Abstract
In modern conditions, taking into account the rapid development of Internet technologies, e-commerce increases sales worldwide and has already formed as a separate sector of the economy. One of the most significant changes that trade is currently undergoing is the progressive development and introduction of a remote way of selling goods. The growing popularity of implementing of the latest sales methods by the trade enterprises requires new approaches to the organization of supply of goods, ensuring their timely delivery and achieving the appropriate level of quality of customer service.

In developed countries, logistics is the driving force behind the changes in e-commerce enterprises that have developed significantly over the past 40 years. The precondition for the active development of logistics through the remote sale of goods was the emergence of electronic money in 1980-1990. At the same time, the first logistics companies appeared in the United States, the concept of "outsourcing" was introduced and distribution centers were formed.

The change of the traditional paradigm in trade to customer orientation, "pull system", gave impetus to changes in the management system of logistics flows. Thus, in 1992, a new concept of ECR (Efficient Consumer Response - economic relations with customers), which focused primarily on optimizing distribution channels and reducing costs not related to the process of creating value, appeared. So, as for now, the question about the study of the evolution of logistics management in e-commerce arises.

The article investigates the formation of the conceptual foundations of logistics management of the enterprise taking into account the transformation of e-commerce.
we can say that there is not unanimous version of the evolution of logistics management.

2 Latest scientific progress and publications review

European as well as American scholars usually use the concept of supply chain management when talking about logistics management. Based on the booming E-commerce, logistics and supply chain management (LSCM) has been greatly influenced when we are now already overwhelmed by its successes in both developed and emerging economies. Yu, Y., Wang, X., Zhong, R.Y. and Huang, G.Q. [1]. The last five years one of the biggest disruptions in traditional retailing for a generation has taken place: Mena, C. and Bourlakis, M. [2], Saghiri, S.S., Bernon, M., Bourlakis, M. and Wilding, R. [3]. According to scientists, the evolution of logistics management cannot exist without the development of Internet technology.

3 Purpose of the Research

The purpose of the study is to analyze the evolutionary processes of the concept of logistics management, taking into account trends in the development of e-commerce, which will reveal the close relationship between these two activities.

4 Main Material

Global B2C e-commerce turnover reached over $2 trillion in 2019. B2C e-commerce revenues rose to about more than 2 trillion USD in 2019. It is interesting to see how this revenue was distributed across the various regions of the world. It is astonishing that Asia/Oceania leads the list here with 44% of global sales generated in the region. That could occur, of course, through the driving force of China. The two following largest e-commerce regions are North America (26%) and Europe (22%) [4]. According to the Ecommerce Foundation report, 72% of Europeans shop online. The United Kingdom counts the most online shoppers at 87%. Germany (83%) and France (76%) are close behind. Italy, on the other hand, is far behind with 48% of its population shopping online. European shoppers spent an average of 1,715 USD online in 2019 [4].

The figure shows that, management of logistics activities of e-commerce enterprises consists mainly of three part: E-commerce companies, electronic logistics and logistics management.

Before considering directly the evolution of concepts, it would be appropriate to consider the stages of formation of logistics activities in parallel with the development of trade (Table 1).

The technological advancements are not only building up a driving force for the entire logistics and e-commerce sector but also are transforming the way of a better living. These interconnected supply chains are letting businesses to build their online presence and outreach their products to different parts of the world. By collaborating different fields like transport, storage, and management, these logistics are providing service across the globe. There are a lot of latest trends are
coming in into this sector. The development and accessibility of interaction of supply chain participants remotely led to changes in logistics concepts. Consider the concept in terms of two decades (Table 2).

### TABLE 1 Stages of development of logistics activity of the e-commerce enterprise

<table>
<thead>
<tr>
<th>Terms</th>
<th>Trade activity</th>
<th>Logistics activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010–2016</td>
<td>Development of mobile commerce, voice commerce, television commerce, universal commerce, digital commerce</td>
<td>Digitalization of logistics</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fulfillment center in mega-sizes from 50 thousand sq.m to 90 thousand sq.m</td>
</tr>
<tr>
<td>2017–2025</td>
<td>The active development of &quot;commerce&quot; or reverse trade is the sale of second-hand goods. Using artificial intelligence to reduce inventory. Development of 3D technologies for personalization of purchase. Engaging of large retailers and the main owners of commercial real estate (physical stores) in online trade</td>
<td>Robotic warehouse</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Use of artificial intelligence in logistics activities. Drones, unmanned vehicles and delivery ships</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ecological logistics (reduction of emissions from transport, use of eco-packaging materials)</td>
</tr>
</tbody>
</table>

Source: completed by the data from [5-7]

### TABLE 2 Evolution of concepts of logistic activity of the e-commerce enterprise 2000–2010

<table>
<thead>
<tr>
<th>Terms</th>
<th>Logistics concept</th>
<th>The essence</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000–2010</td>
<td>DDT – Demand driven Techniques/ Logistics</td>
<td>Demand-oriented logistics</td>
</tr>
<tr>
<td></td>
<td>QR (Quick Response)</td>
<td>The concept of &quot;rapid response&quot;, the essence of which is to assess demand in real time and as close as possible to the end consumer</td>
</tr>
<tr>
<td></td>
<td>CR (Continuous Replenishment)</td>
<td>Logistics technology &quot;continuous replenishment&quot;, designed to eliminate the need for orders for finished products to replenish stocks. This technology is a modification of QR</td>
</tr>
<tr>
<td></td>
<td>AR (Automatic Replenishment)</td>
<td>Automatic replenishment of stocks - a program of replenishment of insurance stocks, which allows you to maximize sales for each product category. This technology also reduces the costs of retailers associated with the division of stocks and ensuring the reliability of their replenishment.</td>
</tr>
<tr>
<td></td>
<td>SCM (supply chain management system), modified, including for the development of e-commerce)</td>
<td>Ability to create unique competitive advantages by combining customer values with product flows. Formation of social responsibility supply chain participants. The relevant issues of interaction between the enterprise and the environment (ecology, society). Formation of social responsibility in accordance with the requirements of the target market</td>
</tr>
</tbody>
</table>

Source: completed by the data from [8-10]

Summarizing the above concepts from 2000 to 2010, the management of logistics activities of e-commerce developed in 3 vectors, namely, meeting demand, accelerating operations, automation of inventories and the beginning of the emphasis of management on social responsibility.

Over the next 10 years, we will see how closely each concept is closely linked to the development of Internet technology. The concept of e-logistics is the most modern and aimed at connecting all participants in the supply chain in the online space. It shall increase the efficiency and speed of adaptation of logistics processes in real time in a harmonized information standard.
TABLE 3 Evolution of concepts of logistic activity of the e-commerce enterprise since 2010

<table>
<thead>
<tr>
<th>Terms</th>
<th>Logistics concept</th>
<th>The essence</th>
</tr>
</thead>
<tbody>
<tr>
<td>DCM (Demand Chain Management)</td>
<td>Aimed at ensuring the interaction of logistics (including distribution) and marketing (including after-sales service)</td>
<td></td>
</tr>
<tr>
<td>SSCM (Sustainable Supply Chain Management)</td>
<td>Provides for the relationship between enterprises and the environment in general, i.e. this concept builds the concept of SCM in the direction of social responsibility of chain participants and business ethics</td>
<td></td>
</tr>
<tr>
<td>E-logistics</td>
<td>The concept that transforms new logistics into customer-oriented technology by sharing data, providing information and accurate statistics with customers in the supply chain. E-logistics helps to solve new problems in the field of supply chains. The main components of e-logistics are multi-channel operations, cross-border tasks, inventory plan and inventory, planning, evaluation and efficiency management</td>
<td></td>
</tr>
<tr>
<td>Digital twinning</td>
<td>The concept is to model the system in real time, which provides a virtual design of physical assets. It allows you to manage both digital and physical assets as a whole. In the logistics industry, the development of digital duplicates for complex infrastructure supply chains, such as ports and large warehouses, is still at an early stage. However, major ports around the world, including Singapore and Rotterdam, are turning to digital duplicates to design, plan and manage their operations.</td>
<td></td>
</tr>
</tbody>
</table>

Source: completed by the data from [8-10]

It is worth noting the study of another modern concept - the concept of "digital twinning", which is in the logistics sector under development, but the implementation of this concept will allow, for example, virtually model warehouses and forecast their activities in real-time by changing their parameters virtually, which will provide an opportunity to apply this model and quickly adapt to changes in the external environment. Every process that takes place on the object (model) and every element will be reflected in the digital mirror, ensuring a constant flow of operational data. The advantage of execution of the concept of "digital twinning" in the logistics activities of the company may be, for example, the ability to quickly identify inefficiencies in certain areas of cargo handling or maintenance problems before they affect the capacity in "real life". It is worth noting that the information to the "double" is collected from the maximum number of sources (software, sensors, etc.), it is necessary to have a high-speed Internet, and with the advent of 5G, this model will work even more efficiently [9].

Therefore, on the basis of the conducted research we have defined stages and evolution of concepts of management of logistic activity of the enterprises including electronic trade and outlined the basic tendencies of their development.

High-quality management of logistics activities of the enterprise provides an opportunity to develop trends in e-commerce logistics. On our opinion, the most important trend is called “a better risk management” [11]. This type of trends of logistics and supply chain nowadays are bracing themselves up with proper disaster management. Thus different logistics operations are taking up better practices to improve their supply chain management and dealing better with all the risk factors [11].

Total digitization of the supply chain has not only improved the speed and dynamics but has also brought resiliency in the operations of these supply chain. Through this method, these logistics companies not only witnessed the performance graph and but also increased their market revenue. The field is vast and there are a lot of transformative solutions available. The digitization is helping them monitor their inventory, manage their warehouse stocks and also make detailed plans about the transport routes so that they don’t have to spend on extra dead mileage [11].

The use of Artificial intelligence and using sAAs for managing supply chains are making the logistics targets much easier, and achievable. The robotics concept has already been implemented in the different supply chains. They are easy to operate and are pretty cost-effective and flexible. The process has gained popularity as the functionality of cloud computing came into the market. This technology allows different logistics business to
stave off high fixing cost and helps in easy
maintenance with timely upgrades and also looks
after the infrastructure-related expenditures [11].

Also, in E-logistics social media platforms are
used. This helps a lot of e-commerce and logistics
to find a suitable way to coordinate with the
customers. This is also useful when it comes to
sharing business news, giving out information and
working on customer feedback as early as possible.

One of the evolutionary features of the
management of logistics activities of e-commerce
is the constant acceleration of processes and
reduction of time to perform operations, this
applies directly to management. Thus, an
e-commerce company, including due to the
coronavirus crisis, need to attract tools for rapid
goal-setting.

The authors have developed an adaptive version
of goal setting, which can be used in conditions
of uncertainty, due to its simplicity and speed. Based
on the results of the study of uncertainty conditions
that arose in 2020, we offer a new method of goal
setting developed by us called “CRASH”. Quite a
provocative name in the conditions of force
majeure is an anagram aimed at a quick check on
the audacity and reality of the goals (. 3.4). The
CRASH model will allow at the stage of planning
the logistics activities of the e-commerce company
to determine the feasibility of providing support
for management decisions in real time and will
determine the directions of development of
logistics activities. The CRASH goal-setting model
is deciphered as: C – challenging, R – reality, A –
actual - S - sustainable; H– harmonious.

We propose to consider an example of applying
the model to improve the logistics system and to
accelerate the speed of delivery of goods of an
enterprise specializing in the sale of household
appliances and electronics. The purpose of using
the model in the verification of the purpose of the
application of additional services offered by LLC
“Glovo Ukraine” (Glovo) and LLC “ROCKET
DELIVERY” (Raketa). Using the goal-setting model
“CRASH”, we demonstrate additional solutions
that can be used by the company (Table 4).

| C | CHALLENGING | Exit of the management staff and the enterprise from the “comfort zone” |
| R | REALITY | Must be performed using existing tools |
| A | ACTUAL | The goal must meet the requirements of the time and be relevant |
| S | SUSTAINABLE | The goal should be the same when adjusting individual parameters |
| H | HARMONIOUS | The goal should be consistent with the activities of the PET system (logistics, marketing, finance) |

Figure 2 CRASH goal setting model
Source: constructed by the authors

Analyzing the services of delivery of goods by
tos, the experience of drogerie companies (companies selling cosmetics
and household chemicals) we can conclude that for
e-commerce companies specializing in the sale of
home appliances and electronics it is necessary to
pay attention to the size (weight, size) of the
delivered goods and the readiness to quickly form
an order for the courier. E-commerce companies
specializing in the sale of home appliances and
electronics should form a range based on these two
basic conditions, as well as take into account the
availability of self-pickup points for couriers. We
consider this area promising because the delivery
services are also interested in meeting all the needs
of consumers.

5 Conclusions

Based on the results of the study of the evolution
of logistics concepts, we proposed to supplement
their list of "Electronic Logistics" and "Digital
Twinning", taking into account current trends in
retail, and the scale of logistics activities that require
professional guidance. To improve the efficiency
of goal setting in the management of logistics
activities, the authors proposed the CRASH model.
This example showed that the model can be applied
to the e-commerce enterprise, but can also be an
effective tool in management in general.
TABLE 4 Model CRASH for the e-commerce enterprise

<table>
<thead>
<tr>
<th>Model components</th>
<th>The goal</th>
<th>Analysis of services</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>C – challenging</strong></td>
<td>Objective: to increase the availability of e-commerce to the consumer through delivery services * through mobile add</td>
<td><strong>ROCKET DELIVERY LLC</strong></td>
</tr>
<tr>
<td>Clarifying questions to meet the goal</td>
<td><strong>Glovo Ukraine LLC</strong></td>
<td><strong>Year of appearance on the Ukrainian market</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2018</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>The percentage of service fees by the company</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>30–40%</td>
</tr>
<tr>
<td><strong>R – reality</strong></td>
<td>Do these services exist in Ukraine?</td>
<td>1. Preparation of the order at the enterprise optimally takes 45 minutes</td>
</tr>
<tr>
<td></td>
<td>Are they in demand?</td>
<td>1. Location in a city with a population of over 200 thousand people</td>
</tr>
<tr>
<td></td>
<td>What are the conditions for involving them in cooperation?</td>
<td>2. Preparation of the order at the enterprise optimally takes 45 minutes</td>
</tr>
<tr>
<td></td>
<td>Are there any restrictions (dimensions, territory) in their activities?</td>
<td><strong>Parcel dimensions</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Size:</strong> 40x40x30 cm</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Weight:</strong> 9 kg</td>
</tr>
<tr>
<td></td>
<td></td>
<td>22 cities of Ukraine The distance is NOT fixed</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Distance up to 3.5 km</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Up to 60 minutes, 8:00-23:00</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Shipping cost</strong></td>
</tr>
<tr>
<td><strong>A – actual</strong></td>
<td>How many consumers use the service?</td>
<td><strong>Number of application downloads</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 million in Ukraine (over 10 million worldwide)</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Number of partners</strong></td>
</tr>
<tr>
<td><strong>S – sustainable</strong></td>
<td>How stable are the services?</td>
<td><strong>An increase in the number of orders by an average of 40% during quarantine</strong></td>
</tr>
<tr>
<td><strong>H – harmonious</strong></td>
<td>Terms of connection of the service to the site of the e-commerce enterprise</td>
<td><strong>Harmonization of partner software and application</strong></td>
</tr>
</tbody>
</table>

Source: completed by the data from [12-13]
References


[8] Kanagavalli G 2019 Logistics and E-Logistics Management: Benefits and Challenges International Journal of Recent Technology and Engineering (IJRTE) 4 E-source: URL:///C:/Users/%D0%9E%D0%BB%D1%8C%D0%B3%D0%B0/Downloads/D7179118419.pdf


