dissonance theory were applied to develop a conceptual model. The literature review also revealed the benefits of conceptualising brand sensitivity based on brand attributes rather than via the overall brand construct. A measurement approach is suggested, and methodological issues are discussed.

#### **Paper 71 (WP) Crafting on the supply boundaries**

*David McKeivitt (University College Cork) and Ingrid De Doncker (IDDEA).*

For over three decades, scholars have examined the formal skills and competencies of PSM personnel. Current literature neglects the processes of informal development, in particular the unique opportunities that PSM individuals may have to engage in job crafting. The aim of the paper is to explore how PSM executives use job crafting within and across supply boundaries. The scope is limited to semi-structured interviews of PSM executives (N=25). The data shows that, relative to task crafting, both relational and cognitive crafting spanned supply boundaries and included suppliers, customers and community. The implications for PSM skills taxonomy are discussed.

**Paper 73 (WP) Modern slavery in supply chains: bridging the gap between policy and practice in reporting**

*Bruce Pinnington (University of Liverpool) and Jo Meehan (University of Liverpool).*

Mandated reporting transparency is the favoured approach of policy makers in relation to attempts to reduce risks of modern slavery in supply chains, but research to date has been focused heavily on secondary analysis of statements. In this research the attitudes, aptitudes and perceived agency of managers is studied, with results interpreted drawing on theory of sensemaking and sensegiving in paradoxical contexts. The findings suggest that senior managers do regard the issue as a high priority but in a weak legislative environment, consider that investment in conformance with guidance would place them at a competitive disadvantage. Through the current regime, policy makers are not giving practitioners a stronger enough imperative to counter paradoxical commercial priorities.

**Paper 74 (CP) Supply chain trust in light of Blockchain technology: Two cases of sustainability tracing in the metal industry**

*Abbas Batwa (Lund University), Ala Arvidsson (Chalmers University of Technology) and Andreas Norrman (Lund University).*

Blockchain technology (BCT) is argued to deliver a trustless system where trust is driven by technology rather than individuals or organizations. In this paper we investigate the interrelationship between SC trust and BCT. Our findings are based on the study of two supply chains (iron/steel and copper) piloting a BCT solution for tracing metals sustainability. Our findings suggest that openness/transparency illustrates a reciprocal influence between trust and BCT. However, the use of BCT in the supply chain context does not diminish the need for especially interpersonal dimensions of trust such as benevolence, integrity and competence/ability.

**Paper 75 (CP) Exploring knowledge conversion in purchasing and supply management: The role of knowledge assets**

*Stephen Kelly (Edge Hill University), Lydia Bals (Mainz University of Applied Sciences), Klaas Stek (University of Twente - Department of Technology Management & Supply), Heike Schulze (Mainz University of Applied Sciences) and John Israilidis (Nottingham Business School).*

Successful knowledge management (KM) is a well-established driver of organizational competitiveness. In Purchasing and Supply Management (PSM), the extant literature has understandably focused on inter-organisational KM activities between buyers and suppliers, but the mechanics of KM within the PSM function is currently under-researched. Using qualitative interview data from 38 practitioners, applying the Socialisation-Externalisation-Combination-Internationalisation model of knowledge conversion and the concepts of knowledge assets in a PSM setting is the first such internal analysis and therefore contributes to the stream of literature on knowledge, skills and capabilities and provides a platform for future research. It also contributes to the KM literature by providing an empirically supported range of themes that underpin each knowledge asset category that can be generalised to other fields. The findings generate practice improvements by identifying relevant barriers at different stages of the knowledge conversion process and how best to harness PSM knowledge assets.

## **Paper 76 (CP) The human basis for purchasing success: A systematic integrative review of public purchasing skills**

*Lena Brogaard (Roskilde Universitet), Morten Skov Madsen (Roskilde Universitet), Ole Helby Petersen (Roskilde Universitet) and Matthew Potoski (University of California Santa Barbara).*

The purchasing and supply management literature has long recognized the importance of human skills for firm-level purchasing success. However, little attention has been paid to public purchasing skills. We aim to contribute to this important field of research in two ways. First, we present a systematic review of the public sector purchasing skills literature, which shows that five categories of skills matter. Second, we develop an integrative framework that links public purchasing skills to six stages of the purchasing process and the institutional environment, market characteristics, and task complexity. Our ambition is to facilitate closer inter-sectoral dialogue on purchasing skills.

## **Paper 77 (WP) Do job postings reflect a competency-based approach for public procurement? Results from an empirical study in Germany**

*Christine Freye (Purchasing and Supply Management Research Group, Bundeswehr University Munich), Christian von Deimling (Purchasing and Supply Management Research Group, Bundeswehr University Munich) and Michael Eßig (Purchasing and Supply Management Research Group, Bundeswehr University Munich).*

Public procurement is currently expected to deliver better quality in a cost-effective, innovative, sustainable, and business-supportive manner. In order to realize these and future requirements, the European Commission has initiated a professionalization drive to improve public procurement. One element of this drive is a specially developed and publicized competency framework for public procurement professionals called ProcurCompEU. We used a systematic literature review and a complementary backward citation search in the field of purchasing and supply management (PSM) to create an overview of skills currently required by PSM professionals. This paper shows that only 25 of the 42 competencies extracted from the literature are reflected in the European competence catalog. ProcurCompEU thus represents a subset of the competencies that PSM professionals should have. In addition, an archival data analysis in combination with a qualitative content analysis of job postings in Germany shows that 27 of the 30 competencies in the ProcurCompEU are currently reflected in competency requirements for public procurement professionals. Nevertheless, there is a dominant administrative and operational focus. General competencies such as “organizational awareness” are mentioned two to twenty-five times more often than specific competencies such as “negotiation” or “market analysis and engagement”. In conclusion, a change in the understanding of needed competencies is necessary as is a move away from traditional process-based to strategic design-based public procurement in Germany.

## **Paper 79 (WP) The legitimacy of social value in public procurement: Exploring the role of process**

*Clare Westcott (University of Liverpool), Joanne Meehan (University of Liverpool) and Bruce Pinnington (University of Liverpool).*

Since January 2021 UK public authorities must incorporate social value into procurement contracts. In this study, we examine a set of UK Government’s framework agreements to assess the visibility and accessibility of social value. The study adopts the theoretical lens of legitimacy. Social value has been linked with social legitimacy, but little is known around legitimacy of public procurement processes. Open and transparent understanding of the deliverables through public procurement is required to maintain organisational legitimacy. In this working paper we report process failing that can undermine the legitimacy of the governance process, irrespective of the actual social value outcomes.

#### **Paper 80 (WP) - Towards effective Blockchain use: a behavioristic research agenda**

*Mandana Gharehdaghi (University of Pannonia) and Dirk-Jan Kamann (University of Pannonia).*

Which factors determine the 'effectiveness' of blockchain technology as an information tool, part of a supply chain strategy. Effectiveness being more than adoption level per se. It is defined as 'creating satisfaction among all users about security and transparency'. Why would companies use it and insert information considered as strategic? Why would customers use it and consumers trust it. Current food and fashion supply chains are analysed, especially their current 'slow' methods: both their potentially promising strong aspects and vulnerabilities. Limitations in present blockchain use are considered before moving towards a behavioristic research agenda that should assist in ways to observe, explain and predict relevant human decision behaviour. A Grounded Theory based methodology is proposed, using the various types of Institutional Isomorphism as main theoretical framework. Experiments using Gamification are proposed as a part of the methodology to shed more light on the human factor in actual decision making.

#### **Paper 81 (CP) - The relevance of transcontinental sourcing for a decrease in European sourcing and for global sourcing trends**

*Thomas Koerber (University of Twente) and Holger Schiele (University of Twente).*

This qualitative study shows the importance of transcontinental sourcing regarding global sourcing trends and the phenomenon of a decline in European sourcing. Based on semi-structured interviews with purchasing specialists, characteristics of three sourcing types are elaborated: Local, EU and transcontinental sourcing, which both represent parts of global sourcing. Analysing the characteristics, we identified possible reasons for a decrease of intra-EU sourcing and an increase of transcontinental sourcing, illustrated by propositions. Particularly noteworthy is the role of transcontinental suppliers as strategic partners, the possibility to handle a high purchasing volume as well as their good price-quality ratio. Furthermore, the dependence on transcontinental suppliers, also called remote suppliers, increases due to their unique selling proposition in certain areas, for example electronic components. As a result, advantages of transcontinental sourcing seem to outweigh the disadvantages and lead to an increase of this special sourcing type, while intra-EU sourcing declines.

#### **Paper 82 (WP) - Measuring the prevalence of ethically questionable purchasing practices using the Extended Crosswise Model**

*Fanny Chen (Rotterdam School of Management, Erasmus University) and Finn Wynstra (Rotterdam School of Management, Erasmus University).*

Strategic buyer-supplier relationships have become increasingly important due to the rapid changes in technology innovation and globalisation of markets. An important element to establish and maintain such buyer-supplier relationships is ethical behaviour. Procurement professionals, who operate as boundary spanners between internal stakeholders and external suppliers, are likely to be exposed to different norms in terms of ethical business practices. Due to this boundary spanning function and the often-competing objectives and goals of the different parties, procurement professionals may be under considerable pressure to deviate from accepted ethical norms set by the organisation. This study therefore aims to identify unethical purchasing practices within buyer-supplier relationships. We apply a dyadic examination to examine whether procurement professionals and sales professionals identify the same set of purchasing practices as being unethical. Furthermore, since little is known about the prevalence of unethical purchasing practices, this study aims to measure the prevalence of ethically questionable purchasing practices through surveys distributed to members of the Dutch Association for Purchasing and Supply Management (Nevi) and members of the Dutch Sales Management Association (SMA). [... (see paper for full abstract)]

### **Paper 83 (WP) - A Balancing Act - Towards Socially Responsible Procurement**

*Vaishali Baid (SP Jain School of Global Management) and Dr. Vaidyanathan Jayaraman (SP Jain School of Global Management).*

The social aspects of sustainability compared to the environmental aspects has so far received less consideration in procurement strategies. In procurement, the traditional economic perspective—to be profitable still gets the gigantic share, with the advent of climate change discussions it is followed by environmental aspects and the social aspects are highly underrepresented. A substantial challenge for firms is how to integrate the triple bottom line (TBL) into their global supply chains. Moreover, repetitive controversies involving supply chain-related sustainability occurrences make it imperative that firms with a global presence need to improve their sustainability footprint. Procurement holds the muscle to improve sustainability outcomes in global supply chains as they are at the frontline in collaborating with the suppliers. This study probes to understand the different pressure drivers, barriers and a framework for social aspects in Procurement from an academic and practitioner's lens. Procurement is at the epicentre of an organisation with a call from customers for sustainability and its collaboration to disseminate TBL objectives along with the suppliers. The study uncovers the main drivers for socially responsible procurement in organisations extends far beyond the direct stakeholders of procurement and the main barriers include a blend of internal and external factors.

### **Paper 84 (WP) Toward a practice turn within supply chain sustainability studies**

*Raphael Lissilour (IPAG Business School) and Minelle Silva (Excelia Business School).*

Despite the growing interest of Supply Chain Sustainability (SCS) researchers in new theories, so far few studies have mobilized practice theories. This conceptual paper proposes a practice turn in SCS research in which sustainability is not limited to the materiality of environmental and social issues, thus benefitting from a critical perspective on how to increase supply chains contribution to society. We highlight the need for including immaterial, emotional, and intangible elements to better comprehend SCS practice. We provide a research agenda with a comprehensive perspective of how to understand the application and implications of practice theories to SCS.



## **Paper 85 (CP) Teaching PSM for real world skill development - A new toolkit**

*Remko van Hoek (Sam M Walton College of Business, University of Arkansas) and Dominique Lebigot (Moët Hennessy).*

Calls have been made for a more market-relevant focus in PSM and supply chain education, the development a more global perspective on future-proof topics that also develops problem solving capability and soft skills of students. We document an 11 month long collaboration with the our co-author, the chief procurement officer of Moët Hennessy and his leadership team around the world. It is our hope that we can provide a part toolkit that can support colleagues to further develop supply chain education and contribute approaches that mitigate risks and challenges with design approaches called for in literature.

## **Paper 86 (PP) Sustainability practice in multi-tier supply chains: The effect of power relationships**

*Karina A. Santos (Fundação Getulio Vargas), Minelle Silva (Excelia Business School) and Susana C.F. Pereira (Fundação Getulio Vargas).*

**Purpose:** The existing multi-tier supply chain (MSC) literature shows sustainability centrally as a result of power influences from the lead organisation. For instance, while Tachizawa and Wong (2014) suggest that power is a contingency within multi-tier relationships, Wilhelm et al. (2016) demonstrate that buyers can have the power to request sustainability standards, which generates specific mutual dependence. This idea shows power as rooted in dependence and emerging to specific results (Pilbeam et al., 2012). However, little is known about the nature of power beyond dependence. Thus, using the resource dependence theory (RDT), this paper investigates how power relationships affect sustainability practice in a MSC. **Design/methodology/approach:** An in-depth case study was developed in an agri-food multi-tier supply chain located in Brazil. A total of 30 interviews were developed with three buyers (i.e., lead organisation), a cooperative (i.e., 1st tier supplier), and sub-suppliers (i.e., 2nd tier suppliers). Semi-structured interviews and secondary data were collected to ensure triangulation using multiple sources and analysed in a combination of deductive and inductive approaches to identify sustainability practice among tiers and the influence of power relationships in supporting such a practice. [... (see paper for full abstract)]

## **Paper 88 (CP) - Strategies and practices of sustainability-related risk management in multi-tier supply chains**

*Anni-Kaisa Kähkönen (LUT University), Kati Marttinen (LUT University), Antti Kontio (LUT University) and Katrina Lintukangas (LUT University)*

This study investigates how sustainability-related risks are managed in multi-tier supply chains. The study focuses on strategies and practices that companies use to manage sustainability-related risks and how these differ between supply chain tiers. We use a multiple-case study with 25 companies forming five multi-tier supply chains. We present a conceptual framework for sustainability-related risk management practices in multi-tier supply chains and apply it empirically by defining sustainability-related risk management profiles for case supply chains. We also show empirically the challenge of extending the sustainability-related risk management practices beyond first-tier suppliers due to the different practices in different supply chain tiers.

## **Paper 90 (WP) - In search of Public organisations' Innovation Capabilities in Procurements**

*Hilde Sætertrø (NTNU), Elsebeth Holmen (NTNU) and Luitzen De Boer (NTNU)*

This research shed its light on the public organization in search of innovation capabilities when executing public procurement of innovation processes. In a multiple case study of three municipalities in Norway, the study should contribute to our understanding of essential organizational innovation capabilities necessary to create innovation when doing public procurements of any kind. Identification of essential innovation capabilities should anticipate to better innovative public procurement processes, lead to improvements in the internal organizational system and the external ecosystem surrounding the organization and the procurement process.

## **Paper 91 (WP) - Buying knowledge-intensive business services Overarching themes and actor relationships**

*Dominik Schlee (EBS), Kai Förstl (EBS) and Tobias Gutmann (EBS)*

Despite extensive research into vendor selection topics by purchasing & supply management scholars, some questions about sourcing processes remain open. This structured literature review synthesizes extant research into how companies source knowledge-intensive business services (KIBS), intangible services with high knowledge intensity, and human capital input to meet internal demands. We focus particularly on the complex supply chains, often in the form of service triads. Our systematic review of 195 peer-reviewed articles reveals seven overarching themes: sourcing strategy, contracting & financials in service sourcing, management approaches & governance in KIBS, buyer-supplier relationship, service performance, disruptions in triads and networks, and sustainable supply chains. Based on our inductive review, we put forward a road map for future research on creating new ventures, focusing on a more granular examination of KIBS, service sourcing, and service triads.

## **Paper 92 (WP) - Supply Chain Resilience strategies to cope with COVID-19 pandemic. An empirical analysis in Italian firms**

*Roberta Pellegrino (Politecnico di Bari) and Barbara Gaudenzi (Università di Verona)*

Coronavirus COVID-19 represents one of the most disruptive events that have characterized modern supply chains over the last decades, influencing a reconfiguration of sourcing strategies and supply chain design in most of the industries. The existing studies on this topic are still largely focused on theoretical contributions and case studies, advocating in-depth analysis on how firms are practically adopting supply chain risk mitigation approaches to reengineer and adapt supply chains to future challenges. The scope of this paper is twofold. First, the paper proposes a theoretical framework, based on a literature review, that analyzes the links between COVID-19 impacts and supply chain resilience capabilities, e.g., flexibility, efficiency, agility, responsiveness, investigating the role of digital technologies as a potential key resource to improve the effectiveness of supply chain resilience, under the lens of key capabilities. Second, the paper empirically tests the framework by analyzing - through a semi-quantitative method - a set of primary data collected in a sample of 164 Italian companies, where key respondents are mainly supply chain managers, purchasing managers and logistics managers from several industries.

## **Paper 93 (WP) - Exploring Gendered Language in Purchasing and Supply Management Job Advertisements**

*Stephen Kelly (Edge Hill University), Nina Hasche (Örebro University), Vojtěch Klézl (Örebro University), Donna Marshall (University College Dublin) and Klaas Stek (University of Twente).*

This paper investigates how gendered language is used in purchasing and supply management (PSM) advertisements. In our initial exploration of this phenomenon, we examined 83 job advertisements and analysed them against gender-based agentic and communal language dictionaries to understand if, where and how gendered language is used in PSM job advertisements. Surprisingly, we did not find national culture differences across three different countries: Austria, Belgium and the UK, however, we did find that agentic language is used most prevalently at the Buyer position and could be causing the glass ceiling effect at this level.

#### **Paper 94 (WP) – State of the art of sustainability purchasing**

*Picaud-Bello Katia (ESSCA).*

The idea of supply network-enabled innovation (Narasimhan and Narayanan, 2013), where firms leverage their supply networks to access and capitalize on capabilities in their supply networks, is gaining traction. However, it is increasingly clear that traditional supply network actors i.e., a firm's existing suppliers are no longer the sole sources of innovation (Legenvre and Gualandris, 2018). In this paper, we argue that innovation ecosystems may be a better concept than supply networks to explain potential shifts in purchasing practices needed for contemporary innovation activities such as the increasing use of collaborative platforms and involvement of startups and institutions as sources to enable innovations. An integrative literature review is conducted to systematize the streams of ecosystems in the PSM in innovation literature from a connective capacity perspective and derive opportunities for future research.

#### **Paper 95 (CP) - Knowledge sharing across supply chain actors in adopting Industry 4.0 technologies: An exploratory case study within the automotive industry**

*Mohammad Eslami (Jönköping International Business School), Leona Achtenhagen (Jönköping International Business School), Cedric Tobias Bertsch (Jönköping International Business School) and Annika Lehmann (Jönköping International Business School).*

This study aims to investigate the role of knowledge sharing (KS) among supply chain actors when adopting I4.0 technologies. We explore how KS can facilitate an I4.0 adoption and which factors influence this. Through an exploratory single-case study, we conducted semi-structured in-depth interviews with a manufacturing firm operating in the automotive industry and five different suppliers and customers of its supply chain (SC). We identified four KS approaches: 1) Knowledge sharing through principles, (2) Downstream to upstream flow of knowledge, (3) Strategic positioning, and (4) Application-relatedness that facilitate the adoption of I4.0 in the SC. Further, we found two types of factors that influencing the KS process: company-related and relational factors. Based on a knowledge-based view, we fill a gap in research by investigating the KS across an SC as a supportive capability during I4.0 adoptions. For practitioners, we present an approach that promotes the implementation of I4.0 based on existing resources.

#### **Paper 96 (WP) - State of the art of sustainability purchasing**

*Amila Omazic (Graz University of Technology), Volker Koch (Graz University of Technology), Sigrid Weller (Graz University of Technology) and Bernd Markus Zunk (Graz University of Technology).*

About 60 percent of the European industrial companies' turnover is spent on purchased components, which indicates the significance of purchasing in the context of individual companies, but also in the context of the European market. Furthermore, companies are facing the challenges of sustainable development (SD), especially since the adoption of the 2030 Agenda for Sustainable Development and its 17 Sustainable Development Goals (SDGs). Building on the relevance of both topics, purchasing and sustainability, a systematic literature review was conducted. The aim of this research was to improve the development of a more systematic understanding of sustainability purchasing, to reveal central issues of the research field and to identify the research gaps. In this research the key concepts of sustainability purchasing identified in the available literature were derived. Furthermore, an overview over the main research trends in the field were presented and the identified research gaps were obtained. The literature was also analyzed and categorized according to the applied methods, research outcomes, and practices or applications, which can be used as a support for managers and purchasers in companies that embark on the sustainability implementation and SD.

**Paper 97 (WP) - Circular purchasing in the construction industry: Drivers and barriers from the purchaser perspective**

*Katarina Arbin (University of Gävle).*

The aim of this paper is to investigate drivers and barriers to circular purchasing perceived by purchasing professionals within companies in the construction industry. Focus is on circular purchasing and the integration of circularity in purchasing and purchasing work. Semi-structured interviews have been conducted with persons working with purchasing in companies located in different parts of the construction industry value chain. The focus on construction is due to that the industry is resource-intensive and has a large ecological footprint and needs to become more sustainable using circular solutions. Findings show organizational-, personal/individual- and external drivers and barriers to circular purchasing.

**Paper 98 (WP) - The relevance of strategic procurement within strategies for using open source as an outsourcing alternative – a structured literature mapping**

*Florian Niklas Paffrath (TU Dortmund University) and Michael Henke (TU Dortmund University)*

As an alternative to in-house development and buying products, firms can benefit from outsourcing their development efforts to open communities. To use the benefits out of this alternative, guidance to manage the concept of openness strategically is necessary for firms. However, the role of strategic procurement models within open source strategies is only occasionally addressed in research. To address this gap, a structured literature mapping has been conducted considering research on open source strategy dimensions within outsourcing development efforts. The findings are clustered into five defined domain-specific open source strategy categories: degree of openness, community relationship, community selection, governance and open source quality management. As a result, elements of strategic procurement management are systematically identified within the respective open source strategy categories.

## **Paper 99 (CP) - Supplier Scouting and Artificial Intelligence: An information processing theory approach**

*Michela Guida (Politecnico di Milano), Federico Caniato (Politecnico di Milano), Antonella Moretto (Politecnico di Milano) and Stefano Ronchi (Politecnico di Milano)*

**Purpose:** The main objective of this paper is the study of the role of Artificial Intelligence in supporting the supplier scouting process run by a buyer firm, looking at the information and the capabilities required, together with the gains achieved in terms of procurement performance. **Design/methodology/approach:** Through the case study methodology, 12 IT and information providers involved in the design and development of AI-based scouting solutions have been studied. The unit of analysis is the AI-based scouting solution offered by the IT provider and the relationship that is resulted between the provider delivering the solution and the buyer firm implementing it. The Information Processing Theory is taken as the overarching research lens, addressing the Information Processing Needs and Capabilities underlying the adoption of Artificial Intelligence in supplier scouting. **Findings:** In the buyer firms, the Information Processing Needs in supplier scouting are high. IT and information provider can solve the requirement of the buyer firms through the proper information Processing Capabilities, enabled by AI-based solutions for supplier scouting. In this way, the Fit between Information Processing Needs and Capabilities is reached, and the procurement performance are improved according to several dimensions. **Originality:** The novelty of this study lies in the intersection between two research areas (i.e. purchasing and supply management and Artificial Intelligence), rarely investigated in conjunction. The application of Information Processing Theory is also novel in studying the impact of Artificial intelligence in the business process, such as the scouting for new suppliers. In this direction, this paper contributes structuring a phenomenon that is still unexplored by previous contribution and non-consolidated in the business context.

## **Paper 100 (WP) - Data-driven approach to extract reasoning in manufacturing reshoring decisions**

*Movin Sequeira (Jönköping University), David Eriksson (Jönköping University) and Leif-Magnus Jensen (Jönköping University).*

Reshoring decisions have received interest in both literature and practice. The reasoning of practitioners in these decisions is less understood. This paper extracts reasoning, specifically the decision criteria and the rules using data-mining techniques. Two association rule-mining algorithms, Apriori and Frequent Pattern Growth, were applied to the European Reshoring Monitor dataset. The findings show that 50 itemsets of criteria, and 14 association rules were extracted. This paper provides an insight into the criteria and association rules in reshoring decisions, and supports managers in prescribing which criteria to consider in a data-driven manner.

## **Paper 101 (CP) - Towards carbon neutrality in the aerospace supply network: Role analysis using the ego-ERGM**

*Iryna Maliatsina (LUT University), Jaan-Pauli Kimpimäki (LUT University) and Axel Zehendner (LUT University).*

Nowadays, the aerospace industry experiences increased pressure to bring about more sustainable manufacturing practices and decrease carbon emissions. Prior studies have encouraged scholars to explore the relationship between supply networks and concrete environmental problems to develop more fine-grained accounts of corporate sustainability strategies. Our study employs an ego-ERGM approach to identify the presence of distinct sustainability roles in the supply chain network of Boeing under consideration of the actors' CO<sub>2</sub> equivalent emissions performance and position in the network. We find that emission trend, size, industry, and centrality are particularly influential in distinguishing between three role assignments.

## **Paper 102 (CP) - Paper The impact of procurement digitalization on supply chain risk management and resilience**

*Aleksi Harju (LUT School of Business and Management), Jukka Hallikas (LUT School of Business and Management), Mika Immonen (LUT School of Business and Management) and Katrina Lintukangas (LUT School of Business and Management).*

In this paper, the influence of procurement digitalization on supply chain (SC) risk management and resilience is examined using survey data collected from 147 Finnish firms. By utilizing the information processing theory, it was found that procurement digitalization through data analytics and digital process maturity requires effective information sharing among SC partners to be able to improve SC risk management and resilience. Procurement digitalization increases information-processing capacities and reduces uncertainty in the SC.

## **Paper 103 (CP) - Review of Social capital Theory in Procurement Research**

*Jad El Bizri (Lappeenranta University of Technology (LUT)), Elina Karttunen (Lappeenranta University of Technology (LUT)) and Katrina Lintukangas (Lappeenranta University of Technology (LUT)).*

Several studies have focussed on social capital (SC) in the supply management and buyer-supplier relationships (BSR) literature, but they overlook its role in public procurement. This paper aims to address this gap by conducting a systematic literature review within the scope of supply networks, BSR and procurement. The findings are classified into barriers, facilitators, performance outcomes and consequences. Eighty-one articles were found that describe SC and its dimensions (structural, relational and cognitive). Using SC as a theoretical lens, a research gap is explored in public procurement research, and novel theoretical foundations and outlines for future directions are identified.

## **Paper 104 (CP) - The digitalisation in purchasing: how automation and augmentation technologies drive the organisational evolution**

*Jacopo Colombo (Università degli studi di Bergamo), Albachiara Boffelli (Università degli studi di Bergamo), Matteo Kalchschmidt (Università degli studi di Bergamo) and Hervé Legenvre (EIPM).*

The study analyses the implementation and effect of digitalisation on the purchasing organisation. A multiple-case study approach is adopted, analysing eight companies at an advanced level of digital maturity. Results show that automation and augmentation technologies enable organisational evolution in purchasing. At the micro-level of the organisation, digitalisation enables professional development in roles and tasks, resulting in increased decision-making autonomy and job enrichment. At the macro-level, digitalisation fosters the collaboration between the purchasing department and internal functions, as well as with suppliers. The research adds relevance to the socio-technical perspective, and supports managers in implementing digitalisation in purchasing.

#### **Paper 105 (CP) - Business ecosystem concept in supply chain management research**

*Evgeniya Tsytsyna (LUT University), Katrina Lintukangas (LUT University) and Veli Matti Virolainen (LUT University).*

This systematic literature review aims to examine the position of the business ecosystem (BE) concept in supply chain management (SCM) literature. Results of the study reveal eight main research streams in the field: (1) sustainability, (2) digitalization, (3) ecosystem's architecture, (4) collaboration and trust, (5) ecosystem's lifecycle, (6) complexity and risks, (7) financial performance and indicators, and (8) services. First two research streams (sustainability and digitalization) are the largest topics in the field of BEs in SCM literature. The study also reveals micro and macro research gaps for future studies.

#### **Paper 106 (WP) - Sustainability in humanitarian food distribution in developing countries**

*Veronica Leon-Bravo (Politecnico di Milano).*

This study aims to investigate which are the drivers and barriers to sustainability in the humanitarian food distribution sector, specifically considering organizations working in the continuous-aid provision in developing countries. A mixed research methodology is developed: a literature review, exploratory survey and multiple case studies. Results from all these analyses allowed to identify and ad-hoc set of the most relevant drivers and barriers to sustainability perceived by humanitarian organizations in this particular context, a set of strategies to deal with barriers in this context and the differences between humanitarian organizations and traditional commercial food distribution chains.

#### **Paper 108 (WP) - Towards circular supply chains: revisiting the arcs of integration**

*Meletios Bimpizas-Pinis (University of Sheffield), Tommaso Calzolari (University of Sheffield) and Andrea Genovese (University of Sheffield).*

Asserting the fundamental role of collaboration and coordination as necessary conditions for the systemic transition to a Circular Economy, the aim of this paper is to critically examine the supply chain integration concept and its suitability for the analysis of circular supply chains. Based on the seminal concept of "arcs of integration", this study formulates a proposal for extending such a conceptualisation to the reverse flows of materials. Three different propositions are developed based on the identified combinations of forward and reverse integration, which pave the way to promising future research avenues.

#### **Paper 109 (WP) - Overview of the Higher Education Landscape and Competence Profile of Industrial Engineering and Management in Austria**

*Sigrid B. M. Weller (Graz University of Technology), Corina Pacher (Graz University of Technology), Amila Omazic (Graz University of Technology), Bernd Markus Zunk (Graz University of Technology) and Ulrich Bauer (Graz University of Technology).*

Industrial engineers play a central role in the field of Purchasing and Supply Management (PSM). Therefore this study aims to satisfy the information needs of the key stakeholders of the occupational profile of industrial engineering and the related educational opportunities. Accordingly, the study provides an overview of the Austrian industrial engineering courses offered at universities of applied sciences and universities, shows what the competence profile of industrial engineers should look like from a practical point of view in order to best meet the requirements of the labour market, and provides an overview of essential elements in the career path of industrial engineers. In addition to a detailed analysis of the higher education landscape in Austria, a survey was sent out to Industrial



Engineering and Management (IEM) students, IEM graduates and human resources managers in Austria.

**Paper 110 (WP) - Understanding the relationship between institutional pressures, supply chain integration and the adoption of circular economy practices**

*Tommaso Calzolari (The University of Sheffield), Andrea Genovese (The University of Sheffield) and Andrew Brint (The University of Sheffield).*

This paper proposes and discusses a conceptual framework concerned with the adoption of circular economy practices in supply chains; in particular, it is proposed that institutional pressures drive the adoption of circular economy practices, with the level of supply chain integration moderating this relationship. The framework is challenged through semi-structured interviews with experts from academia and industry. The main findings include the advantages and limitations of using institutional theory, a reflection on the role of supply chain integration and suggestions on how to measure circular economy practices and performance.

**Paper 111 (WP) - Adaptation and exaptation: how repurposing resources creates resilience in crisis**

*Jacopo Colombo (Università degli studi di Bergamo), Albachiara Boffelli (University of Bergamo), Matteo Kalchschmidt (Università degli Studi di Bergamo) and Hervé Legenvre (EIPM).*

COVID-19 was an exogenous shock that called for rapid reaction in an unpredictable context. The impacts of this exogenous force on supply chains and procurement organisation have been considerable. Waves of unexpected changes have generated ambiguity in continuously shifting environments. This has led procurement and supply chains teams to rapidly navigate through a series of unpredictable environments. In this context, organizations faced a number of emerging tensions. Our research, first aims to understand what tensions affected the environment of procurement organizations during the pandemic. Then, the research focuses on how procurement and supply chain organisations respond to unexpected and sudden exogenous shock through the use of new resources, but above all through the repurposing of resources already present in the company. Specifically, we considered how human and digital resources have contributed to the resolution of tensions.

**Paper 112 (WP) - The role of transparency and resiliency in responsive supply chains**

*Eric Ragan (Jönköping University), Kevin Oliver Friess (Jönköping University), Carla Goncalves Machado (Jonkoping University), Mohammad Eslami (Jönköping University).*

This working paper aims to create a better understanding of the role that transparency and resilience play in creating responsiveness within supply chains in the US manufacturing industry. For this purpose, two case studies were employed, and initial semi-structured interviews were conducted with manufacturing firms, producing material handling equipment (e.g., conveyors) for logistics applications. The findings indicate that manufacturing firms need more transparency in their supply chains, but barriers like lack of trust and underutilization of technology are limiting the information sharing, in particular with tier one suppliers. Both cases have implemented additional resiliency measures in the form of safety stock and additional suppliers to improve responsiveness. Toward responsiveness, firms understand the need of sharing information to develop more responsive supply chains, but the efforts toward full integration are still in the initial stages of development.

**Paper 113 (WP) - Crossing the Circularity Chasm: An Exploratory Study of Circular Network Actors**

*Anne Ratsimandresy (ESCP Business School) and Joe Miemczyk (ESCP Business School).*

The purpose of this study is to build on the concept of brokerage that exists in the network metatheory to extend our understanding of “circular brokerage”: the activities of brokerage existing in the specific context of the circular supply network (Ciulli et al., 2019). Recent papers have also explored the area of bridges and facilitation of circular economy (CE) especially in the context of platform economy (Pizzi et al., 2021; Schwanholz and Leipold, 2020) and incubators (Millette et al., 2020). We propose to add to this debate by classifying types of brokers. The adopted methodology is qualitative, through 16 semi-directed interviews with brokers specialised in the facilitation of circular supply relationships. The theoretical approach draws on the network view (Burt, 2009; Granovetter, 1973) and builds on the recent developments of the theory in the contexts of sustainability (Saunders et al., 2019) and CE (Ciulli et al., 2019; Wijewickrama et al., 2021). [... (see paper for full abstract)]

**Paper 115 (WP) - Future of Purchasing and Supply Management: A foresight of future directions from consultant companies**

*Christine Freye (Purchasing and Supply Management Research Group, Bundeswehr University Munich), Christian von Deimling (Purchasing and Supply Management Research Group, Bundeswehr University Munich) and Michael Eßig (Purchasing and Supply Management Research Group, Bundeswehr University Munich).*

According to ROZEMEIJER ET AL. (2012), research must listen to the “weak signals” of potential future developments (Rozemeijer et al., 2012). Only this way can preserve the own claim of actual, creative, modern, and future-oriented purchasing and supply management (PSM) research. This requires allowing new and unconventional methodological approaches that allow a break out of the usual context. On the occasion of the 30th IPSERA conference, this working paper follows the appeal of the 20th conference “Vision 20/20: Preparing today for tomorrow’s challenges”. Therefore, based on contributions from consultant companies, future research possibilities are discussed. With the help of an approach based on systematic literature analysis, a total of 102 contributions from consultant companies are identified, of which 23 have sufficient quality for further investigation. Those contributions are analyzed with a qualitative content analysis, whereby the coded text components are extracted by keywords. [... (see paper for full abstract)]

**Paper 116 (CP) - Learning to contract while digitalising: Joint intra-contract learning efforts in buyer–supplier relationships to develop contractual data clauses in PBCs**

*Tom Aben (Tilburg University), Wendy van der Valk (Tilburg University) and Henk Akkermans (Tilburg University).*

Digitalisation, which entails using digital technologies to fundamentally transform processes, greatly impacts inter-organisational governance. Since it also involves a learning process, the effective support of digitalisation using contractual and relational governance mechanisms is likely to require learning as well, preferably within single contract periods because of the pressure on organisations to reap the benefits of their digitalisation efforts. An embedded longitudinal case study of two maintenance outsourcing contracts that are to be digitalised illustrates that intra-contract learning regarding digitalisation involves post-formation adjustments to contractual governance (i.e. (re)design of contractual data clauses) and relational governance (i.e. increased formalisation of cooperative norms).

**Paper 117 (WP) - Relational capital in customer-supplier relationships in the global tourism sector in a post-COVID-19 context**

*Anass Allouch (Audencia Business School) and Rhona Johnsen (Audencia Business School).*

This paper investigates the role played by relational capital in customer-supplier interactions in the tourism sector in the wake of the Covid-19 crisis. A thorough examination of the literature in the field reveals a growing interest in relational capital in dyadic business relationships that has been recognized as beneficial for transformational industrial businesses. However, there is less existing research on customer-supplier interaction in the service and particularly tourism sector. In this conceptual paper, we analyze the development of relational capital in customer supplier interactions through a literature review and the development of a conceptual framework. The purpose of our conceptual framework, the 'Relational Capital Diamond' is to present and explain the key constituents of relational capital for customers and suppliers as a basis for guiding and conducting research on customer-supplier interactions in the Tourism sector in the MENA region.

**Paper 118 (WP) - Supply chain finance benefits on supply chain sustainability performance: a bibliometric analysis**

Yasmine Elhenawy (German University in Cairo), Raghda El-Ebrashi (German University in Cairo) and Sherwat E. Ibrahim (American University in Cairo).

Summary The current study uses a bibliometric analysis for supply chain finance (SCF) and sustainable supply chain (SSC) literature aiming to build an integrated framework to understand how can SCF adoption enhance SSC performance. The study finds the intersection, in both literatures, between the benefits offered by SCF adoption and the enablers of SSC to identify the main enablers of sustainable supply chain finance (SSCF). The results of the bibliometric analysis highlight the current gaps in literature and the possible tracks for further research.

**Paper 120 (WP) - Institutional complexities of smart maintenance purchasing in higher education institutes: setting the scene**

*Koos Johannes (Amsterdam University of Applied Sciences), Hans Voordijk (University of Twente), Ingrid Wakkee (Amsterdam University of Applied Sciences) and Guillermo Aranda-Mena (RMIT University).*

This paper analyzes the institutional context of maintenance purchasing in higher education. It aims to provide insights into the institutional complexities of smart maintenance purchasing in higher education institutes. In a case study, six external institutional fields and two internal institutional logics are identified. They create two types of institutional complexities that impede innovation if not treated correctly. Three ways are discussed to deal with those institutional complexities, 1) negotiating institutional field boundaries, 2) creating new institutional logics and practices, and 3) implementing institutional changes.

**Paper 121 (WP) - Knowledge spillover through suppliers - opportunism or part of the game?**

Chris Ellegaard (Aarhus University) and Niels Pulles (University of Twente).

We report on a mixed method study of knowledge spillover through suppliers. We first test some of the most prevalent antecedents to spillover by surveying the suppliers of a large OEM, specifically financial incentives, social relationships and competition. Based on the broad non-significance of our findings, we then explore the spillover phenomenon through a qualitative study at the OEM. Among other things, we find that the manager experts perceive spillover and the accompanying management task different for core and non-core supplies, explaining the lack of significance in the survey test. Suggestions for future research are provided.

### **Paper 122 (WP) - The selective attention of SME executives to supplier innovation opportunities**

*Chris Ellegaard (Aarhus University), Hanne Kragh (Aarhus University) and Jim Pedersen (Aarhus University).*

The paper adopts an attention-based-view (ABV) for investigating how SME executives pay attention to innovation opportunities in their supply network. Based on analysis of a three-year case study of five SMEs, six attentional challenges are identified as managers detect, engage and select issues and opportunities. These challenges emerge as a result of attentional processes, where managerial decisions create negative dynamics, which have detrimental effects for initiating new innovation projects with suppliers. The paper further discusses the implications of such challenges, both for practitioners and ABV-research.

### **Paper 123 (WP) - The impact of additive manufacturing on supply chain configurations: implications in terms of resilience and flexibility**

*Alessio Ronchini (Politecnico di Milano), Antonella Maria Moretto (Politecnico di Milano) and Federico Caniato (Politecnico di Milano).*

The presented paper aims at investigating through 13 case studies the relationship among Additive Manufacturing (AM) adoption and Supply Chain (SC) resilience and flexibility. In detail, the purpose is to analyse how the implementation of AM as a new production technology may impact the SC configurations of adopting companies and, in turn, the SC performance in terms of flexibility and resilience.

### **Paper 125 (WP) - Unpicking Supply Chain Deforestation Challenges: between contingencies and strategic alignment**

*Joe Miemczyk (ESCP Business School) and Anthony Alexander (University of Sussex).*

This research focuses on an initial analysis of deforestation related commodity sourcing policies, target actions and their links to national frameworks and priorities as contextual background to alignment in sustainable supply chain research.

### **Paper 127 - Sustainable supply management perspective on sharing business model: Clothing library case**

*Minttu Laukkanen (LUT University), Nina Tura (LUT University) and Anni-Kaisa Kähkönen (LUT University).*

This study combines the perspectives of sustainable supply management and sustainable sharing business models in the context of the sustainable clothing industry. The study aims to reveal how clothing libraries deliver their value propositions through sustainable supply management. The clothing libraries aim to offer access to a shared wardrobe, including a broad, versatile, and joyful selection of sustainable and long-lasting clothes and accessories produced by responsible domestic brands at an affordable price. To realize the sustainable value proposition of a sharing business model of a clothing library, sustainable supplier selection and supplier collaboration play a crucial role.

### **Educator Paper 128 - The Game suPlay – Using a Serious Game in Purchasing and its Effect on Learning**

*Vincent Delke (University of Twente), Hoger Schiele (University of Twente) and Frederik Vos (University of Twente).*

Within organisations purchasing and supply management evolved into a critical contributor to firms success. Recent publications within the field show that the impact of purchasing on a firm's performance, the working environment within purchasing, and purchasing objectives changed, demanding adequate competencies within the department. Here, professionals need to acquire the competencies to meet changing objectives for cost reduction, supplier relationship management, and innovation sourcing to contribute to the firm's strategic goals. Therefore, educational programs to train future students and working professionals are needed. For this reason, this educator's workshop will present the first online serious game focused on educating purchasing skills. The game has been developed and tested at the University of Twente, Netherlands. The game will be presented during the workshop, and by playing the game, participants will experience the competitive simulation. Further, the organisers elaborate on how serious games can be utilised within higher education by following an input-process-outcome course design. Details and the schedule of the educator's workshop are presented below.

### **Paper 130 (CP) - In Search of Non-Positivist Case Research**

*Louise Knight (University of Twente) and Thomas Johnsen (Audencia Business School).*

This critical review of trends in case study research within purchasing and supply management (PSM) is motivated by a concern that a rising prevalence of case study research standards that place theory development above all else, and that are founded on positivist-inspired evaluation criteria, may have the unintended consequence of 'crowding out' case study research that is 'non-positivist' and/or whose primary contribution is practice-oriented. Through a review of journal articles reporting PSM-related case study research and relevant methodology literature, we compare different approaches (positivist/non-positivist) to case study research, and derive guidance for the design, contributions and reporting of case study research in the field of PSM.

### **Paper 133 (WP) - Organising IT Commodity Sourcing: Challenges, Strategies, and Skills**

*Kai Kindsgrab (Münster University of Applied Sciences), Christian Lechleitner (Independent researchers) and Vincent Delke (University of Twente).*

A well-established IT architecture is the basis for successful companies in a technology-driven and fast-paced business environment to maintain competitiveness and implement future-oriented strategies. The IT sourcing department contributes significantly to this success factor by balancing cost pressure, technology progress, and complex supplier structures. Further, the IT sourcing department contributes to the overall success of a company in times of a pandemic and remote working. Therefore, a specific skill set is necessary for IT purchasers, which has been marginally researched. This research examines the organisation and individual challenges of IT sourcing, resulting in the relevant personal skills for IT purchasers. The objective is to gain insight into challenges and skills in IT sourcing reporting best practices. An online survey was used as the study method, resulting in 52 international responses. Research results show that the greatest challenges for IT purchasers are internal political struggles. Also, the most important PSM skills for IT sourcing are negotiation competencies and interpersonal communication. This research shows that not all product types within the IT commodity can be sourced with similar practices based on a clustering approach.

### **Paper 134 (CP) - Perceived Benefits of Adopting Artificial Intelligence Technologies in Purchasing Processes**

*François Constant (AUDENCIA BUSINESS SCHOOL), Redouane El Amrani (AUDENCIA BUSINESS SCHOOL), Max Berre (Université de Lyon 3) and Mohamed Shaheen Shahul Hameed (IAE Nantes Economie & Management).*

Little research has examined the benefits of Artificial Intelligence (AI) based technologies in purchasing processes. This paper extends research on purchasing digitalization by shifting from the focus on technology-centric outcomes, such as information system usage, to understanding the outcomes of AI on purchasing process. Based on a survey of 50 purchasing professionals mostly at senior positions, we investigated four AI-based technologies and we found out that their adoption is perceived to have a strong impact on several specific activities of the purchasing process (spend analysis, data quality, contract management). Our findings highlighted also the weak perceived influence of AI-based technologies directly on cost savings and risks mitigation, if organization do not manage the implementation of these technologies properly. Finally, our respondents perceived that data quality is the main beneficiary of several AI technologies. These findings open large avenues for future research relatively to purchasing digital transformation and AI.

**Paper 137 (WP) - The obstacles and improvement approaches for sustainable supply chain management in the global food retail context**

*Adegboyega Oyedijo (University of Leicester) and Juliet Ocheja (Supply Chain Department, Jetoph Ltd).*

The objective of this research is to examine the barriers to the implementation of sustainable practices in global food retail supply chains, as well as potential solutions. Semi-structured interviews were used to collect data on a case firm and its first-tier suppliers in the global food retail industry, and the data was qualitatively analysed using thematic analysis. The major obstacles impeding the implementation of sustainability in global food supply chains were discovered to be quite noteworthy. In this context, some suggestions for developing long-term strategies were made. The theoretical and practical implications were discussed.

**Paper 138 (CP) - Developing a Human Resources Development Model for Lifelong Learning in Purchasing and Supply Management**

Vincent Delke (University of Twente) and Jordy te Raa (Independent researchers).

Within the purchasing and supply management (PSM) domain, organisational performance is determined by the competencies of purchasing professionals. Recent publications addressed the skills needed by professionals to meet purchasing objectives and manage the challenges of increasing digitalisation. However, limited research is available on how these skills are taught, especially how the current workforce is trained. Therefore, a lifelong learning model is needed within PSM. A human resource development model for lifelong learning is developed within this research based on a multiple case study involving 14 expert interviews and desk research. Further, various education and training methods have been identified. Thus, this research provides a systematic approach to increasing purchasing maturity by using specific purchasing roles, allocating responsibilities and skillsets, and identifying suitable education methods.

**Paper 139 (CP) - Framing Sustainable Supply Chain Finance (SSCF): an overview of the phenomenon**

Elisa Medina (Politecnico di Milano), Federico Caniato (Politecnico di Milano) and Antonella Moretto (Politecnico di Milano).

Supply Chain Finance (SCF) can play a key role in improving supply chain sustainability: academics have started to investigate the connection between SCF and Sustainable Supply Chain Management (SSCM), and practitioners are developing new SCF solutions with a sustainable orientation. However, the topic is still under-investigated. This paper aims at integrating SCF and SSCM, framing the concept of Sustainable SCF (SSCF). It provides a valuable contribution to literature by describing what are the SSCF solutions, the actors involved and the SSCM practices integrated, and the SSCF adoption drivers and barriers, through a screening of SSCF providers based on secondary sources and multiple exploratory case studies.

**Paper 141 (WP) - The multi-stakeholder bridges to manage bioplastic-related risk in food supply chains**

*Barbara Ocicka (SGH Warsaw School of Economics) and Jolanta Turek (SGH Warsaw School of Economics).*

The purpose of the article is to identify the main drivers (sources) and types of bioplastic- related risk and to explore the multi-stakeholder collaboration potential for managing this risk in food bio-packaging supply chains. The authors' considerations are based on the qualitative empirical research on food bio-packaging supply chains in the context of the circular economy principles. The research findings contribute to the literature on food packaging supply chain management from the end-to-end and multi stakeholder perspectives. The conclusions may have practical implications for collaborative supply chain risk management by exploring the potential of building bridges between stakeholders through innovation co-creation.

**Paper 144 (WP) - Utilisation of CO2 emissions data from purchased transport services**

Javad Ghanei (IVL Swedish Environmental Institute / Chalmers university of technology), Dan Andersson (Chalmers university of technology) and Linda Styhre (IVL Swedish Environmental Institute).

The purpose of this paper is to improve the understanding of how shippers can utilise CO2 emissions data in their strategy to reduce climate impact. The results of this qualitative study show that shippers can enforce climate mitigation policy by reporting CO2 emissions data; internally and externally. Delegating relevant organisational mandates to the responsible function for the purchase of transport services facilitates both purposeful internal planning as well as shippers' leverage on improving carriers' performance. Shippers can facilitate collecting the emissions data through articulating contractual demands, developing ICT solutions and supporting carriers through providing expertise.

**Paper 145 (WP) - Exploring the impact of competitive priorities on Smart Manufacturing: a study of automotive suppliers**

Francesco Arcidiacono (University of Catania), Alessandro Ancarani (University of Catania), Carmela Di Mauro (University of Catania) and Florian Schupp (Jacobs University Bremen | Schaeffler Automotive).

This study develops and empirically tests a model linking firms' competitive priorities to Smart Manufacturing adoption and maturity, using organization-level actions as mediators. In turn, Smart Manufacturing maturity is envisaged to influence operational performance along the four dimensions of cost, quality, delivery, flexibility. Survey data from 234 automotive suppliers are used to test a structural equation model. Findings throw light on strategic drivers of Smart Manufacturing adoption and provide guidance to customers firms called to solve the fragmented adoption of SM in their upstream supply chain by highlighting factors that suppliers need to develop to progress in SM.



#### **Paper 146 (WP) - Connection between supply chain resilience characteristics and firms' performance in the pandemic**

Attila Chikan (Corvinus University of Budapest), Bence Kiss-Dobronyi (Corvinus University of Budapest) and Erzsebet Czako (Corvinus University of Budapest).

We exploit the macroeconomic shock caused by COVID-19 to analyse how firms with different supply chain structures and supply chain management policies have reacted to its sudden impacts. We focus on (a) how integrated is the firm within the supply-chain as a vulnerability, and (b) what is the level of supply-chain related capabilities within the firm. Effects of the pandemic shock is measured by comparing pre- and post-COVID financial results. A contribution of the paper is to use a high-dimensional, and perception-based survey to gain a deeper understanding of factors behind firm performance differences when it comes to reacting to shocks.

#### **Paper 147 (WP) - Purchasing innovation process model**

Holger Schiele (University of Twente) and Fábía Spadoto (CIEC).

Innovation is becoming an increasing requirement for purchasing. The question arises, how a buyer can ensure to systematically and continuously access its supplier's power of innovation. For that, this paper is designing a purchasing innovation process, which was developed during a community of practice project.

#### **Paper 148 (WP) - From operations to cash: inefficiencies in the order to cash process of logistics service providers**

Christiaan de Goeij (Windesheim University of Applied Sciences) and Luca Gelsomino (University of Groningen / Windesheim University of Applied Sciences).

Logistics Service Providers (LSPs) face specific challenges in their Order to Cash (O2C) processes due to complex pricing structures and relatively low profit margins. Literature focuses mainly on specific parts of the O2C process, especially payment terms, and therefore offers LSPs limited insights into how they can manage O2C as an integrated process. We use the Resource Based View as a theoretical lens to look at how LSPs can access and leverage resources to improve their O2C-process. Based on 4 in-depth case studies, with 19 interviews and an extensive amount of secondary data, we conclude that the main O2C problems are caused by a lack of an integrated vision on the O2C-process as a whole, a lack of internal coordination and collaboration between involved departments and limitations in IT systems used and IT skills of employees.

#### **Paper 149 (WP) - Digital Transformation in Supply Chains: Challenges, Strategies, and Implementations.**

Imoh Antai (Swedish Defense University), Carla Machado (Jönköping International Business School), Johan Larsson (Jönköping International Business School), Paula Bergholm (Jönköping International Business School) and Paria Amaleh (Jönköping International Business School).

The continuous progress in collecting, handling, analysing, storing, and using digital data demonstrates that technologies are critical to achieving digital transformation within and along the supply chain. This research investigates managers' perceptions of factors affecting the development and implementation of omnichannel strategies along manufacturers' supply chains. A case study of a global manufacturing company is undertaken. Results reveal factors not identified in the study but critical to omnichannel implementation. Paper contributes to the burgeoning transformation literature with insights into the complex and sometimes-difficult integration process that underlie the realisation of omnichannel strategies

### **Paper 150 (WP) - Early Supplier Involvement in Public IT Procurement**

Jeroen Arentsen (University of Twente & Supply Value), Frederik Vos (University of Twente), Robert Suurmond (Maastricht University) and Vincent Delke (University of Twente).

Based on survey responses of 155 procurement professionals, we found that key factors influencing the level of supplier involvement include technological uncertainty, transaction cost efforts and the perception of relative advantages. Also, solutions of user services and open source software were strongly related to a higher level of involvement. Finally, especially early supplier involvement in an advisory role was perceived as increasing the effectiveness of the tender, increasing the future involvement of suppliers, and having no (negative) influence on the perceived efficiency of a tender (=does not need more effort). As a contribution, this paper broadens the perspective from early supplier involvement in private procurement to early supplier involvement in public procurement. Additionally, we add Resource Dependence Theory and Transaction Costs Economics as new theoretical perspectives to early supplier involvement in public procurement.

### **Paper 151 (WP) - Blockchain-based sustainability, traceability, and compliance system: a research agenda for forestry supply chains**

*Carla Goncalves Machado (Jönköping International Business School, Business Administration, Division of Supply Chain Management), Elias Ribeiro da Silva (University of Southern Denmark, Department of Technology and Innovation), Jannis Angelis (Royal Institute of Technology, INDEK; IFN Research Institute of Industrial Economics), Jacob Lohmer (Technische Universität Dresden, Business Management) and Mohammad Eslami (Jönköping International Business School, Business Administration, Division of Supply Chain Management).*

The sustainable compliance requirement in forestry necessitates strict adherence to standards by all relevant actors. There is an ongoing pursuit for applicable technologies supporting compliance monitoring, such as distributed ledger technologies, since they have the potential to increase security, traceability, transparency, and enhance trust among the supply chain partners, as well as opening the chain to the extended business ecosystem. This study contributes to the debate by formulating a research agenda for opportunities and barriers offered by using blockchain technologies in the forestry supply chain to improve sustainability, traceability, and compliance systems.

### **Paper 151 (WP) Walking on the B side: A community of practice lens to the supply chain of B corporations**

Leonardo Marques (Audencia Business School).

The emergence of social enterprises and the challenge of assimilating these new organisation types into pre-existing categories has led to labels, measures, and evaluations, and one stands out – the B certification. While B certification offers a compass to social enterprises, research shows that small and young firms suffer the most when managing tensions between social and commercial logics. In Latin America, Sistema B offers a community for mutual support, learning and business opportunities. This research investigates why firms seek the B certification and to what extent does Sistema B support firms manage the tensions between social and commercial logics, based on data from Brazilian B firms.

### **Paper 153 (WP) - Aligning purchasing with the organizational strategy in the healthcare sector**

*Ilco Toebe (University of Twente), Frederik Vos (University of Twente) and Louise Knight (University of Twente).*

A theoretical model is developed to provide insight into relevant aspects influencing purchasing's vertical strategy alignment within organizations in healthcare. To test the model, interviews are conducted with ten respondents from different healthcare organizations. Eight respondents also filled in the follow-up questionnaire, indicating the relative importance of the different factors identified in the interviews. The results show that vertical strategy alignment between purchasing and organizational goals in healthcare is rather marginal. This is mainly because purchasing is often seen as a supporting function and that there is no one responsible for alignment. More findings and implications are discussed in the paper.

#### **Paper 154 (CP) - Exploring New Competences for Innovative and Sustainable Procurement: Findings from a Delphi Study**

*François Constant (AUDENCIA BUSINESS SCHOOL), Thomas Johnsen (AUDENCIA BUSINESS SCHOOL), Philip Beske-Janssen (Copenhagen Business School) and Andreas Wieland (Copenhagen Business School).*

This research presents the results of Delphi study, which was carried out to explore future competence requirements for purchasing and supply management (PSM) professionals in the face of an increasing demand for innovative and sustainable product and service solutions. The Delphi study consisted of eleven open-ended questions in the first round and four scenarios based on the initial rounds' results. The questionnaires were distributed to senior PSM experts spanning multiple sectors, including manufacturing or service organizations as well as academic institutions, consultancies and non-governmental organizations. The results reveal that the anticipated changes in the future business environment predominantly concern the application of digital technologies, increasing supply chain flexibility and transparency, sustainability impacts, and a need to build soft skills, related to interpersonal relationships, as well as hard skills, related to supply chain design.

#### **Paper 155 (WP) - Information Asymmetry, Agency Cost and Supply Chain Finance**

Luca Mattia Gelsomino (University of Groningen) and Christiaan de Goeij (Windesheim University of Applied Sciences).

The paper analyses pre-shipment financing, a subset of supply chain finance practices aimed at providing financing to suppliers, exploiting strong creditworthiness of larger buyers, before they start production, or even to suppliers beyond the first tier. Despite strong evidence on the effectiveness of such schemes, their application languishes. To understand why, we analysed three cases of pre-shipment financing through the lens of theory of agency. Results show that pre-shipment financing requires a sophisticated and difficult to achieve distribution of agency costs across buyer, suppliers and provider: in the case involved investment in technology and strong buyer intervention were required for the scheme to function.

#### **Paper 156 (WP) - Resilient food supply chains before, during, and after the first wave of COVID-19: a case study of synchronicity of a Dutch supply chain**

*Harun Demirci (University of Twente), Frederik Vos (University of Twente) and Petra Hoffmann (University of Twente).*

This research focuses on how to synchronize a resilient supply chain before, during, and after the first wave of the COVID-19 crisis. A framework with strategies to synchronize for supply chain resilience is created based on the work of Conz and Magnani (2019). Data was collected via a case study in the form of interviews within one Dutch food supply chain to explore the taken strategies before, during, and after the first wave of the COVID-19 crisis. Additionally, internal documents and online publications were used to support the findings. When comparing expectations with reality, in all supply chain links, no concrete contingency plans or synchronicity efforts were found. The supply chain was highly reactive at all network nodes. Furthermore, collaboration both internally and externally with supply chain partners seemed to be the most important drivers for supply chain resilience, yet synchronicity & alignment of strategies did not happen. Since our empirical part was rather small, but yielded already interesting insights, we present our synchronicity model at the conference and hope for IPSERA members to join us in a larger research supply chain research on this topic.

#### **Paper 157 (CP) - Gender diversity as a tool to attract procurement talent**

*Klaas Stek (University of Twente - Department of Entrepreneurship and Technology Management), Nico Kornegoor (University of Twente - Department of Entrepreneurship and Technology Management), Danny Pasma (University of Twente - Department of Entrepreneurship and Technology Management) and Thom Rikken (University of Twente - Department of Entrepreneurship and Technology Management).*

Procurement functions are understaffed; a “war on talent” is ongoing. In parallel, there is a discourse on diversity and gender equality in procurement. Females are underrepresented in procurement in absolute and relative numbers compared to other disciplines. Hiring female personnel seems a suitable answer to this problem. However, barriers prevent females from building a career in procurement. Political and corporate actions should resolve these barriers and therefore improve gender equality. A critical mediator for these strategies is society’s overall gender equalitarian attitude; a weak gender equalitarian attitude can undermine the well-intended governmental or corporate interventions. Surprisingly there is a discrepancy between female performance and female representation in procurement functions. Females outperform males, and therefore procurement being understaffed can benefit twofold hiring females. This research analyses the extant literature and applies the Resource dependence theory lens in the analysis.

**Paper 158 (WP) - A purchasing process maturity model: P2P and contract management maturity assessment of the Dutch municipalities**

*Marlou Snijders (University of Twente & Coppa), Carolina Belotti Pedroso (University of Twente), Frederik Vos (University of Twente) and Vincent Delke (University of Twente).*

Based on a literature review, a maturity model focused on the P2P process and contract management has been developed. Then, a quantitative research approach was used to gain insights into municipalities' current and desired maturity levels of Dutch municipalities. Based on 65 responses, the results show that most municipalities have a rather low maturity around level 1.5 (out of 4). Additionally, most municipalities desire to increase the maturity level of their purchasing process to an average level of 2.5 within three years. To achieve their desired maturity level in three years, municipalities must improve their purchasing process on average by one maturity level. Academically, this research intends to advance the existing knowledge on evaluating the purchasing P2P and contract management maturity in the public sector. Additionally, we aim at further assess the impact of collected influencing factors (e.g., size, budget, time, knowledge, culture) on the maturity of the municipalities. We are open to work together with other IPSERA scholars to collect more data with our measurement tool and combine datasets.

**Paper 159 (CP) - Towards a Conceptual Model of Digital Procurement Transformation: A Systematic Literature Review**

*Silke Herold (Maastricht University - School of Business & Economics), Jonas Heller (Maastricht University - School of Business & Economics), Frank Rozemeijer (Maastricht University - School of Business & Economics) and Dominik Mahr (Maastricht University - School of Business & Economics).*

This research analyzes the key dimensions of digital procurement transformation through a systematic literature review. We reconcile the mixed and generic definitions of procurement digitalization into a conceptual model thereby introducing the term digital procurement transformation. In doing so, we can develop and analyze strategic options CPOs can follow while taking into account the transformative implications for procurement, the overall organization as well as the supply chain. We further provide the enablers as well as proven performance outcomes when adopting digital technologies in procurement. A research agenda provides insights into interesting future research avenues.

**Paper 160 (CP) - The Complexities of Honda's Supply Chain & Associated Risks: Understanding Suppliers & Customers, Industry Differentiators, and Market Locations**

*Miranda Armie (Butler University), Kate Goodyear (Butler University), Mackenzie Summers (Butler University) and Janaina Siegler (Butler University).*

This paper investigates Honda Motor Co of Japan and over 50+ supply chain network relationships between suppliers and customers. These companies represent the industry through trading companies, specialty retail, road & rail, professional services, machinery, food products, electronic equipment, diversified financial, automobiles, and auto components. Our goal was to understand Honda's risks and associated capabilities to overcome them, in conjunction with their Tier-1 supplier vs. customers locations and industry differentiators to understand how they were performing through the many disruptions of the Covid-19 pandemic. Results showed that the main risks are Organizational (credit, agency), Industry (product market, input market), and Environmental (macroeconomic). The core capabilities are Flexibility (financial strength), Velocity (efficiency, anticipation, security), and Collaboration (market position). As a market leader, Honda has demonstrated resilience and readiness to recover from these disruptions.

**Paper 161 (WP) - Public procurement of professional services in developing countries: Decoupling practices under institutional pressures**

*Matin Taheriruh (Tampere University) and Mohammad Moshtari (Tampere University).*

This research aims to explore the practices of public organizations when dealing with the complexities of purchasing professional services in the developing country context. It describes how public organizations respond to conflicting institutional pressures when facing a public mandate that requires them to source consultancy services. More specifically, it shows that even when public organizations conform to a purchasing policy, they may decouple the ends of the policy.

**Paper 163 (WP) - Pawns of Giants: Just Transition in Fast Fashion Giants' Supply Networks**

*Hakan Karaosman (University College Dublin) and Donna Marshall (University College Dublin).*

This paper uses a new method, multi-level action research, in multiple multi-tier supply networks to understand how fast fashion giant (FFG) brands cascade their sustainability demands, strategies and practices throughout the supply networks. This exploratory paper introduces multiple vignettes to capture the lived reality of those working in the supply networks to understand how the demands, strategies and practices of the fast fashion giants impacts those who work in these supply networks.

**Paper 164 (WP) - Framework development for embedding just transition mechanisms across supply chains**

*Irene Ward (University College Dublin), Hakan Karaosman (University College Dublin) and Donna Marshall (University College Dublin).*

The just transition concept was developed in the 1970's as a mechanism to protect workers who were facing job losses mainly in fossil fuel industries. In November 2021 during COP26, the Just Transition Declaration recognised the need for no one to be left behind while moving towards net zero economies. It was also recognised that just transition will impact supply chains with unknown consequences on the environmental, economic, social and health aspects of those dependent on these supply chains. This study aims to examine how just transition can be achieved. Based on a theoretical framework using mechanisms, success and failure factors of previous just transition practices, we conducted exploratory in-depth interviews with practitioners and researchers who have direct experience in just transition projects. Theoretical insights and empirical data were then combined to highlight best practice and propose recommendations for supply chain management. Results show that co-determination, citizen assemblies, ecofeminism and humanising transitions can be applied to supply chains to build climate resilience and promote sustainable practices. Equally, trust-based relations, long-term strategies, localised solutions, and participatory approaches in decision-making can improve supply chain inter-relationships and lead to the development of joint resolutions.

**Paper 166 (WP) - The world's largest subsidy programme and GPP behaviour: Empirical evidence from Central Europe**

*Ruben Nicolas (Utrecht School of Economics), Vítězslav Titl (Utrecht School of Economics) and Fredo Schotanus (Utrecht School of Economics).*

In this article we empirically study the effect of co-funding through the EU Structural investment Funds (ESIF), on green procurement behaviour by public organisations in Central Europe. We answer whether, to which extent and how the supranational funding scheme contributed to greener behaviour by public organisations within policy environments at a lower level. We consider the direct and indirect effect of co-funding, account for endogeneity related to the experience of the procurer

with GPP and submitting for co-funding and consider how GPP differs as policy conditions and co funding rates change. We find that ESIF increases the likelihood of a tender being green by 6% points, but attribute 3.5% points of this effect to the experience of the procurer. Furthermore, we find that GPP increased by 4.3% points under higher co-funding rates and conclude that more sustainability-oriented policy conditions alone did not affect GPP levels.

#### **Paper 167 (CP) - FOR THE MANY NOT THE FEW: INTRODUCING RADICAL JUST TRANSITION**

*Hakan Karaosman (University College Dublin), Donna Marshall (University College Dublin) and Irene Ward (University College Dublin).*

This paper systematically reviews the current body of literature on just transition to understand the construct and guide future research. In so doing, we understand how and to what extent people and communities are integrated into just transition. We assert that the conceptualisation of just transition based on the dominant economic paradigm fails to protect marginalised communities, we uncover a new perspective on radical, as opposed to neoliberal, just transition and discuss its theoretical grounding, antecedents, and outcomes to prevent theoretical inconsistencies in the future. This review unifies the various conceptualisations of just transition into a more holistic understanding, providing a platform for future research.

#### **Paper 168 (CP) - Women's Empowerment in Fashion Supply Chains**

*Eva Marina Guerra Scheiwiller (University College Dublin), Hakan Karaosman (University College Dublin) and Donna Marshall (University College Dublin).*

**Purpose** – The purpose of this study is to explore women's empowerment in supply chains. We define women's empowerment and focus on its implementation in the fashion industry, a labour-intensive industry where women constitute most of the workforce. **Design/methodology/approach** – We conducted a systematic literature review identifying 45 articles from the database Web of Science, that dealt specifically with women's empowerment in supply chains. After developing theory from the review, we used the theory to analyse the annual sustainability reports, websites and communication materials of the top seven multinational fashion groups, according to the 2021 Forbes Global 2000 list, from 2016-2012. **Findings** – Our findings revealed three key elements that create a comprehensive definition for women's empowerment in the supply chain context. Further, we found that women's empowerment programmes, initiatives and actions are not aligned with women's empowerment definitions and need to be improved. To operationalise women's empowerment within the supply chain it is important to involve women workers in the process of decision-making and to take into consideration local, cultural, and social contexts affecting women, including when and where programmes, initiatives and actions are designed and implemented. **Research limitations/implications** – The systematic literature review was limited to the exclusive use of academic journals, and the use of one database. [... (see paper for full abstract)]

**Paper 169 (CP) - The role of individual sustainability competencies and risk behaviour in sustainable supply chain management practices**

*Wim Lambrechts (Open Universiteit), Jesse Teeuwen (Open Universiteit), Marjolein Caniëls (Open Universiteit), Talia Stough (Open Universiteit), Jessica Klaver (Open Universiteit) and Janjaap Semeijn (Open Universiteit).*

This paper describes the role of individual sustainability competencies on sustainable supply chain management practices. Variables are measured by means of a cross sectional survey among supply chain decision makers in business-to-business context. Results show that individual sustainability competencies, such as systems thinking and anticipatory thinking, correlate positively and significantly with sustainable supply chain practices. Firm size does not play a significant role in our model. Our findings show that organizations should pay attention to the role of individual supply chain decision makers and in particular to their sustainability-related competencies, if they wish to implement meaningful sustainable supply chain practices.

**Paper 170 (WP) - Challenges to Sustainable Purchasing in Micro, Small, and Medium Enterprises (MSMEs)**

*Sudipa Sarker (Aarhus University), Hasin Md. Muhtasim Taqi (Ahsanullah University of Science and Technology), Thuvarakai Kandasamy (Aarhus University), Rita Adomaityte (Aarhus University), Sukanthan Sureshkumar (Aarhus University) and Peter Lindgren (Aarhus University).*

The paper identifies 23 challenges related to sustainable purchasing by an extensive literature review. It then contextualizes these challenges for micro, small and medium enterprises (MSMEs) by conducting interviews with 10 MSMEs. The challenges are ranked using a Multivalued neutrosophic TODIM. Results reveal that five challenges stood out from the rest. The topmost challenge is found to be the lack of customers' awareness and demand for sustainable goods. The challenges to sustainable purchasing for MSMEs are then linked with United Nations' sustainable development goals (SDGs). The most relevant goal is goal 9, which is industry, innovation, and infrastructure.

**Paper 171 (CP) - Managing medical product supply in times of crisis: a high reliability perspective on the case of the Netherlands**

*Esmee Peters (University of Twente/ PPRC), Louise Knight (University of Twente), Kees Boersma (Vrije Universiteit) and Niels Uenk (PPRC).*

This paper introduces the High Reliability Network (HRN) perspective to frame the rich data of COVID related supply challenges. We build on the supply chain resilience conceptualization of Novak et al., (2021), by introducing a framing tool that goes beyond conceptualizing resilience as a definition but exemplifies what resilience might look like within a supply network. Acknowledging the need for a network-based, dynamic, feedback-based perspective on supply chain, new concepts such as layering, and switching are introduced. Adding on to the decentralization versus centralization debate by arguing hybrid governance modes can evolve, and networks can switch between difference modes.



## **Paper 172 (WP) - Greening freight transportation: A qualitative approach from the shipper perspective**

*Gisele Bilek (UPPA IAE BAYONNE LIREM), Richard Calvi (USMB IAE- IREGÉ), Daniel Erhel (USMB IAE) and Youcef Mechouar (Université Paris Saclay).*

The role of individual supply chain actors in carbon emissions reduction (CER) is well-documented. However, it is critical to identify conditions required to develop a systemic approach for encouraging these actors to share their visions and align their environmental strategy for CER. Drawing on the stakeholder theory, the purpose of this research is to examine the role of the shipper on the diffusion of environmental practices for greening freight transportation in a context of a voluntary program for CER. This study aims to identify for shippers the determinants (motivations, pressures, and incentives), modalities (stakeholders, communication modes, information flow, resources, and moderating factors), and outcomes (practices for CER) necessary for a better environmental alignment within the supply chain. From a practical standpoint, firms that leverage embeddedness may facilitate higher diffusion and adoption of environmental practices.

## **Paper 173 (WP) - Artificial intelligence in industrial purchasing: applications methods and future outlooks**

*Laila El Shafie (Graz University of Technology, Institute of Business Economics and Industrial Sociology), Volker Koch (Graz University of Technology, Institute of Business Economics and Industrial Sociology) and Bernd Zunk (Graz University of Technology, Institute of Business Economics and Industrial Sociology).*

This article presents an overview of current Artificial Intelligence (AI) applications used in industrial purchasing departments. A literature review and a survey were conducted. Survey participants evaluated their current situation regarding the usage of AI in their purchasing sector. The results show that numerous businesses recognize the value of investing in AI, regardless of whether it has been used in their operations. However, resources and information are in short supply, and not all businesses are willing to invest in the research that would be necessary to develop AI-related software. To successfully manage change, purchasers must be adaptable and open-minded.

## **Paper 174 (WP) - The impact of supplier selection criteria on procurement efficiency: A case study from the Nigerian Oil & Gas supply chains**

*Kwene Amayah (Aston University) and Yasmine Sabri (Aston University).*

The current global events have exposed areas for improvement in sourcing, contracting, and managing suppliers, in addition to demonstrating the importance of good supply chain management. Making the right choice from a supplier pool requires balancing a variety of criteria. To improve their success and competitiveness, businesses need a clear understanding of the supplier selection process. This research investigates how various supplier selection criteria might affect a firm's procurement efficiency in a developing country environment. Based on a multiple case study strategy, this paper puts forward the supplier selection criteria that are considered most important for oil and gas companies in Nigeria. The analyses highlight key measures of procurement efficiency in the industry. Researchers and practitioners can use this information to prioritise the most relevant selection criteria while acknowledging the relevant efficiency indicators within the oil and gas context.

## **Paper 175 (CP) - Reshoring outsourced supplies: The moderating role of the integration between purchasing and marketing functions**

*François Constant (AUDENCIA BUSINESS SCHOOL) and Adèle Le Moal (AUDENCIA BUSINESS SCHOOL).*

Managing the reshoring of outsourced supplies is often seen from the resource-based perspective: companies struggle to find local resources and competencies to reshore their outsourced supplies. However, there are many other challenges involved in the decision-making process that determine the country from which the outsourced product is manufactured. This study investigated the process of reshoring outsourced supplies from the perspective of purchasing and marketing (P&M) functions. In particular, we investigated the integration between these two functions, seen as moderators of the implementation of the reshoring process, to understand why and how this integration facilitates the reshoring process. Based on a single in-depth case study, we developed a series of enablers that facilitate the implementation of a reshoring process and identified the benefits of this integration. We contribute to the theoretical understanding of the implementation of a reshoring process, leaving aside resource-dependent theory to elaborate on a multidisciplinary framework of functional integration.

**Paper 176 (WP) - Competition between freight transport modes - A conceptual model for identifying competitive surfaces**

*Ayghir Aybalikh (The University of Gothenburg) and Jonas Flodén (The University of Gothenburg).*

Understanding competition and the competitive surfaces between transport modes is of great relevance for industry actors but also for authorities who are trying to promote more sustainable transport modes and intermodal transport. This paper develops a methodology, called competitive surface analysis (SC-analysis) to analyze the competitive surface between transport modes. The methodology draws on the resource-based theory (RBT) and the VRIO-framework. A SC-analysis is performed on transport service offers of 12 large Swedish road and rail transport companies to validate the methodology. The analysis shows that improved customer adaptation and transport quality should be a focus for a modal shift from road.

**Paper 177 (WP) - A Framework for Designing Circular and Sustainable Engineer-to-Order Supply Chains**

*Mayank Jain (Aston University) and Yasmine Sabri (Aston University).*

The present research makes an early attempt to develop a framework for embedding circular and sustainable practices in the engineer-to-order supply chain (ETO SCs). A systematic literature review was performed to identify the Circular Economy (CE) practices most suited for the project environment, focusing on engineering, procurement, and construction (EPC) aspects of the project. A quantitative survey was administered to industry experts in ETO SCs. The findings of the survey are presented as the conceptual framework for ETO SCs. The CE engineering practices, constructional environmental management practices, and offsite construction practices were impacting the sustainability performance of ETO SC and thus are identified for the transition towards sustainable and circular ETO SC.

**Paper 178 (WP) - Developing lean business networks by interfacing in project and supplier networks**

*Poul Houman Andersen (Department of Industrial Economics and Technology Management, Norwegian University of Science and Technology), Victor Eriksson (Department of Industrial Economics and Technology Management, Norwegian University of Science and Technology), Elsebeth Holmen (Department of Industrial Economics and Technology Management, Norwegian University of Science and Technology) and Ann-Charlott Pedersen (Department of Industrial Economics and Technology Management, Norwegian University of Science and Technology).*

Lean is a managerial practice that underscores the need to improve the flows and processes of production. Projects such as offshore wind farms are temporary production systems involving multiple actors in a network that call for intra- and inter-organizational alignment. Production flows stretch across firm boundaries, making suppliers and engaging in developing suppliers' capabilities vital. Nonetheless, mobilizing activities and resources across organizational boundaries is challenging and brings operational and strategic alignment difficulties. One way to deal with these challenges is by organizing the many buyer-supplier interfaces in networks. Buyer-supplier interfaces are a relevant and useful perspective for exploring the challenges of interorganizational alignment when aspiring to create lean management in project contexts. Therefore, this study aims to explore the interplay between lean and buyer-supplier interfaces across project networks.

#### **Paper 179 (WP) - Sustainable Supplier Management: the Impact on Sustainability Performance in A Swedish Context**

*Xiao Liu (Stockholm School of Economics) and Sven-Anders Stegare (Stockholm School of Economics).*

This research focuses on procurement organizations and their effort of sustainable supplier management (SSM). We investigate the impacts of supplier management practices on company's sustainability performance in different aspects.

#### **Paper 180 (CP) - Knowledge diffusion in the supply chain: A taxonomy for supply chain management**

*Piera Centobelli (University of Naples Federico II - Dpt. of Industrial Engineering), Roberto Cerchione (University of Naples Parthenope), Emilio Esposito (University of Naples Federico II - Dpt. of Industrial Engineering), Eugenio Oropallo (University of Naples Federico II - Dpt. of Industrial Engineering) and Renato Passaro (University of Naples Parthenope).*

Several articles have shown that supply chain models have changed continuously over time, influencing their organizational configurations, aims, and natural relationships between suppliers and customers. Today's supply chain is a multi-objective system spanned by many resource flows, but knowledge is not distributed evenly throughout the supply chain. Many previous contributions focus their attention only on clients and first-tier suppliers (FTS), while relationships with second-tier suppliers (STS) are neglected. Therefore, this paper proposes a hybrid model for understanding the process of knowledge diffusion within the triadic relationship between customer, first-tier supplier and second-tier supplier. The model is based on two main approaches suggested in the literature to address these problems, the Analytic Hierarchy Process and the Fuzzy Set Theory. The effective usability of the hybrid model is investigated through a sample of 18 supply chains. The paper identifies a taxonomy that highlights first-tier supplier's role and behavior within the supply chain. Four distinct areas describing several first-tier suppliers were recognized. Starting from the proposed taxonomy, the research highlights possible implications for customers, suppliers, and policy-makers.

#### **Paper 181 (WP) - Addressing Industry 4.0 Roles in Purchasing by Identifying the Required Skill Profiles**

*Vincent Delke (University of Twente).*

The purchasing and supply management (PSM) domain is going through a digital transformation process where the implications of Industry 4.0 become a reality. Due to increasing digitalisation and automation, the working environment of purchasing professionals is changing, and new competencies are required. Further, technologies allow for reshaping the buyer-supplier interface. However, it is still questionable how fast available or new technologies will be implemented. This research aims to identify the responsibilities and skills for future roles in PSM. Therefore, the future PSM roles suggested by Delke, Buchholz, et al. (2021) have been used. By using a multiple-case

study approach, the implementation of four future roles has been addressed, and the required skills for each role have been explored. Results show that each purchasing role requires a specific skill set, depending on the responsibilities and the available technology. Also, topics such as data analysis in PSM have been addressed in detail.

#### **Paper 183 (WP) - Social innovation in the public sector: the case for the social enterprise**

*Britt-Sophie Hunt (Norwegian University of Science and Technology), Dag Håkon Haneberg (Norwegian University of Science and Technology) and Luitzen de Boer (Norwegian University of Science and Technology).*

Wicked problems are challenging greater numbers of society to address and counter them. Principally, it has fallen to the state and public agencies to solve these societal problems but due to the growing size and complexity of the issues, alternative, innovative approaches are required, also when procuring. By that account, this paper focuses on the relationship between the public sector and social enterprise in their ability to address wicked problems. Therefore, this paper conducts a literature review to scope and assess the state of the field using bibliometric methods. Resultantly, identifiable themes emerge of which indicate the scholarly and practitioner engagement with, and encouragement of, further relationship development.

#### **Paper 184 (WP) - The (Re)localization governmental plan in France: reshoring or localization?**

*Fabienne Fel (ESCP Europe)*

In France, as in many other countries, the covid-19 pandemic has increased the general interest in reshoring. As the academic research on post pandemic reshoring is very recent and therefore scarce, we have aimed to complete it by analysing the 407 projects awarded by the French (Re)localization plan, officially displaying only reshoring initiatives. After a literature review on reshoring (before the pandemic and since), we present our research methodology and results. We show that reshoring projects represent only a small part of the winning projects, and that the (Re)localization plan is in fact an industrial competitiveness plan, where most of the projects concern the creation of innovative products or processes, through the creation of new factories and the development of industry 4.0.

#### **Paper 185 (CP) - Conceptualizing Market Stewarding**

*Steven Borobia (University of Twente), Louise Knight (University of Twente) and Fons Wijnhoven (University of Twente).*

Historically, the predominant response of public contracting authorities to market failures is to 'fix' the market through some form of centralised/hierarchical intervention. More recently market 'shaping' is advocated, preventing problems and proactively seeking beneficial outcomes, often through more participative and collaborative forms of governance as exemplified in Ostrom et al's 'Commons Scholarship'. We explore if and how commons thinking can inform (public) buyer for market shaping strategies. The resulting emerging theory of market stewarding provides an 'outside-in' approach to creating a more sustainable and competitive public supplier market.

#### **Paper 186 (CP) - Cultural Impact on the Relation between Relational Behaviour and Resource Allocation**

*Bitá Mirzaei (University of Twente), Frederik G.S. Vos (University of Twente) and Holger Schiele (University of Twente).*

**Purpose** – National culture has become a crucial part of many research fields such as marketing, psychology and management. Especially, in the field of buyer-supplier relationships it is crucial to know the habits as well as the background of the preferred business partner. This paper aims to analyse how the relationship between relational behaviour (as it presents one of the most important antecedents of supplier satisfaction) and supplier satisfaction is influenced by national culture of the supplier. **Design/methodology/approach** – The quantitative data for this study was collected in collaboration with the purchasing department of companies located in Brazil, Iran and the Netherlands. **Findings** – A multigroup analysis was performed and the results showed that national culture has a positive influence on the relation between supplier satisfaction and resource allocation. However, when feminine and collectivistic cultures are high, relational behaviour on supplier satisfaction and its allocated resources are not strong. **Originality/value** – The present paper contributes to the supplier satisfaction research by empirically testing national culture.

**Paper 187 (WP) - Strategic purchasing impact on sustainability performance: The missing links of supplier integration and supply base complexity**

Melek Akın Ateş (Sabanci Business School, Sabanci University) and Davide Luzzini (EADA Business School).

This research aims to examine the link between strategic purchasing, supplier integration practices, and sustainability performance, by also investigating the contingency role of supply base complexity (SBC). Based on a sample of 209 firms in Turkey, the results illustrate that strategic purchasing is a strong predictor of relational and operational supplier integration practices under both low and high SBC. The findings further suggest that when there is low SBC, only IT integration is associated with higher sustainability performance. However, when there is high SBC, only relational supplier integration practices – information sharing and long-term relationships – are associated with higher sustainability performance.

**Paper 190 (WP) - Involving Managers in an Integrative Review**

*Sourav Sengupta (Norwegian University of Science and Technology, Trondheim, Norway) and Heidi C Dreyer (Norwegian University of Science and Technology, Trondheim, Norway).*

While review papers play an important role in synthesizing the pool of knowledge, they are rarely developed with practitioners in mind. We attempt to bridge this ‘research- practice divide’ by proposing a new integrative literature review (ILR) paradigm for the operations and supply chain management (OSCM) discipline. We present a three-phase model that articulates the disciplined imagination process of conducting an integrative literature review by involving practitioners as ‘discussants’ and not as ‘informants’. The engagements that follow three stages, namely, ‘expression’, ‘reflection’, and ‘assimilation’ emerge to be particularly useful when effective synthesis of the related literature necessitates elucidating practitioners' perspectives.

## **Paper 191 (WP) - Purchasing & Supply Management Andragogic Curriculum Design: Learning through Experience**

*Simon Croom (University of San Diego).*

Teaching procurement to undergraduates who lack any professional experience can often pose challenges when aiming to prepare them for a significant, but entry-level, position upon graduation. Our recent talent survey at USD found, not untypically, that employers identify three key competencies to be evident to a high level in our graduates – analytical skills, program/project skills and people skills. For procurement specialists, data analytics would embrace, for example, cognitive abilities related to commodity price trends, cost analysis, logistics value/volume ratios, labour rates adjustments etc. Project management skills reflect two key attributes – the behavioural aspects of teamwork and the cognitive elements associated with managing complex work breakdown structures. ‘People’ skills are often a little less tangibly expressed, encompassing as they do both behavioural (i.e. ‘ability to work with others’) and personality attributes (such as ‘conscientious and detail oriented’). A key question for us, then, was how to address these 3 competency areas in our curriculum? In assuring that we meet the needs of future employers of our students, we needed to equip students with not only the capabilities and knowledge to succeed in procurement, but also the ability to operate in ‘messy problem’ environments. Consequently, our developments were based on the concept of andragogy whereby we emphasized experiential approaches to learning in our supply management curriculum. In this paper we discuss the implications of this approach, describe examples of experiences intended to develop students’ capabilities in various elements of procurement practice, and hope that readers find some valuable ideas for their own curriculum developments.

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