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# MULTIPLE LISTING SERVICE – A DIGITAL TECHNOLOGY FOR REAL ESTATE MARKET OF UZBEKISTAN

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## **Annotation**

*This paper discusses the issues for creation of a multiple listing service (MLS) in Uzbekistan as a digital technology in the domestic real estate market. The research methodology is based on a systematic approach to the formation of the conceptual foundations for creating an MLS for the real estate market of Uzbekistan. The research results noted the necessity of creating a national model of the MLS which takes into account the advanced achievements in the organization and functioning of the MLS of foreign countries and adapted to local conditions that would contribute to the further development of the domestic real estate market.*

## **Keywords**

*multiple listing system (MLS), digitalization, digital technology, real estate, real estate market, realtor, realtor activity, Uzbekistan*

## **Introduction**

As a result of socio-economic reforms, demonopolization, denationalization and privatization of state property carried out in Uzbekistan, a class of private owners, including real estate owners, has formed in the country, who can not only use and own this property today, but also can dispose of it. Development of commodity-money relations, formation of a mixed economy in the country led to the creation of, in fact, new markets such as the exchange market for goods, market for money and credit, securities market, markets for various types of services. The technological tools of these markets were electronic money, electronic systems of banking operations and settlements through mobile IT applications, electronic exchange trading based on the use of the complex software products and computer technologies which are created on the basis of the latest scientific achievements.

Among these types of markets, a special place is occupied by the *real estate market* which is the central link in the entire system of market relations. In countries with developed market economy, a significant place in ensuring the effective functioning of the real estate market belongs to *multiple listing services (MLS)* which are the place of counter applications for the purchase and sale of real estate.

Today in Uzbekistan, in the new stage of the country's economic development, a special attention is being paid to the implementation of deep structural changes in economic sectors, wide introduction of modern information and communication technologies in sectors and spheres, and active development of the digital economy. At present, the processes of digitalization of economic sectors have not bypassed the real estate market. According to the "Digital Uzbekistan-2030" Strategy approved by the Decree of the President of the Republic of Uzbekistan as of 5 October 2022 No.UP-6079 [1], it is provided for development of a single information system of real estate market (multilisting). In this regard, the issues of digitalization of real estate market through creation of a multiple listing service in our country are of particular importance.

## **Multiple listing service: a literature review**

The researches show that in the economic literature, in regulatory acts and in practice, there are a significant variety of definitions of the MLS. Thus, according to "Investopedia", an MLS is a database established by cooperating real estate brokers to provide data about properties for sale. An MLS allows brokers

to see one another's listings of properties for sale with the goal of connecting homebuyers to sellers. Under this arrangement, both the listing and selling brokers benefit by consolidating and sharing information and by sharing commissions [2]. According to international free encyclopedia "Wikipedia" an MLS is an organization with a suite of services that real estate brokers use to establish contractual offers of cooperation and compensation (among brokers) and accumulate and disseminate information to enable appraisals [3]. The largest online real estate dictionary RealEstateWords.com defines the MSL as a database of property listings data available for sale (currently or in the past) maintained and shared by real estate brokers [4].

Many associations of real estate organizations have formed, from practical point of view, their definitions for the multiple listing service. Thus, the National Association of Realtors (NAR), an America's largest trade association, representing more than 1.5 million members, including NAR's institutes, societies, and councils, involved in all aspects of the residential and commercial real estate industries, specifies the MLS as a tool to help listing brokers find cooperative brokers working with buyers to help sell their clients' homes [5].

Some another examples from Russian MLSs, and thus, Krasnoyarsk multiple listing service is a system of organized collection, distribution and exchange of information about exclusive options among professional participants in the Krasnoyarsk real estate market, which contributes to an increase in joint transactions [6]. The Novosibirsk Association of Realtors offers a more practical version of the definition of MLS – as a collection of information about real estate offered for sale, which is carried out by many companies at once on a common "working platform", which is the association's website itself [7].

At present, the multiple listing services are available in many developed countries. Long-term experience of developed countries (such as USA, Canada, Great Britain, France, Holland, Russia, etc.) has shown that MLS is the main working tool of realtors, ensuring success in the real estate market. The most efficient multiple listing services function in the US, Canada and the Netherlands. The proof for this is the market share of professional realtors, which exceeds 90% in these countries. And where it does not work, professional realtors rarely cover more than 50% of the market. For example, about 60% in France or 40-45% in Germany [8].

### **Methods**

The research methodology is based on a systematic approach to the formation of the conceptual foundations for creating a multiple listing service as a digital technology for the real estate market of Uzbekistan. To discover the essence of the multiple listing service, there were used the method of abstracting and the logical method. The methodological basis of the study was the work of domestic and foreign authors in the field of digitalization of real estate market and multiple listing service.

### **Results & Discussion**

In Uzbekistan, despite numerous attempts [9] from the side of government and individuals to create an MLS, there is no such system. Repeated attempts to create even regional or national MLS in the country ended in failure. One of the main reasons for these failures is the lack or insufficient amount of financial resources allocated for the creation of a software product [10]. Today, the "Digital Uzbekistan – 2030" Strategy, adopted by Decree of the President of the Republic of Uzbekistan as of 5 October 2020 No.UP-6079 [1], provides for the development of a single information system (multilisting) in the real estate market.

From a technical point of view, the MLS is a software product containing a database of real estate objects with their various parameters (characteristics), supported in real time. Thanks to the MLS, professional participants in the real estate market and consumers of their services (property owners and investors, renters and tenants) can quickly receive detailed information about real estate objects and rights to them by regions and cities, with a full description of their legal, property status, technical characteristics etc. The MLS significantly facilitates the work of realtors, consumers of their services in finding counter applications for transactions, speeds up their decision-making on the purchase or sale of real estate and, thus, significantly increases the turnover of the real estate market.

In our opinion, in order to create a domestic MLS, as a digital technology in the real estate market, it is necessary to carry out the following actions.

*First*, given the fact that at least any elements of the MLS are currently absent in Uzbekistan, it is necessary, first of all, to create a mechanism for the functioning of a domestic multiple listing service that allows real estate market participants to form a centralized database of real estate objects with comprehensive information about them, directions of transactions (purchase, sale, rent, transfer to the statutory fund, etc.), which will ultimately provide a significant acceleration of the movement of counter applications and the completion of relevant transactions, involving the potential of real estate organizations and realtors in this process.

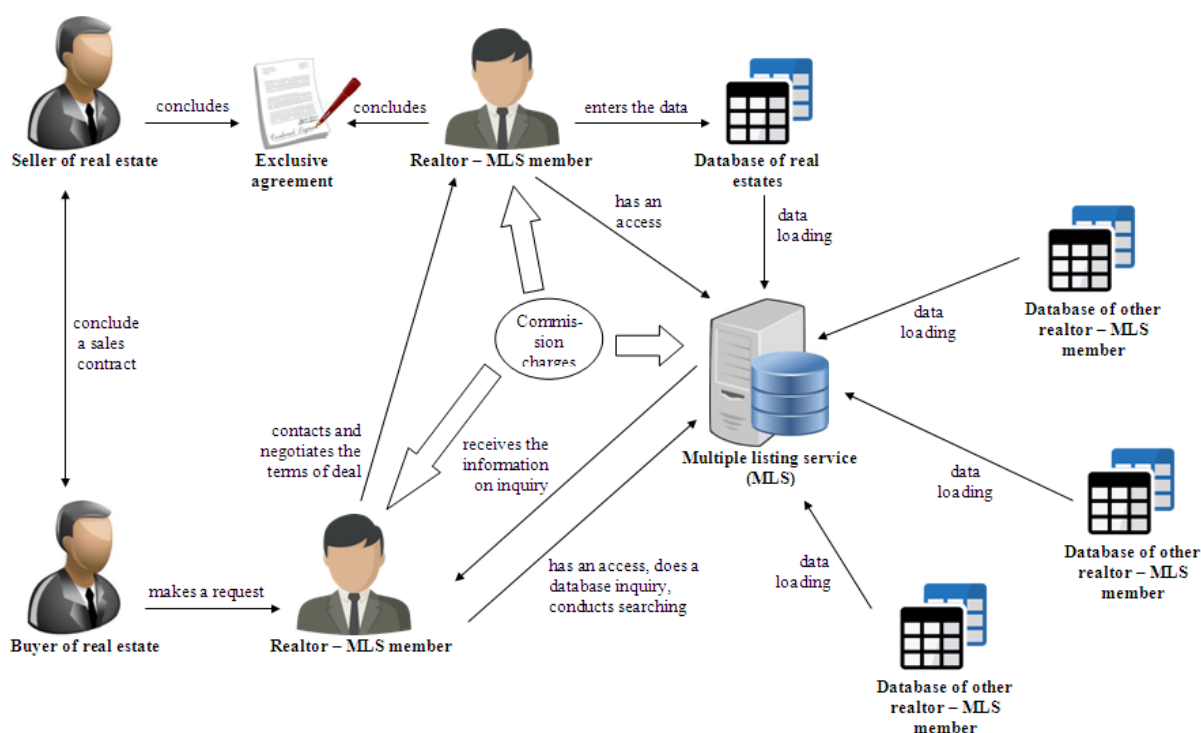


Undoubtedly, MLS is an information system of the real estate market which makes it possible to speed up the most diverse in composition and scale of real estate objects into civil circulation. Studies show that there are no identical MLSs in the world, in different countries MLSs have their own characteristics and specific features. At the same time, in one country, there may be up to several MLSs. There may be local MLSs (combining real estate organizations of a city, region or several regions), national MLS (with access to it for realtors within the country) and even international MLSs (allowing realtors from different countries to buy and sell real estate for their clients abroad).

**Secondly**, based on the study of the MLS of various countries, regions and cities of foreign countries, it is also necessary to construct a model of the multiple listing service of Uzbekistan which includes advanced achievements in the organization and functioning of the MLS of these countries and, at the same time, adapted to the conditions of Uzbekistan: legislative framework, level development of IT technology, local customs of business, mentality.

**Thirdly**, in the process of creating a domestic model of the MLS, it is required to develop and adopt relevant regulatory legal acts that ensure the organization and functioning of the developed model of MLS, including the rules for the participation of the members of the MLS in it, the algorithms for their actions depending on the types of operations performed, the fixing of counterparties, mechanisms of mutual settlements between the participants of transactions, MLS commissions, sanctions for violation of the rules for participation in the MLS, etc.

**And finally**, it is necessary to create the software product itself which ensures the effective functioning of the multiple listing service of the real estate market in Uzbekistan. This software product would have the form of a web platform which realtors will use together as a common database on real estate objects. To do this, it is necessary to involve a team of programmers who will ensure the writing of the server part of the code (back-end) of the MLS platform. At this stage, it is important to integrate the web application, test and debug the information product, and develop its design. The layout of the web platform, writing the client part of the code (front-end) will take some time. At this stage, it is advisable for software product developers, in close cooperation with the authors of the MLS model, to work out the functioning of individual blocks of MLS, the “behavior” of the software product in various modes, and also to test various situations in the functioning of the system.



**Fig. Mechanism of functioning of the multiple listing service**

Source: compiled by the authors on the basis of results of research

The mechanism of functioning of the multiple listing service, as a software product, can be described as follows (see fig.). The client-seller of the real estate refers to the real estate organization that is a member of

the MLS, and concludes an exclusive agreement with it. After that, the realtor enters the data about the real estate object into the database of his company, which also falls into the general register of the MLS. All realtors participating in the MLS have access to this information. At any time, when searching for a buyer's request, the realtor accesses the MLS database and has the ability to view all currently available offers. If a suitable counter application is found that meets the parameters of the client's order, the buyer's realtor contacts the seller's realtor and negotiates the terms of the transaction. The advantage of such a system is that many realtors ("buyers") from different companies can work with the application of the seller's client at once, which means that the probability of quickly selling or buying a real estate increases dramatically.

### Conclusion

Based on the research results, it can be concluded that in order to create a multiple listing service in order to digitize the domestic real estate market, it is necessary, first of all, to create a national model of MLS. As a result of creation of an MLS in Uzbekistan, as a digital technology in the country's real estate market, it would be possible to take the first step in creating a system that unites realtors in Uzbekistan, which would increase the efficiency of state coordination of real estate activities. Thus, the creation of a national MLS would bring Uzbekistan closer to countries that take leading positions in terms of the degree of development of the real estate market.

### References

1. Decree of the President of the Republic of Uzbekistan as of 5 October 2022 No. UP-6079 "On Approving the "Digital Uzbekistan-2030" Strategy and Measures for Its Effective Implementation" / National database of legislation of the Republic of Uzbekistan ([www.lex.uz](http://www.lex.uz)).
2. Chen J. Multiple Listing Service (MLS): Definition, Benefits, and Fees. Investopedia, update January 21, 2022 [Electronic resource]. – URL: <https://www.investopedia.com/terms/m/multiple-listing-service-mls.asp>
3. Multiple listing service. Wikipedia - the free encyclopedia [Electronic resource]. – URL: [https://en.wikipedia.org/wiki/Multiple\\_listing\\_service](https://en.wikipedia.org/wiki/Multiple_listing_service)
4. MLS (Multiple Listing Service). RealEstateWords.com [Electronic resource]. – URL: <https://www.realestatewords.com/mls>
5. Multiple Listing Service (MLS): What Is It. National Association of REALTORS. [Electronic resource]. – URL: <https://www.nar.realtor/nar-doj-settlement/multiple-listing-service-mls-what-is-it>
6. Восприятие эксклюзивного договора – вопрос времени, 02.09.2010 [Электронный ресурс]. – URL: <https://arevera.ru/news/market-news/vospriyatie-eksklyuzivnogo-dogovora-vopros-vremeni>
7. Мультилистинговая система – новые технологии продаж недвижимости в Новосибирске [Электронный ресурс]. – URL: <http://www.nar.ru/publications/multilistingovaya-sistema-novye-tehnologii-prodazh-nedvizhimosti-v-novosibirske>
8. Романенко А. Рынок недвижимости России: что почерпнуть из зарубежного опыта. 12.05.2012. [Электронный ресурс]. – URL: <https://www.irn.ru/articles/32140.html>
9. В Узбекистане запустили мультилистинговую систему, 15.01.2015 [Электронный ресурс]. – URL: <https://anhor.uz/news/v-uzbekistane-zapustili-mulytilistingovuyu-sistemu>
10. Рынок недвижимости. Коллективная монография. / под редакцией д.э.н. Бутикова И.Л. – Ташкент: IQTISODIYOT, 2016. - 415 с.



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
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