

B. Syzdykbayeva, D. Seydualin, K. Mussina

*L.N. Gumilyov Eurasian National University, Nur-Sultan, Kazakhstan
(E-mail: darken68@mail.ru)*

The use of digital technologies in the wholesale and retail trade of Nur-Sultan city

In the article the basic concepts of trade, logistics as a system of society, providing services both to suppliers of consumer goods and to consumers are discussed. Statistical information on the dynamics of wholesale and retail trade development, the distribution of the network of markets by type, product specialization and methods of transactions implementation in Nur-Sultan is provided. Monitoring the situation on the market of retailers of the Republic of Kazakhstan, as well as business through information services is presented. The logistics system is represented by the consolidation of trade, transport and production processes, which today requires the automation of the managerial processes of goods movement. The development of logistics systems in trade is due to the presence of network structures, which account for about 90 % of trade turnover. In the article, the authors highlight the changes in the realm of wholesale and retail trade in the city of Nur-Sultan, when business should be focused on modern achievements of scientific and technological progress. As a result, those achievements create and begin to be widely used in various means of labor for operating material and information flows. It is possible to use equipment that meets the specific conditions of logistic processes. The development of the warehouse fund for wholesale trade promotes the use of highly efficient cargo handling technologies. At the same time, computerization of logistics management plays a key role in the development of logistics.

Keywords: logistics, wholesale trade, retail trade, consumer market, commodity circulation, services, retailers, IT-technologies.

In the conditions of the formation of new economic relations in Kazakhstan through active integration into the global world economy, the issues of effective interaction between the state and the private sector were actualized. This phenomenon in the modern economy has already been formed as an independent institution called public-private partnership (PPP). This arouses considerable interest in this phenomenon as an effective form of interaction between the state and the private sector, which makes it possible to effectively address current social and economic problems in many countries of the world through the integration of state and private business resources.

Introduction

Today, the trade area is one of the fastest growing areas in Kazakhstan. The emergence of new formats, the changing role of wholesalers, the arrival of foreign capital, the improvement of communications — all of this together leads to tougher competition and raises the question of applying the most progressive management concepts, one of which is logistics [1].

Trade, by virtue of the social division of labor, is a representative of the tertiary sector of the economy, it is an important element of economic system, providing services to suppliers of consumer goods, and on another end of the spectrum to the end users or the population. The trade industry is represented by three sub-markets: wholesale, retail and catering, each of them performs its mission, functions and tasks, supported by resources [2].

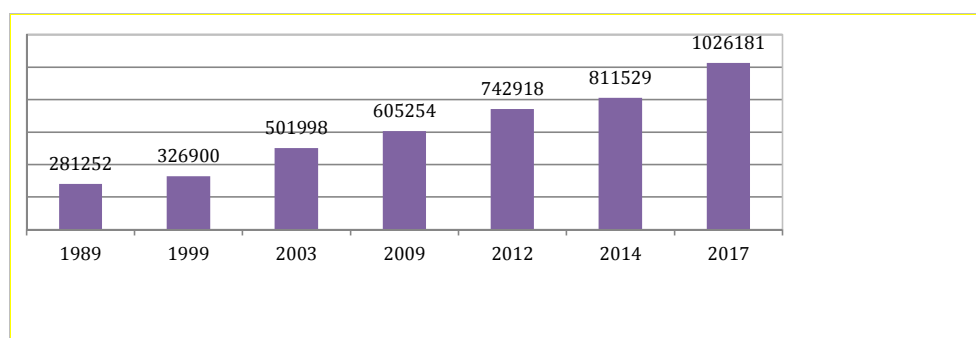
An effective solution to the problems of wholesale and retail trade provides for the availability of logistical support, existing and prospective market opportunities, making strategic and tactical decisions regarding the innovative development of trade enterprises in order to achieve sustainable competitive advantages, maximize profitability, ensure high level of consumer's loyalty, etc. [3].

Logistics is an integral managerial tool that contributes to the achievement of the strategic, tactical or operational goals of a business organization through effective management of material and / or service, as well as associated flows (financial, information, etc.) [3].

The modern theory of logistics is conceptually based on a system analysis methodology; cybernetic approach; operations research; economic and mathematical modeling. At various levels of economic systems management, a range of methods is used to address specific problems, including targeted program planning, functional cost analysis, macro- and microeconomics, forecasting, modeling, etc.

As information and empirical base for substantiating and ensuring the scientific credibility of the findings and results of the study, the following were employed: data of the Statistics Committee at the Ministry of National Economy of the Republic of Kazakhstan, materials of publications and monographic studies of domestic and foreign authors, analytical reports, materials of scientific seminars and conferences.

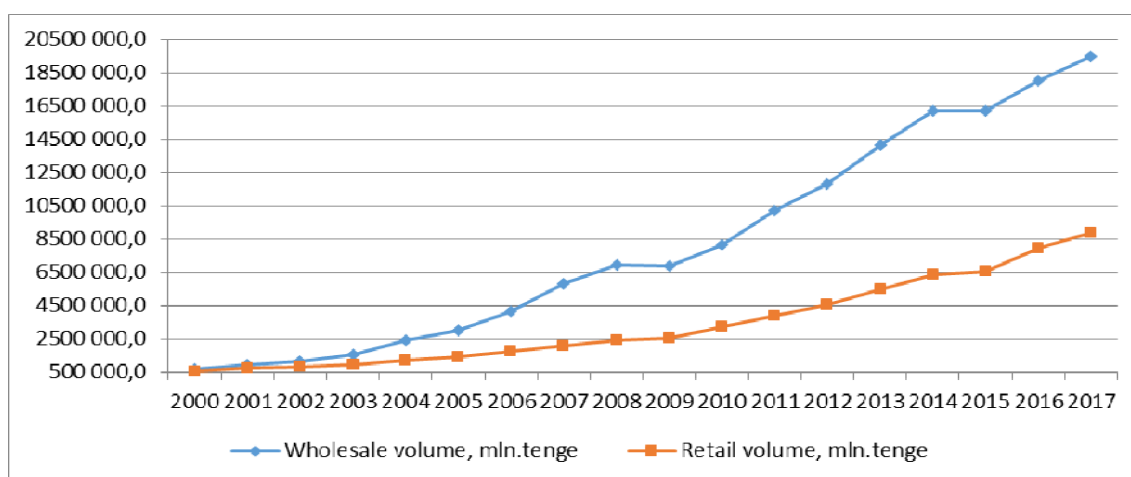
Currently, dynamically developing wholesale and retail trade in Nur-Sultan is the main link in the consumer market system. It has become one of the leading budget-forming sectors of the economy in the Republic of Kazakhstan, where a unique transport, industrial and other infrastructures have been formed, to a certain extent, determining the specificity of consumer behavior of city residents. Today the city is one of the largest cities of Kazakhstan with a population of 1 026 181 people. Between 1989 and 2017 the number of city residents increased by more than half, by 57,2 % to be precise (Fig. 1). Replenishment of the population in the capital during this period occurred mainly due to migrants of working age (from 66 % to 74,2 %). The process of urbanization, as well as the observed construction boom led to the revision of the logistics concept of wholesale and retail trade in Nur-Sultan.



Note. Official website of the Statistics Committee at the Ministry of National Economy of the Republic of Kazakhstan www.stat.gov.kz.

Figure 1. Dynamics of change in the population of the city

The most important indicators of retail trade (along with indicators of the volume and structure of trade) are the number of trading enterprises and the availability of retail space. In 2016, the volume of wholesale trade amounted to more than 2 233 203,1 million tenge, and the volume of retail trade was 913 071,2 million tenge. As can be seen in Figure 2, the dynamics of retail trade is growing steadily, while the volume of wholesale trade fell in 2016.



Note. Official website of the Statistics Committee at the Ministry of National Economy of the Republic of Kazakhstan www.stat.gov.kz.

Figure 2. Dynamics of wholesale and retail trade in Nur-Sultan

The main reasons for the decrease in the level of wholesale trade include the reduction in the number of wholesale enterprises engaged in self-delivery of products and their sale, is due to the next: the creation in Nur-Sultan of a large transport and logistics center (TLC) of A class, a dry warehouse of 29,300 sq.meters, climatic warehouse with the area of 13 300 square meters, 25 000 square meters under the distribution center, container site of 70 000 square meters. All necessary requirements for warehouse architecture, span width, height of storage racks, temperature conditions are met there. Infrastructure automation accompanies the process in real time manner. The use of advanced technologies can significantly increase the level and speed of operations for the loading and unloading of goods, handling up to 1 million tons of cargo per year. The infrastructure being built in Kazakhstan is gradually coming to international quality standards, including the prospect of multimodal services, which will significantly reduce logistics costs.

Meanwhile, the main indicators of turnover in retail and wholesale trade demonstrate significant growth (Table 1).

Table 1

Main indicators of trade in Nur-Sultan, mln. tg

Indicator	2017	2016	2015	Volume Index, %		
				2017/2016	2017/2015	2016/2015
Retail turnover, total	1 043 940,5	913 071,1	742 899,3	114,3	140,5	122,9
Wholesale turnover, total	2 409 758,6	2 233 203,1	2 866 934,8	107,9	84,0	77,8

Note. Official website of the Statistics Committee at the Ministry of National Economy of the Republic of Kazakhstan www.stat.gov.kz.

The growth of retail trade in 2017 compared to the figures of 2016 and 2015 was 13 % and 29 %, respectively. Wholesale turnover in 2017 compared to 2016 increased by 7,3 %, while compared to 2015 decreased by 15 %. The decline in wholesale turnover in 2017 is primarily due to the activities of retailers, who were able to quickly distribute cargo through the A-class logistics center.

The markets of Nur-Sultan are represented by a separate property complex, designed for trading activities and provided with a platform for parking vehicles within the boundaries of its territory (Table 2, 3).

Markets are classified as follows:

by product specialization:

- food — for the sale of food products;
- non-food — for the realization of industrial goods, household appliances;
- specialized — for the sale of certain groups of goods;
- universal — for the sale of food and non-food products in specialized shopping areas;

by the volume of transactions and methods of their implementation:

- retail and wholesale;

by type:

- covered;
- communal.

Table 2

Distribution of the network of markets by types, product specialization and methods of transactions

	By type of market		By product specialization			By type of sales	
	Covered	Communal	Food	Non-food	Universal	Wholesale	Retail
Nur-Sultan city	7	2	1	4	20	3	25
Almaty district	3	-	-	-	10	1	10
Sary-arka district	4	2	1	4	10	2	15

Note. Official website of the Statistics Committee at the Ministry of National Economy of the Republic of Kazakhstan www.stat.gov.kz.

Table 3

Material and technical base of markets

	Markets		Market area	Kiosks	Tents	Containers	Laboratories of veterinary and sanitary examination	Refri-gerators	Counters (tables)
	Units	Places	Sq.meters	Units	Units	Units	Units	Units	Running Meters
Nur-Sultan city	25	12 697	338 044	35	578	5 121	12	359	1 571
Almaty district	10	1 496	97 258	13	46	626	4	296	1 104
Esil district	-	-	-	-	-	-	-	-	-
Saryarka district	15	11 201	240 786	22	532	4 492	8	63	47

Note. Official website of the Statistics Committee at the Ministry of National Economy of the Republic of Kazakhstan www.stat.gov.kz.

As of January 1, 2018, there were 25 markets in the city. The total number of trading places is 12,697 units. According to the types of markets, «covered» prevail — 7 units (28 % of the total number of markets), by product specialization «universal» — 20 units (80 %), and by retail types — 22 units (88 %).

According to Tables 2, 3, it can be seen that the main workload in the markets on the territory of Nur-Sultan falls on Almaty and Sary-arka districts, that is, the right bank of Nur-Sultan, and Esil district is positioned on the left bank, where large hypermarkets are concentrated mainly.

The structure of large new shopping centers development on the outskirts of Nur-Sultan, such as Mega Siklway, Metro, Kendala, Magnum, speaks about the correct concept of transport and logistics interchanges development regulated by the management of architecture, urban planning and land relations of Nur-Sultan.

Table 4

The volume of goods and services sales in Nur-Sultan

	2017, mln. tenge	2016, mln. tenge	2015, mln. tenge	Share in the volume of sales of goods and services, %		
				2017	2016	2015
Retail turnover, total	1 033 432,1	833 545,4	679 845,8	100,0	100,0	100,0
Retail turnover of registered trading enterprises and organizations	769 252,5	614 355,0	506 517,7	74,4	73,7	74,5
Retail turnover of individuals engaged in individual entrepreneurship	264 179,7	219 190,4	173 328,2	25,6	26,3	25,5
Wholesale turnover	3 143 300,4	3 213 056,2	2 986 351,9	-	-	-

Note. Official website of the Statistics Committee at the Ministry of National Economy of the Republic of Kazakhstan www.stat.gov.kz.

The structure of goods and services sale presented in Table 5 shows that since 2015 there has been a constant annual increase in the volume of sales of goods and services. In 2017, the volume of goods and services sales, in comparison with 2015, has doubled.

The structural ratio of the retail turnover of registered trading enterprises and organizations and the retail turnover of individuals amounted to 74 % and 26 %, respectively, due to objective reasons, such as the lack of own funds at individuals.

Nevertheless, despite the fact that in recent years trade in the Republic of Kazakhstan has come a long way, today it still lags significantly behind the organization of trade in the developed countries, both in terms of the methods used for organizing the trading process and the overall level of customers' service.

Foreign operating experience of Russian trade organizations suggests that building a trading network is the best way to organize retail trade, the greater effectiveness of which compared to individual stores is due to economies of scale.

Analyzing the retail market in Kazakhstan according to the Statistics Committee at the Ministry of National Economy of the Republic of Kazakhstan, 31,2 % of retail trade are represented by small businesses (convenience stores), 7,8 % are medium-sized trading companies, and only 15,7 % of commerce fall to large retail chains.

To date, Kazakhstan lacks modern retail space, for 1 thousand Kazakhstani people there is only 180 square meters of modern retail space. While in Russia this figure equals to 340 square meters, and in Belarus amounts to 230 square meters.

Regarding significant reduction in the purchasing power of Kazakhstani citizens, most of them chose the path of the lowest final cost, choosing for themselves bazaars and spontaneous markets. The current situation requires the retail to draw the attention and meet the preference of buyers through market methods, competing and adjusting to changes in the structure of demand. The issue of products' cost becomes the most crucial [4].

The market of retailers in the Republic of Kazakhstan is poorly developed (Table 5), it is characterized, on the one hand, by the absence of Russian, western retail chains and global brands, and on another hand by the lack of highly qualified retailer professionals. This is the main problem, and it affects the development of commercial real estate.

About 25-30 % of retail space in the shopping and entertainment center is empty, but this mainly relates to the centers, which have problems with their location, the top shopping and entertainment centers have little unoccupied spaces, amounting only to 5-10 % [5].

Table 5

The largest retailers in Kazakhstan

№	Companies	Type of activity	Characteristics
1	«WHITE WIND KZ» LLP	Retail sale of computers, software in specialized stores	Large enterprises (from 501 to 1000 employees)
2	«MAGNUM CASH & CARRY» LLP	Chain of supermarkets	Large enterprises (from 501 to 1000 employees)
3	«CENTER OF TRADE «ASTYKZHAN»» LLP	Retail sale in non-specialized stores	Large enterprises (from 501 to 1000 employees)
4	«KENMART» LLP	Retail sale in non-specialized stores	Large enterprises (251-500 employees)
5	«IFC «GIPPOKRAT»» LLP	Retail sale of pharmaceutical goods in specialized stores	Large enterprises (251-500 employees)
6	«BAKHUS-CENTER» LLP	Retail sale in non-specialized stores	Large enterprises (251-500 employees)
7	«SPORTMASTER KAZAKHSTAN» LLP	Retail trade in specialized stores	Large enterprises (251-500 employees)

Note. Official website of the Statistics Committee at the Ministry of National Economy of the Republic of Kazakhstan www.stat.gov.kz.

Today the world is actively entering the era of digital globalization. Information technology has become an essential part of transport and logistics in global trade of goods, services, and data exchange.

Table 6

Dynamics of communication services

	2011	2012	2013	2014	2015	2016	2017
Volume of communication services including	582 740 (100 %)	599 657 (100%)	647 332 (100 %)	680 814 (100 %)	702 148 (100 %)	677 700 (100 %)	710 900 (100 %)
Long distance and international telephone services	44 435 (8 %)	40 354 (7 %)	42 590 (7 %)	41 499 (6 %)	33 981 (5 %)	32461,83 (4,79 %)	30071,07 (4,23 %)
Local telephone services	41 467 (7 %)	45 241 (7 %)	51 553 (8 %)	51 408 (8 %)	47 826 (7 %)	43711,65 (6,45 %)	40947,84 (5,76 %)
Data services	14 323 (2 %)	15 003 (2 %)	20 340 (3 %)	21 795 (3 %)	23 799 (3 %)	23516,19 (3,47 %)	29573,44 (4,16%)
Internet services	96 324 (17 %)	116 007 (19 %)	137 865 (21 %)	168 455 (25 %)	190 438 (27 %)	195380,91 (28,83 %)	228625,44 (32,16 %)
Infrastructure software distribution services (cable, wireless and satellite)	12 221 (2 %)	14 140 (2 %)	18 192 (3 %)	21 531 (3 %)	28 026 (4 %)	28531,17 (4,21 %)	32630,31 (4,59 %)
Mobile services	294 721 (50 %)	297 647 (50 %)	296 615 (46 %)	281 259 (41 %)	257 461 (37 %)	202361,22 (29,86 %)	221018,81 (31,09 %)
Other communication services	79 249 (14 %)	71 267 (12 %)	80 176 (12 %)	94 867 (14 %)	120 618 (17 %)	151737,03 (22,39 %)	128033,09 (18,01 %)

Note. Official website of the Statistics Committee at the Ministry of National Economy of the Republic of Kazakhstan www.stat.gov.kz.

Based on the analysis of Table 6, it is clear that the Kazakhstani telecommunications market resumed its growth in 2017 (+ 4,6 %), after a decrease in the previous year (-1,0 %). Over the last 7 years, the dynamics of the «Internet services» has increased from an indicator of 17 % to 32 %, with a gradual decrease in the «Mobile communication services» from an indicator of 50 % to 31 %. The «big three» (Internet, mobile communications and other telecommunication services) account for 80 % of the revenues of the country's entire telecommunications market. The penetration of smartphones is about 55-60 %. Moreover, there is no doubt that this proportion will continue to grow. According to 4Service information, 83 % of all subscribers of mobile operators use the Internet on their smartphones. Significant growth in the machine-to-machine market and the Internet of Things is expected. This direction is currently experiencing a period of rapid growth. By 2020, the share of machine-to-machine interaction and the Internet of Things in the total revenue of the industry should increase from 2-3 % to 7 %. Experts predict that by 2025 there will be about 100 million devices connected to IoT in Kazakhstan, which will be 3,5 times more as compared to mobile market. The estimated market size in the country will reach \$ 251 million by 2025 [6].

In general, information technologies are changing the economy of doing business across state borders, reducing the costs of international transactions and activities. They create entire markets and user communities on a global scale, providing businesses with a huge potential customer base and efficient ways to access them. Using digital platforms (such as eBay, Amazon, Facebook, Alibaba), small businesses around the world are turning into «micro-transnational companies». In the world, the time has come when IT is no longer viewed as a branch of the economy, but more as a second economy, because absolutely all industries are somehow dependent and developing thanks to IT.

The observed trend encourages representatives of the retail business and consultants to interact with customers through the Internet, smartphones and other programs or applications adapted to customers. Infobip Kazakhstan offers omni-communications. «Omni» means «present everywhere». Through the Omni-channel it is possible to reach out to any client communication channel.

The solution provided by Infobip allows any employee who does not possess specific knowledge in IT using simple and convenient personal account and designer to create the marketing communication that will be delivered as a message to the client via SMS channels, Viber, e-mail and other applications.

Thus, in order to improve logistics in the field of wholesale and retail trade in Nur-Sultan, it is first necessary to adhere to the following areas:

– creation of modern trade formats, representing a combination of two or more shopping facilities belonging to a single retail chain, having a common name, a single market concept, a single management, as

well as a minimum aggregate sales area of a single retail facility or the entire retail network of 500 square meters or more, which will significantly reduce the costs per unit for transportation and storage (more efficient logistics);

– the retail network will reduce purchasing and retail prices and qualitatively influence the supplier through the sale of large volumes of goods and services;

– provision of the population with retail space and a wide range of goods will contribute to an increase in the volume of trade;

– retail network due to more rational use of their resources will be able to obtain loans on more favorable terms, etc.;

– in the conditions of the network, there is no need for wholesale intermediaries as independent subjects of commodity relations. The functions of wholesale trade (these functions, of course, do not disappear anywhere) are performed within the network by specialized units;

– many Internet resources that are ready to provide the necessary information to the client via smartphones, instant messengers and other electronic players begin to play an important role in a competitive wholesale-retail environment.

References

- 1 Kovalev, K.Yu., Uvarov, S.A., & Scheglov, P.E. (2007). Retail logistics. How to build an effective network?
- 2 Karkh, D.A. (2010). *Economics and social efficiency of retail trade services*. Yekaterinburg.
- 3 Victor, A.G., & Golubetskaya, N.P. (Eds.). (2010). *Innovative management of logistics systems*. Saint-Petersburg: Publishing House of the St. Petersburg Academy of Management and Economics.
- 4 Burakov, V.I. (2013). Periodization of the retail trade development in Russia, taking into account the latest theories of logistics and marketing. Problems of Theory and Practice of Management. *News of the Irkutsk State Economic Academy, No. 1*.
- 5 Overview of the telecommunications industry (2018). Kazkommerts Securities JSC.
- 6 Business news of Kazakhstan. *kursiv.kz*. Retrieved from <https://kursiv.kz/news/tendencii-i-issledovaniya/2018-03/riteyl-zhiv-obzor-rozничnoy-torgovli-v-kazakhstan> Official website of the Statistics Committee of the Ministry of National Economy of the Republic of Kazakhstan www.stat.gov.kz.

Б. Сыздықбаева, Д. Сейдуалин, К. Мусина

Нұр-Сұлтан қ. көтерме және бөлшек саудада сандық технологияларды пайдалану

Мақалада тұтыну тауарларын жеткізушілерге, тұтынушыларға қызмет көрсететін қоғам жүйесі ретінде сауданың, логистиканың негізгі ұғымдары келтірілді. Нұр-Сұлтан қаласы бойынша нарықтар желісін бөлу, мәмілелер түрлері, тауарлық мамандануы және жүзеге асыру тәсілдері туралы динамикалық сауда-бөлшек сауданың даму статистикалық ақпарат берілді. Қазақстан Республикасының ритейлерлер нарығы, сондай-ақ ақпараттық қызметтер арқылы бизнесті жүргізу бойынша ахуалдың мониторингі ұсынылды. Логистикалық жүйе бүгінгі таңда тауар қозғалысын басқаруды автоматтандыруды талап ететін сауда, көлік және өндірістік процестерді шоғырландырумен ұсынылған. Саудадағы логистикалық жүйелердің дамуы желілік құрылымдардың болуына байланысты, олардың үлесіне сауда айналымының 90%-ға жуығы келеді. Авторлар Нұр-Сұлтан қаласында сауда-бөлшек сауданы жүргізудің өзгеруін көрсетеді, бизнес ғылыми-техникалық прогрестің қазіргі заманғы жетістіктеріне бағытталуы тиіс. Нәтижесінде ҒТП құрылады, сонымен қатар материалдық және ақпараттық ағындармен жұмыс істеу үшін әртүрлі еңбек құралдары кеңінен қолданыла бастайды. Логистикалық процестердің нақты шарттарына сәйкес келетін жабдықты пайдалану мүмкіндігі пайда болады. Көтерме сауда қойма қорының дамуына байланысты, жүк өңдеу технологиялары тиімді қолдануға ықпал етеді. Компьютерлендіру логистикалық үдерістерін басқаруда дәрежелі рөл атқарады.

Кілт сөздер: логистика, көтерме сауда, бөлшек сауда, тұтыну нарығы, тауар айналымы, қызметтер, ритейлерлер, IT-технологиялар.

Б. Сыздыкбаева, Д. Сейдуалин, К. Мусина

Применение цифровых технологий в оптово-розничной торговле г. Нур-Султан

В статье рассмотрены основные понятия торговли, логистики как системы общества, оказывающей услуги как поставщикам потребительских товаров, так и потребителям. Приведена статистическая информация по динамике развития торгово-розничной торговли, распределению сети рынков по типам, товарной специализации и способам осуществления сделок г. Нур-Султан. Представлен мониторинг ситуации по рынку ритейлеров Республики Казахстан, а также ведения бизнеса с использованием информационных технологий. Логистическая система представлена консолидацией торговых, транспортных и производственных процессов, которая на сегодняшний день требует автоматизации управления товародвижением. Развитие логистических систем в торговле обусловлено наличием сетевых структур, на долю которых приходится около 90 % торгового оборота. В статье авторы указывают на изменения в ведении торгово-розничной торговли в г. Нур-Султан в условиях, когда бизнес должен быть направлен на современные достижения научно-технического прогресса. В результате НТП создаются и начинают широко применяться разнообразные средства труда для работы с материальными и информационными потоками. Появляется возможность использовать оборудование, соответствующее конкретным условиям логистических процессов. Развитие складского фонда оптовой торговли способствует применению высокоэффективных технологий грузопереработки. При этом ключевое значение для развития логистики играет компьютеризация управления логистическими процессами.

Ключевые слова: логистика, оптовая торговля, розничная торговля, потребительский рынок, товарооборот, услуги, ритейлеры, IT-технологии.