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Abstract

The paper presents information on a study and scientific analysis conducted on the wide opportunities provided by e-commerce services available to the population in world practice. Such key concepts as digital payments, digital marketing, digital commerce and digital communications are considered in detail, highlighting advantages and benefits thereof.

Automation of retail outlets using IT tools and specialized equipment creates favorable conditions for digital services in managing trade operations. Consequently, these IT tools are being studied internationally on a scientific basis and are being widely implemented. Such data-driven solutions, by significantly improving key financial indicators for retail outlets (for example, increasing revenue and reducing costs), will ensure a higher level of customer service and, subsequently, provide the opportunity to increase competitiveness.

Key words: e-commerce, digital services in the trading system, online technologies, digital solutions.

The fundamental reason for the transition of the economy to a digital system lies in the development of an environment that covers state administration, the financial system, wholesale and retail trade, as well as public, personal and social services. The widespread penetration of the digital economy into everyday life has a considerable effect on education, healthcare, transport, retail financial services, manufacturing, media and other areas. The Internet also empowers people in new areas by enabling them to develop and exchange new ideas, which in turn contributes to the creation of new businesses and markets. Turkmenistan, which has chosen the path of digitalizing economic development, has

great opportunities for the practical solution of the objectives outlined in this direction.

In the age of rapid development of advanced technologies, a digital system is introduced everywhere in our country, including all sectors of the economy. Payments for services provided to the population are digitalized, and important areas such as digital marketing, digital commerce and digital communications are actively developing. Among many advantages of the digital system, the e-commerce service is especially beneficial and accessible to the population. Thanks to the successful implementation of the “Concept for the Development of the Digital Economy in Turkmenistan in 2019-2025” and the “State Program for the Development of the Digital Economy in Turkmenistan for 2021-2025”, online stores have been created in the country and online trading services have been widely established.

Today, thanks to the efforts by the Esteemed President Arkadagly Hero Serdar, in our country pays great attention to the development of e-commerce. This is primarily due to the fact that e-commerce provides a number of advantages in meeting the ever-growing demands of consumers. In this regard, raising awareness of the content, structure and organization of e-commerce is the present-day requirement. E-commerce is a type of economic activity where the trade in commodities and services is carried out through digital communications and is maintained based on previously established partnerships. Digital information in this context means the exchange of standard type working documents between computer software in various companies. This type of trade, defined as one of the priority areas of the state policy, is actively developing in our country and has become an integral part of our lives.

In our country, a great deal of work is under way to more comprehensively utilize production

SCO market as of 2022

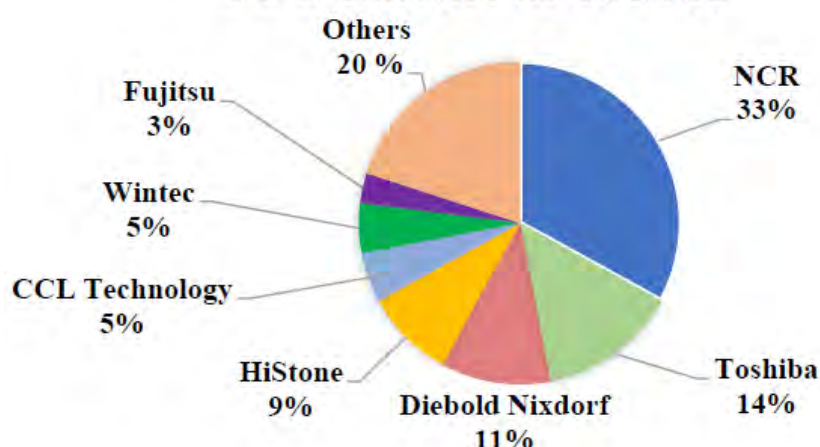


Diagram. SCO market

capacities, widely introduce digital systems and the latest scientific advances, as well as expand production for both the domestic market and for export [1].

The Trade Information Portal of Turkmenistan, operating within the Trade Complex of Turkmenistan, is an online platform containing more than 250 standard forms and documents (including licenses, permits, and certificates) required for import, export and transit operations. This platform will be useful for both domestic and foreign investors, development partners and international organizations. Furthermore, the portal allows assessing the impact of regulatory and documentary requirements for making reasoned decisions.

E-commerce in our country is developing very rapidly, covering various sectors of the national economy. Currently, various food products and household goods can be purchased through online stores in the capital and regions of the country. Customers using modern trade services can, without leaving home, see the range and prices of goods offered in various stores and place an order via the Internet. Free delivery around the city helps increase the number of online store customers. It should be noted that the organization of these services is especially convenient for housewives, since they can buy the necessary goods without interrupting their household chores and save a lot of time.

Automation of retail outlets using IT tools and specialized equipment provides favorable opportunities for applying digital services in managing trade operations. Such solutions can

significantly improve the basic financial highlights of a retail outlet (for example, increase revenues and reduce costs). Furthermore, they allow for a higher level of customer service and, subsequently, considerably increasing competitiveness.

Equipping retail outlets with self-service checkouts (SCO – Self-Checkout) is one of the effective ways to save customers' time. Self-Checkouts, first introduced in Western countries, are currently successfully used not only in the retail trade of food and nonfood products, but also at public catering establishments. In addition to supermarkets, regular stores also actively provide customers with the opportunity for self-purchase.

At SCO, the buyer can perform the following operations:

- scan goods;
- pay for goods using a payment card or in cash (if the device supports cash acceptance);
- get a receipt in paper or electronic form.

The implementation of SCO systems provides more efficient and successful solutions for the following purposes:

- Optimizing payment costs and reducing the personnel workload. Using self-service control, stores or institutions can considerably increase their revenues without assigning these additional responsibilities to employees who could be involved in other tasks;
- Improving customer queue experiences. On weekends and pre-holiday days, when the number of customers is growing, the Self-Checkout systems

help cope with the increasing scope of work at retail outlets;

- Fast settlements and reduced risk of errors. Modern technologies make it possible for SCO systems to assure high accuracy. The installed software provides accurate weighing and instant recognition of goods;

- Increasing sales. Currently, customers of stores and enterprises of various types get an accurate and detailed idea of what they are buying, which contributes to faster purchases.

According to the latest report from the analytical company RBR Data Services, about 200.000 SCO systems were delivered worldwide in 2022. Analysts expect the number of devices worldwide to exceed 1.9 million units by 2028 [2].

According to RBR Data Services, National Cash Register (NCR) remains the largest company in the SCO market (Diagram).

In some foreign countries, the introduction of Self-Checkouts into stores have begun gradually. According to the findings of individual public

surveys, approximately 40% of the population in megalopolises and large cities prefer to use such checkouts.

The advantages of implementing SCO are as follows:

- A small number of chosen goods. If there are only a couple of items in a basket, you do not want to wait in a long queue at a regular checkout counter. In such a situation, SCO allow saving a lot of time and making a purchase faster;

- No queues. Long queues, especially during rush hours, often irritate customers and can even end in a refusal to make a purchase. When using SCO, queues become significantly shorter or disappear at all;

- No interaction between cashiers and customers. In some cases, customers may be dissatisfied with the cashier's service or the latter's reluctance to answer his/her questions, and then the self-service option becomes preferable.

The presence of qualified personnel in the self-service area, ready to help the buyer at any time, also



Figure 1. Types of online checkouts

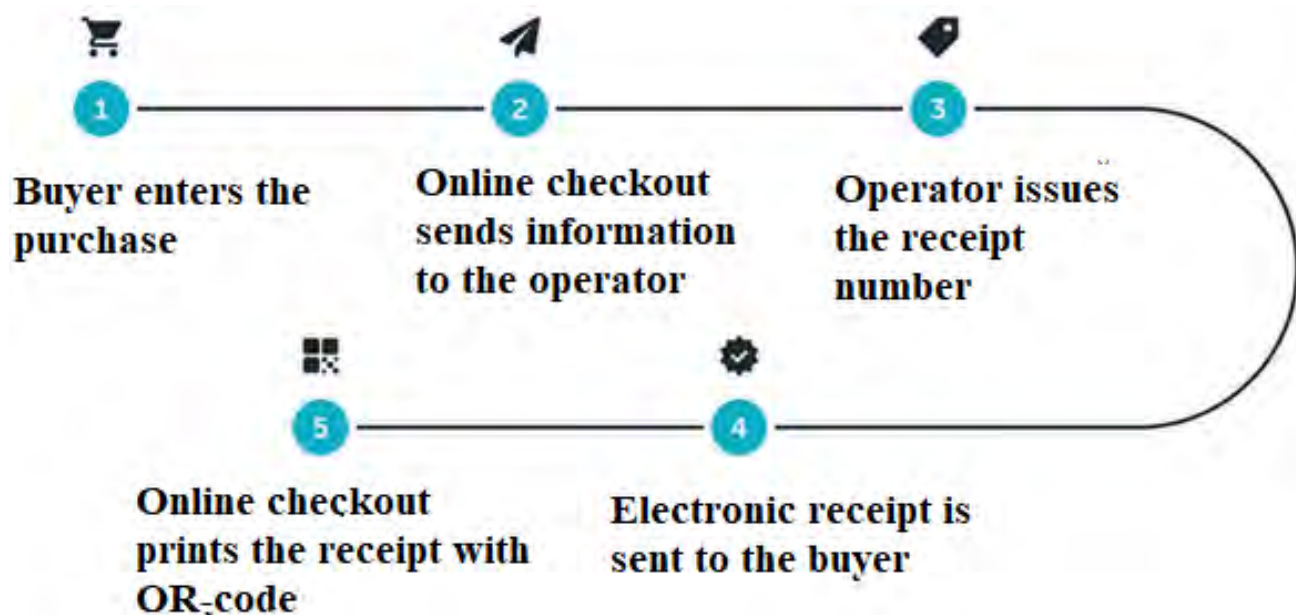


Figure 2. Operating mode of the online checkout

makes a considerable contribution to the system's efficiency.

An online checkout is not just a cash register that records purchased goods, like a regular checkout counter. This specialized cash register can connect to the Internet. There are several types of online checkouts (Fig. 1).

Information about the product purchased in the store (product description, price, etc.) is automatically sent to the tax service.

The online system allows the state to quickly and effectively control financial transactions. This system, on the one hand, serves as a tool for strengthening financial control, and on the other hand, to simplify and facilitate business management.

Electronic checks available through the online checkout are convenient for the customer and environmentally friendly. Modern payment methods, such as QR codes, are available only at online checkouts, which further adapts them to modern market needs.

The online checkout operating principle combines the functions of conventional cash register equipment with the capabilities of online technologies. The operating mode of the online checkout is shown in Figure 2.

It is advisable to implement SCO in large and small supermarkets, pharmacies, car washes and petrol stations.

The main SCO components (Figure 3) include:

- touchscreen monitor - for device control and product information display;
- two-dimensional barcode scanner - for reading codes on product packaging;
- electronic scales with a platform - for weighing purchases;
- bank terminal - for accepting cards (non-cash payments);
- online cash register with a receipt printer (tax register);
- power supply unit;
- sound alarm system.

The most optimal solution to the systematic introduction of automated cash registers is to involve competent specialists at each stage:

- software development and planning;
- equipment installation;
- rendering technical support and connecting for users;
- equipment integration;
- point-of-sale personnel training;
- project support, equipment maintenance and software updates, including remote planning.

Specialized companies offer a full range of services for the integration and placement of SCO, as well as technical support, maintenance and consultations for entrepreneurs. Moreover, each implementation project is adapted to the specifications and needs of a specific facility, taking into account technical support and cost of operation.



Figure 3. SCO design

Currently, the growing demand for SCO creates favorable conditions for customers and opens up broad opportunities for increasing sales.

Correctly defining the ways for Turkmenistan to join the leading countries in this area, as well as mechanisms for achieving this purpose, will guarantee the effective implementation of these activities and, consequently, shaping a digital environment. In the course of developing the digital economy, there is also a need to train qualified personnel for the management system of our country who meet the modern requirements. In general, the development of the digital economy and its subsequent improvement requires, on the one hand, the study of advanced foreign practices, and on the other, the intensive development of e-commerce, including the broad involvement of our entrepreneurs in creating knowledge-intensive production.

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