ENSURING SOCIO-ECONOMIC EFFICIENCY OF RETAIL IN THE CONDITIONS OF CRISIS ON THE BASIS OF THE DARK STORE FORMAT

Over the last few months, there were some drastic changes in the retail activities all around the world: implementation of strict quarantine because of the COVID-19 pandemic, changing the traditional format of retail networks work, prohibition of visiting shopping and entertainment centers, restriction of trade floors number of visitors. This has significantly declined the socio-economic efficiency of the trade establishments; furthermore, many of them are on the verge of closing because of the dramatic income decline and outflow of customers. At the same time, the reduction of maintenance, staff and logistics costs may cause the closure of stores (up to 30 % of their total number according to the calculations by the international consulting company Colliers International).

At the same time, online trade significantly intensified: in the first quarter of 2020, online sales in France increased by 87 %, in the US and UK – by 53 %, in Spain – 62 %, in Korea, Australia, China – by 45 %, compared to the same period in 2019; the number of online sellers in Spain increased by 30 %, in France – by 13 %, and in Italy – by 85 % [1]. During the first 2 months of quarantine, Ukrainian IT company EVO (representing such marketplaces as Prom.ua, Bigl.ua, Shafa.ua, Crafta.ua, Kabanchik.ua) increased its sales of goods by 20 %, and the demand for electronic document management services Vchasno.ua has increased 3 times.

One way out of this difficult situation for retailers may be to change the format of trade, which will allow the redirection of resources to provide online trading as long as the retail space and inventories are still functioning. This is the format of Dark Store in retail trade.

Dark Store serves only purchases generated via the Internet in the distribution center format. It is completely closed for customers, but its interior may look like a regular supermarket. The customer places an order through any active remote communication channel (online store, call center, chatbot, mobile application) and pays for it; then packers team is in charge of selecting the right goods scanning their codes using special terminals (fig. 1). The scanned and selected goods are...
automatically removed from the management system of stock. If, for some reason, the product is not on the shelf, the system may recommend a replacement.

![Fig. 1 Completing orders in Dark Store](image_url)

The interior of the store is organized so as to prepare the orders for shipping. The same employees who pick the orders are also in charge of distributing the goods on the shelves. The retailer ships the packed order to the address, specified by the customer. In some cases, the customer can pick up their purchase in the store, using the "click-and-collect" option.

This format first appeared in London in the early 2000s in a form of distribution center for online purchases of Sainsbury’s chain store, however the "classic" Dark Store model was suggested in 2009 by Tesco. Nowadays this format is developing by the large FMCG-chains in Europe: in France, where the online part of the sales exceeded 6 % and in Great Britain, where the goods of daily demand online sales have 8 % of the market. The Dark Store model is developing in the USA in Walmart, Albertsons, Stop&Shop, Meijer and Hy-Vee chain stores. Its implementation also started in Russia (chain of the supermarkets Perekrestok); still there are no Dark Stores in Ukraine yet.

The main niche of this format is selling food and daily commodities (FCMG – Fast Moving Consumer Goods); also, the sales in fashion-segment (clothes and footwear) are very active as well.

Furniture and the domestic appliances stores usually apply the hybrid model - small ordering and distribution centers for purchases inside the large dark stores. Altogether, Dark Store is flexible, resourceful and provides high level of customers loyalty.

One shouldn’t compare dark stores with the traditional distribution centers. The last ones are usually located out of town due to large areas need, thus shipping takes long time. On the other hand, dark stores are usually located in town, near the residential and public areas and their total space is equal to the space of a regular supermarket, which allows compiling and shipping goods swiftly with minimal transportation expenses. Also, unlike warehouses, these stores without customers
provide accurate temperature maintenance, required for storage of various categories of goods. In addition, as it was already mentioned, hybrid dark stores are popular as well and they provide small ordering and distribution centers for customers.

Primarily, the Dark Store format is convenient for the retailers, because it functions as a regular supermarket which works in a warehouse regime and does not require any expenses for the customer service flow. At the same time, company can open such store (fully or partially) for the customers at any time. It is convenient to open such stores in the areas, where it is not efficient or possible to open large warehouses for distribution (which, usually, have many high standards for the material and technical supplying of premises) and this drastically decreases the expenses for turnover. Owing to the introduction of modern technologies at the storage stages, selection and shipment efficiency also increases. For the customers, ordering of goods via the Internet is a significant advantage, which efficiently ensures their personal safety during pandemic, providing high-quality and rapid satisfying of their demand.

At the same time, this format has certain drawbacks, in particular, retailers must offer variety of goods, to constantly maintain a cost-effective average receipt that will allow extra charges for shipping.

Dark stores need an appropriate digital infrastructure to function efficiently. Thus, CMS-systems (Content Management System) provide the account of the remaining goods, integration with the delivery service and checking the stocks online; ERP-systems (Enterprise Resource Planning) process new delivery processes and refine call center operations; CRM-systems (Customer Relationship Management) is designed for refining algorithms for own delivery and development of self-pickup algorithms; WMS-systems (Warehouse Management System) provides management and technological optimization of the warehousing processes. [3] In some cases, Pick-by-Voice voice control technology is also used: the system gets tasks from the WMS-task system and transmits step-by-step voice instructions to the employee. Voice control terminal converts the data into the language commands, directing the employee to a certain passage or compartment of the rack to select the desired product. Also, the packer does not look through numerous picking sheets at the same time, so one’s attention is focused on the tasks, thereby it lessens the number of errors significantly and speeds up the order processing process (selection accuracy increases to 99.98 %, and the productivity of the warehouse increases by 10-35 %).

Prospects for further development of dark stores are quite optimistic in the context of online segment further growth, both in Ukraine and abroad (including such triggers as the extension of quarantine and changes in the traditional offline consumer behavior model). However, because of the current economy crisis in almost all countries, a purchasing power decrease might take place. Because the demand for food is constant and meets the basic human physiological needs, the decline in sales will concern, above all, expensive products and delicacies, while the daily demand goods consumption will vary slightly. Also, using innovative technologies for purchasing clothing (for example, virtual fitting) will make consumers spending less time and money to make purchases and ensure a relatively stable position of dark stores in fashion segment.

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