Latest trends in logistics research

RI.Logistica

Prof. Dr. Wolfgang Stoelzle

May 19th, 2021
St. Gallen, Switzerland
Agenda

1. Research Approach – Logistics Embedded in Supply Chain Management

2. Selected Trends in Logistics Research

3. Transfer Potentials of Logistics Research for Research Infrastructures
Research Approach

The Evolution and Increasing Importance of Logistics in a Globalized World

Logistics is a vital component for every supply chain

Source: Adapted to Göpfert (2005)

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Research Approach

Institute of Supply Chain Management (ISCM-HSG) – A Research Center of the University St.Gallen

Cornerstones

- Founded in 2003 by the University of St.Gallen
- Since 2008 to 2017 research center for Logistics Management
- Since 2018 Institute of Supply Chain Management
- Directors: Prof. Dr. Wolfgang Stoelzle and Prof. Dr. Erik Hofmann
- Over 80 percent financed by third-party funds
- Member of the School of Management (SoM) of the University of St.Gallen
- Member of the Center for Aviation Competence (CFAC) of the University of St.Gallen

Mission statement

- International platform for the academic and practical dialogue in the field of Supply Chain Management, Procurement, Logistics, and Traffic
- Offers a wide range of basic and advanced training for executives, young academics and students
- Studies of complex issues by developing innovative concepts, methods and instruments

Scientific steering and execution of projects as well as consulting of enterprises based on recent economic knowledge and research

Science-based undergraduate training with practical orientation for in-demand young academics in the fields of Supply Chain Management

Targeted insights in current topics with renowned experts who are operating in the field of Supply Chain Management, Procurement, Logistics and Transportation

Prof. Dr. Wolfgang Stoelzle
Managing Director
Institute of Supply Chain Management (ISCM-HSG)
Phone: +41 71 224 72 81
E-Mail: wolfgang.stoelzle@unisg.ch

Prof. Dr. Erik Hofmann
Director
Institute of Supply Chain Management (ISCM-HSG)
Phone: +41 71 224 72 95
E-Mail: erik.hofmann@unisg.ch
Research Approach

Almost all Activities are Initiated with our Partners from Practice

Competence Centers (Selection)
- PostFinance Supply Chain Finance-Lab (SCF-Lab)
- Bell Operations Excellence Lab
- Center for Aviation Competence (CFAC)

Studies on Current Topics (Selection)
- Logistics Market Study Switzerland
- Working Capital Management-Performance Excellence Study
- Study "The Last Mile" in the Swiss Retail Trade
- Study "Air Freight Logistics Switzerland 2020"
- Study "Compensation Systems in Logistics"
- Study "Reducing GHG-Emissions in Road Transport"

Awards for Excellent Performance in Practice (Conception ISCM-HSG)
- Eco Performance Award (Lead)
- Swiss Working Capital Management Award (Lead)
- VDA Logistics Award (Lead)
- Swiss Logistics Award (Participation)

Consortium Research (Publicly Funded and Privately Supported)

Scientific Support of Innovative Projects in Practice
Research Approach

Research Projects and Executive Education of ISCM-HSG in Supply Chain Management

Institute of Supply Chain Management (ISCM-HSG)

- Logistics and Cargo Transportation
- Purchasing and Supply Chain Innovation
- Further Education and Events

Current activities and focus on SCM

- Urban Logistics
- Digital Innovation in SCM
- Performance Excellence in SCM
- Purchasing Performance Measurement
- Intensive Seminars
- St.Galler Supply Chain Innovation Day with Management Board Summit
- Speed Dating Start-ups meet Corporates

- Supply Chain Finance
- Loadspace Shipment Sharing in Transportation
- Sustainability in Supply Chains

- Future of Purchasing
- Supply Chain Market Knowledge
- Supply Chain Transparency
- Sub-Supplier Management
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The megatrends digitalization and sustainability determine the trends in logistics. Cross-sectional megatrends

Selected Trends

Implications for Logistics Concepts

Trends in logistics

Connected vehicles
Digital Platforms
Sharing Logistics Resources
Autonomous Driving
Robotics
Carbon Neutral Transportation
Drivers as Expeditors

Cross-sectional megatrends

The megatrends digitalization and sustainability have a cross-sectional character and a major impact on trends in logistics.
The Swiss Logistics Market Study is Published Biennially by ISCM-HSG

Overview – Trends in the Swiss logistics market

- Trend radar of technological, economic and social trends in logistics
- Hype Cycles, diffusion curves, database research and trend characterization radars
- Current in-depth topics of logistics (resilience of logistics, future scenarios etc.)

Main drivers – Mega trends having a major, epochal character

- First and foremost; digitalization and sustainability reshape entire societies.
- As clusters of trends, they bring together different movements of change: technological, social and economic.

Due to the importance of trends in logistics and its vital function in supply chains, the Swiss logistics market study comprehensively examines a set of trends in logistics

Source: Hofmann & Langner (2021)
Diverse Technological, Economic and Social Trends Challenge Future Logistics

Diverse trends strongly vary in relevance, impact and speed of expected maturity

Source: Hofmann & Langner (2021)
The Location of 16 Technological Trends on the Gartner Hype Cycle Illuminates the Diversity of Trend Maturity

The development of maturity and potentials of implementation of technological tools are difficult to forecast

Source: Hofmann & Langner (2021)
Selected Trends

Digital Platforms are Experiencing a Real Hype in the Media – The Gartner Hype Cycle Reveals Interesting Details of its Diverse Specifications

Platforms for data collection, management, analysis and visualization unveils a tremendous potential for implementation in business logistics

Source: Hofmann & Langner (2021)
Selected Trends

The Diffusion Curve Underlines the Expected Spectrum and Estimated Timeframe of the Maximum Market Saturation

Digital platforms increasingly diffuse in the market and contribute to the future of logistics in business logistics

Source: Hofmann & Langner (2021)
Besides Specific Trends in Logistics Research the Holistic Market View is a Relevant Part of the Swiss Logistics Market Study

Overview – Market value calculation in Swiss logistics market study
- Holistic Swiss logistics market evolution since 2006
- Calculation of expected trend for the Swiss logistics market volume for the upcoming two years

Main driver – Gap between amount of performance studies vs. market studies
- Several performance studies exist like the Logistics Performance Index of the World Bank
- Market studies are rare – but value adding to every industry sector

The market evolution and trend calculation demonstrates the importance of the Swiss logistics market as an important decision factor for location choices

Source: Hofmann & Langner (2021)
The Consequences of the Covid-19 Crisis are Estimated to Have Led to the Sharpest Decline in the Swiss Logistics Market

Especially due to the decline of the market revenue, focusing on trends and the realization of its potentials is gaining even more momentum for business logistics

Source: Hofmann & Langner (2021)
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Research Infrastructures Should Focus on Pathways and Solutions from Business Logistics

Current state:

- Logistics is a highly dynamic industry
- Trends result in a diverse set of standardized concepts, processes and toolkits (e.g., automotive industry)
- Diverse solutions have to be customized on specific requirements (e.g., urban logistics)

Targets:

- Business Logistics can profit from specific insights of Research Infrastructures concerning logistics concepts, processes and toolkits

How can Research Infrastructures profit from business logistics?

Transfer Potentials

Current state:

- Trends in logistics in Research Infrastructures is not focused yet
- Small amount of logistics concepts, processes and toolkits
- Transfer potentials from business logistics are not exploited to the fullest

Targets:

- Focus on trends and development of concepts, processes and toolkits from which all Research Infrastructures profit before customizing
- Identification of adaption potentials from business logistics trends
- Logistics should become a decision factor for the design of Research Sites

The integration of different logistics perspectives offers new insights for Research Infrastructures
Thank`s and Let`s Get in Contact …

Prof. Dr. Wolfgang Stoelzle
Managing Director
Institute of Supply Chain Management (ISCM-HSG)
Managing Director (honorary)
Logistics Advisory Experts GmbH

University of St.Gallen (HSG)
Institute of Supply Chain Management (ISCM-HSG)
Dufourstrasse 40a
9000 St. Gallen
Switzerland
+ 41 71 224 72 80
Wolfgang.stoelzle@unisg.ch
iscm.unisg.ch
ISCM.HSG

Logistics Advisory Experts GmbH
Rosengartenstrasse 1
9320 Arbon
Switzerland
+ 41 79 815 69 64 und +49 176 240 59 899
Wolfgang.stoelzle@logistics-advisory-experts.ch
Logistics-advisory-experts.ch