

## Digital Supply Chain Platforms: Concepts and Business Cases

Venue: International Symposium on Logistics,  
Hotel Maritim, Würzburg, Germany

Sunday 14<sup>th</sup> July 2019  
15:30 – 18:00 hrs

### Background

The term “platform” is used in different business contexts, from product design and systems to supply chains and markets. Gawer (2009) has suggested a typology of four platform types: platform products, industry platforms, supply chain platforms, and multi-sided markets. As the result of a modular product design, *platform products* can easily be modified to meet specific requirements (Wheelwright and Clark, 1992). *Industry platforms* provide an ecosystem, in which several firms contribute to a system (Tilson *et al.*, 2012); one example is Apple’s iOS platform, for which many software firms develop apps. On *supply chain platforms*, “a set of firms follow specific guidelines to supply intermediate products or components to the platform owner” (Gawer and Cusumano, 2014). Supplier parks in the automotive industry are a tangible manifestation of this concept (Sako, 2009). In contrast to industry platforms, supply chain platforms are explicitly managed towards a single vision of the end product or service and based on contractual arrangements. *Multi-sided markets*, for instance B2C/C2C marketplaces like eBay, act as an intermediary between stakeholders.

Digital platforms can be understood as digital technology-enabled platforms and have already transformed many industries (Asadullah *et al.*, 2018), for instance passenger transportation (e.g. Uber) and hospitality (e.g. Airbnb). Past research has developed two main views on digital platforms: the technical view defining a digital platform as a “*building block [...] upon which complementary products, technologies, or services can be developed*” (Spagnoletti *et al.*, 2015) and a non-technical view characterizing digital platforms as commercial networks, in which value is created by a catalytic reaction, i.e. “[...] by *facilitating the interaction between two or more mutually interdependent groups of customers*” (Evans and Schmalensee, 2007, p. 3).

Digital platforms reduce transaction costs (Eisenmann *et al.*, 2006), for example by aggregating information from multiple sources or by automating processes, support and govern the development of complementary products and services (Tiwana *et al.*, 2010), generate new outcomes by attracting a large number and high diversity of users (Zittrain, 2006), and facilitate cross-side network effects (Hagiu, 2014), if an increasing number of users on one side attracts a larger number of users on the other side.

Digital supply chain platforms provide virtual representations of products, services and resources allowing users to plan, orchestrate and coordinate physical supply chains (Verdouw *et al.*, 2013). Applications suggested in academic literature range from very specific platforms with limited scope, for instance inventory management as a cloud service (Dahbi and Mouftah,



2016) or agent-based modeling of supply chains (Long and Zhang, 2014), to more generalized approaches like cloud-based "Supply Chain as a Service" (Leukel *et al.*, 2011).

Digital supply chain platforms available on the market vary from platforms focusing on parts of the supply chain, like Exostar (flow of design documents) or GT Nexus (integrating physical flow of goods and related financial services), industry-specific platforms (e.g. GHS for the medical devices and pharmaceutical industry) to end-to-end solutions (e.g. Elemica, E2open). From the perspective of potential users, the market offering of digital supply chain platforms is quite confusing, as there is still ambiguity in the conceptualization, what (and in which form) these platforms really should offer.

To shape the discussion, we will focus on the following questions:

- What are the barriers for industry using digital supply chain platforms?
- What 'use cases' have you seen or experienced in industry?
- What features do these use cases require to be a success?

### Outline Structure of the Workshop

The workshop will follow the approximate timetable below:

15:15 – 15:30	Tea/coffee & networking
15:30 – 16:00	Welcome and presentation by Prof. Peik Bremer/Lothar Gebhard/Prof. Kune-muh Tsai
	<i>The presentation includes a live demonstration of Data4Services, a novel approach for a digital supply chain platform that is based on a universal dataspace.</i>
16:00 – 17:45	Workshop key questions, discussion and break-out groups
17:45 – 18:00	Summary of findings and concluding discussion

### References

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