



Logistiikan kehitys ja käsitteet

Logistiikan opettajien ja tutkijoiden päivä
28.9.2023 / Markku Viljanen

TRANSVAL

Sisältö

- **Logistiikan tutkimuksen 50 vuoden ideoiden marssi (Logist. Res. (2009) 1:53–65 Peter Klaus)**
- **Mitkä ovat olleet keskeiset kehitysalueet 2008 – 2023? Entä mihin suuntaan tulevaisuudessa?**

1900s - 1920s

- Production and distribution centered around local markets.
- Pallets started to be used in warehouses
- Transportation by horses, trains and ships

1930s - 1950s

- Trucks and planes as a new transportation modes
- The modern shipping container was invented by Malcolm McLean in 1956. Arguably, the greatest revolution in global supply chain!

Awareness

Awareness

Markkinoinnin keskeisiksi elementeiksi tunnistettiin kuljetus ja varastointi.

Peter Druckerin artikkeli *The black continent of physical distribution* kiinnitti laajemmin huomiota tarpeeseen tutkia järjestelmällisesti “jakelun logistiikkaa”.

- ✓ *And being identified as one crucial element of Marketing, the activities of transporting and warehousing—“Physical Distribution” to customers—which formerly were rather peripheral concerns to management and academic research, became the nucleus for the emerging field of logistics.*
- ✓ *But it seems to have been Drucker’s article and popularity in the broad management community which, for the first time, drew really wide ranging attention to the need for systematic scientific work in exploring “the logistics of distribution”. Drucker PF (1962) *The black continent of physical distribution*. Fortune LXV(42):265–270*

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Instrumentation –
OR & modelling

Awareness

“Instrumentation” of logistics research through operations research and modelling methods

Mallinnus tekniikoiden ja operaatioihin liittyvän tutkimuksen integrointi.

Uudet mahdollisuudet suuren mittakaavan mallien ja matemaattisten laskelmien ajamiseen tietokoneilla 1960- ja 1970-luvuilla johtivat OR-työn nopeaan laajentumiseen logistiikassa.

- ✓ *Clarke G, Wright JW (1964) Scheduling of vehicles from a central depot to a number of delivery points. Oper Res 12(4):568–581*

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Awareness

Instrumentation -
OR & modelling

Instrumentation -
Hard engineering

The instrumentation of logistics through “hard” engineering technologies

Keskityttiin tutkimaan ja kehittämään “rautaa” (kuljetysyksiköt, hyllystöt, lastinkäsittely, kuljettimet jne.)

- ✓ *One of the pioneers is Reinhardt Jünemann, a mechanical engineer by education, who did dissertation research in the engineering of warehouse operations in the early 1970s*
- ✓ *Jünemann R (1971) Systemplanung für Stückgutlager. Krausskopf, Mainz*
- ✓ *In the 1980s Jünemann founded the first dedicated research institute to Logistics Engineering, the Fraunhofer “Institute for Materials Flow Systems and Logistics (IML)” at Dortmund.*

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Awareness

1960s

Instrumentation -
Hard engineering

Industrialization

Instrumentation -
OR & modelling

Industrialization

Teollisen tuotannon konseptia/prosesseja alettiin hyödyntämään johtavissa logistiikka organisaatioissa. Pioneereja esim. UPS, FEDEX ja WALMART

- ✓ 43. Levitt T (1972) *Production line approach to services*. *Harvard Business Review*: 41–48
- ✓ 44. Levitt T (1976) *The industrialization of service*. *Harvard Business Review*: 63–71

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1960s

Flow dynamics

Instrumentation -
Hard engineering

Industrialization

Instrumentation -
OR & modelling

Flow dynamics

Virtausajattelu, ennalta määritetyn tavoitevolyymin sijaan tuotannon ohjaus tarkasti asiakastarpeen perusteella. Tarvesignaalit alkaen asiakkaalta ylävirtaan. Merkittävä parannus tuottavuuteen, varastotasojen alenemiseen ja tuotannon kykyyn käsitellä eri tuotteita saman prosessin sisällä.

- ✓ Ohno T (1988) Toyota production system: beyond large scale production. Productivity Press, Cambridge/Mass Original edition 1978 "Toyota Seisan Hoshiki", Tokyo

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Cross-Org integration

Cross-Org Integration

Logistiikkatutkimuksen käsite laajeni yrityksen sisäisestä toiminnasta koskemaan myös suhteita yritysten välisissä ketjuissa.

Alkoi 1980 luvulla, SCM käsite laajeni käytössä vasta 1990 luvulla

The influential American “Council of Logistics Management (CLM)” renamed themselves in 2005 to “Council of Supply Chain Management (CSCMP)”, implying that “logistics” covers a subset of SCM-issues only.



Is logistics part of supply chain management or vice versa?



Logistics is a subset of supply chain management. In other words, logistics is a part of supply chain management. Supply chain management is a broader concept that encompasses all the activities and processes involved in the sourcing, procurement, production, distribution, and coordination of goods and services from suppliers to customers. Logistics specifically refers to the management of the movement, storage, and distribution of goods within the supply chain. So, while logistics is an essential component of supply chain management, supply chain management includes logistics along with many other functions and activities.

A recent discussion of this perspective is in Frankel et al. [24]. In this paper, as will become clear, “Logistics” and “Flow Management” are considered to be the broader, more generic concepts, and SCM is one—if very important—field of application of logistical concepts and ideas.

M

I disagree with that, didn't Frankel RYA, Bolumole RA, Eltantawy A, Paulraj, Gundlach GT (2008) in their paper: "The domain and scope of SCM's foundational disciplines—insights and issues to advance research" considered Logistics to be the broader, more generic concepts, and SCM is one—if very important—field of application of logistical concepts and ideas. Do you still think that logistics is a subset of supply chain management?



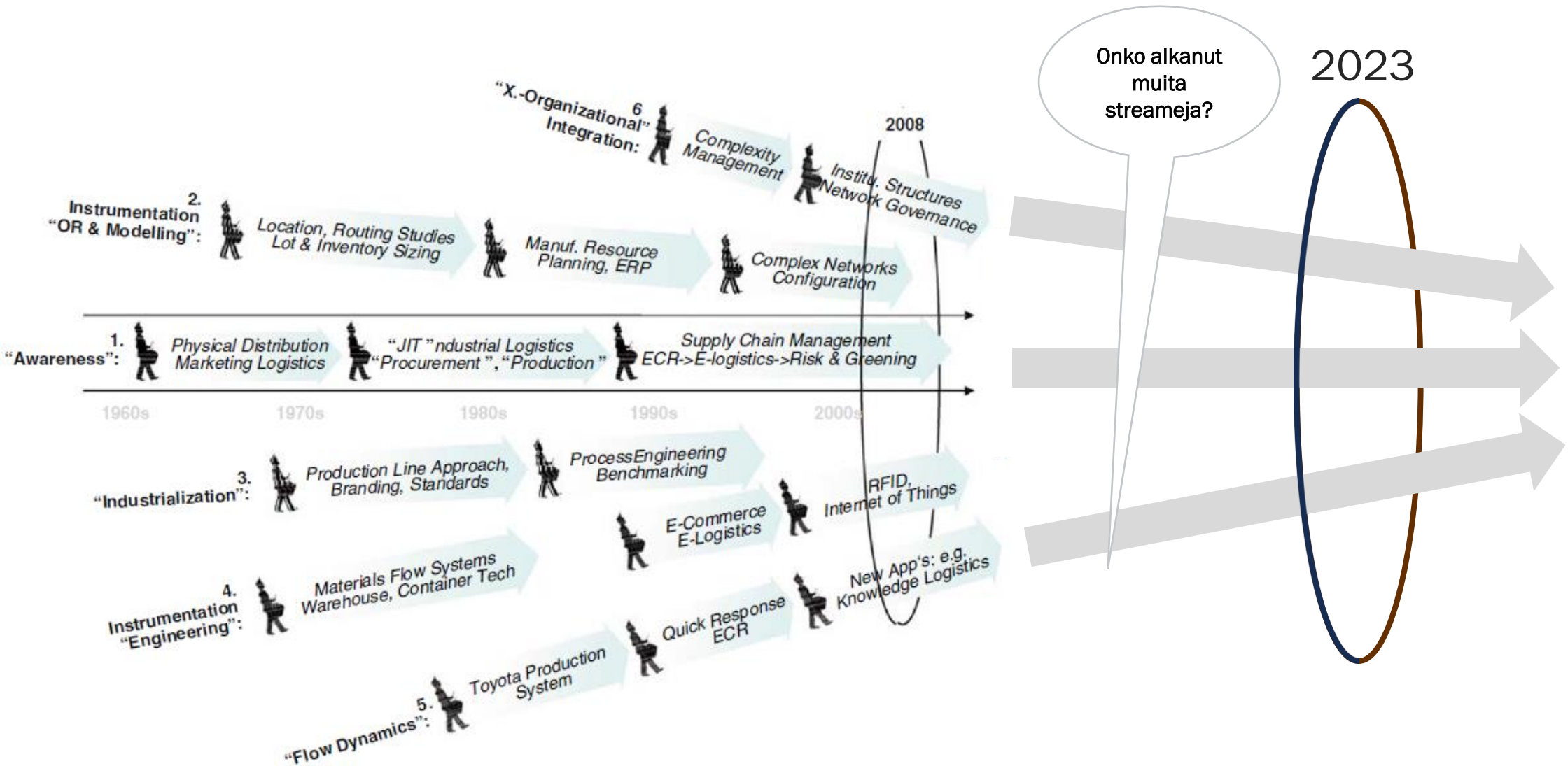
I appreciate your reference to the paper by Frankel et al. In some academic discussions and contexts, there may be different interpretations and viewpoints regarding the relationship between logistics and supply chain management (SCM). It's important to note that

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and boundaries of these concepts can vary depending on the context and the industry.

Ultimately, the understanding of whether logistics is a subset of supply chain management or vice versa may depend on the specific perspective and framework being applied.

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(Logist. Res. (2009) 1:53-65 Peter Klaus)