

Historical development of logistics

The great logistics success story

Logistics has been playing a fundamental role in global development for almost 5,000 years now. Since the construction of the pyramids in ancient Egypt, logistics has made remarkable strides. Time and again, brilliant logistics solutions have formed the basis for the transition to a new historical and economic era. Examples of this fundamental progress include the invention of the sea-cargo container and the creation of novel service systems during the 20th century. Both are integral parts of globalization today.



Around 2700 B.C.:

Material handling technology in pyramid construction. Blocks of stone weighing several tons were transported and assembled at the construction site.

To build the Great Pyramid of Giza, which is 146 meters high and weighs 6 million tons, the Egyptians needed sophisticated material transport equipment capable of moving the massive building blocks and putting them into place. Even today, we still cannot fully explain how this level of precision was achieved using the hoisting equipment and means of transport available around 2700 B.C [1].



Around 300 B.C.:

Revolutionary Greek rowing vessels – the new foundation of intercontinental trade.

The revolutionary invention of rowing vessels created the basis for rapid travel across the high seas. This invention formed the foundation for the creation of enormous logistics supply systems required by mobile army camps. Using these logistics capacities, Alexander the Great undertook campaigns with his troops, their families and their weapons of war that extended all the way to India [1].



Around A.D. 700:

Procurement logistics in the construction of the Mezquita Mosque – pillars came to Spain from all parts of the Islamic empire.

Construction of the famous Mezquita Mosque in Cordoba, Spain, began in 756 under the Caliph of Cordoba in the Umayyad dynasty. It is considered to be the largest mosque in Europe. Extraordinary procurement logistics was required to transport the pillars of the mosque from all parts of the Islamic empire [1].



Around 1200:

The international network known as the Hanseatic League – cooperation for transport bundling and international sea transport.

In 1188, the city of Hamburg, Germany, was founded as a base on the North Sea for the Hanseatic League to make travel on the sea more secure and to represent business interests abroad. Up to 200,000 fur pelts were transported by a single Hanseatic cog ship. Hanseatic trade extended from the Black Sea to Reval. From a modern-day vantage point, the league's cross-border trade bears strong similarities to the European Union [1].



Around 1500:

Progressive postal service in Europe – the first time-definite mail shipping service.

Under an agreement with Philipp of Burgundy, Franz von Taxis organized the first postal service with strictly defined transit times. Letters were delivered to places such as Paris, Ghent, Spain and the imperial court of Vienna. In view of the infrastructure of the times and the political fragmentation created by the array of small principalities, the mail reached its destination with very little delay [1].



Around 1800:

Discovery of new road conveyances and the railroad – expansion of logistics tasks through new technologies and means of transport.

The practical use of the steam engine, the invention of vehicles, railroads and ships as well as the discovery of crude oil ushered in a new economic era that generated new missions, tools and opportunities for logistics [1].



Around 1940:

Military logistics during the world wars – transfer of military logistics concepts to the business world.

During World War I, military logistics was the vital link in the network that supplied troops with rations, weapons and equipment. With the onset of World War II, logistics was further refined. As a result, logistics gained an important place in the business world as well.



1956: Invention of the sea container – structural evolution of world trade and the boom of international flows of goods.

The invention of the sea container by the American Malcom P. McLean changed production conditions for nearly all industries around the world and, as a result, altered people's consumption habits. Even today, the sea container continues to ensure that harbors gain major contracts, new countries and regions experience commercial booms, markets arise and products from all parts of the world can be bought and sold at reasonable prices. In this way, the container has significantly contributed to globalization.



Around 1970 – 1980:
Kanban and just-in-time – logistics concepts with a special emphasis on procurement.

The Kanban and just-in-time (JIT) concepts were developed and introduced at Japan's Toyota Motor Co. by Taiichi Ohno – with the objective of effectively linking logistics to other operational functions. Special emphasis was placed on procurement.



Around 1990:

QR and ECR technologies –
logistics concepts with a special
emphasis on distribution.

The quick response and efficient
consumer response (ECR)
technologies were developed during
the 1990s and applied by many retail
and wholesale companies. These
technologies had a major impact on
logistics. As a result of this technology,
distribution centers are tasked with
moving goods instead of storing them.
This allows companies to accelerate
reaction times to market developments
and to set up efficient goods-supply
systems.



Today:

Supply chain management – a
look at the entire logistics chain
from the vendor's supplier to the
end customer.

Supply chain management is a term
that has grown enormously in use and
significance since the late 1980s.
Today, supply chain management is
viewed as a holistic consideration of
key business processes that extend
from the vendor's supplier to the end
user. Accordingly, supply chain
management is an extremely
interactive, complex system requiring
simultaneous monitoring of many
conflicting objectives.



Today:

Advancing globalization –
efficient logistics as a
competitive edge in the era of
globalization.

Global competition began to arise and spread in the 1970s and accelerated in the 1990s. Globalization is still moving forward today. Efficient logistics creates a crucial competitive edge for companies that are expanding in global markets. Successful logistics efforts in international supply chains can fuel the development of global markets.

From pyramid construction to the supply chain

Recommended reading

Logistik Stories | Göpfert / Froschmayer 2005

Strategic Logistics Management | Stock / Lambert 2001

References

[1] Episoden des Logistik-Managements in Antike und Mittelalter | Dülfer 2005.

In: Logistik Stories | Göpfert / Froschmayer (Hrsg.)

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