Information Resources for Investors: Russian Regions Experience

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Abstract—**The relevance of the topic is caused by the importance of digital resources in the modern world, which are becoming convenient in all spheres of life. This is also true for investors and the investment process itself. Digital technologies have gained particular relevance during the COVID-19 pandemic and the organization of remote work in many areas of the economy. Information portals have become an effective mechanism for improving the investment attractiveness of a particular country and its regions for investors. This necessitates the improvement and development of the information services themselves. The aim of the study is to develop recommendations for the regions of the Russian Federation on maintaining investment portals and investment maps. The content analysis of the site information, the scoring of sites by their content, design and technical capabilities was carried out. The regions are ranked according to the degree of development of the indicated Internet portals. The results of the study of investment portals and investment maps made it possible to identify those territories that can attract new investors due to the high quality of their information services by comparing the experience of different regions. For other regions, the authors offered practical recommendations for improving Internet content for investors. The practical significance of the study lies in the fact that the experience and recommendations for the studied Russian regions can be used as a model for other subjects of the Russian Federation.**

Keywords—*digital technologies, investment portal, investment map, region, investment attractiveness*

I. INTRODUCTION

Currently attracting new capital investments in the regional economy is considered as one of the most promising sources of socio-economic development of the territory. Investments help create new jobs, develop regional infrastructure, increase production, etc. However, investments are a limited resource, so the constituent entities of the Russian Federation are actively competing with each other to attract them. To overcome competition, regions can use different methods: improve the economy, offer promising projects or cheap resources, provide government support measures to investors, etc. All this constitutes the investment attractiveness of the territory, which includes a set of objective and subjective conditions that can contribute to investment [1,2,3]. However, in the modern digital economy, it is important not only to create conditions for investment, but also to inform the investor about them in a timely manner. For this, the regions are developing special information sites for investors - investment portals and investment maps of the regions. Investment portals inform about the investment climate of the region, measures to support investors, etc. Investment maps help to find out about the location of objects, necessary resources and infrastructure for investors. In this regard, it can be noted that the investment attractiveness of the region directly depends on the degree of development of the specified Internet content.

During the COVID-19 pandemic, the development of such regional information portals for potential investors has become especially relevant. Since investors are still limited in movement, investment portals and investment maps of the regions are becoming the main source of information for them. For the regions themselves, the development of websites for investors is becoming one of the few effective ways to attract investment during a restricted travel regime. These facts prove the relevance of the study.

TABLE I. LIST OF CONSIDERED REGIONAL INFORMATION RESOURCES

| | Investment portal of the region | | Investment map of the region |
	Name of the site	*Link*	
Bashkortostan	Investment portal of the Republic of Bashkortostan	https://invest.bashkortostan.ru/	https://map.bashkortostan.ru/
Mari El Republic	Official website of the Republic of Mari El and its separate page	http://mari-el.gov.ru/invest/Pages/national_rating.aspx	http://mari-el.gov.ru/invest/Pages/map.aspx
Mordovia	Investment portal of the Republic of Mordovia	https://investrm.ru/	http://map.investrm.ru/
Tatarstan	Investment portal of the Republic of Tatarstan	http://invest.tatarstan.ru/	http://invest.tatarstan.ru/ru/#map
Udmurtia	Investment portal of Udmurtia	http://udminvest.ru/	http://investudm.ru/map/
Chuvashia	Investment Portal of Chuvashia	http://investchr.ru/	http://investchr.ru/places/invest-map

TABLE II. CRITERIA FOR SCORING INVESTMENT PORTALS OF THE REGIONS OF THE RUSSIAN FEDERATION

Criterion	Content	Maximum score (5 points)	Minimum score (0 points)
Convenience	Reflects the degree of ease of navigation on the site and the search for necessary information, allows you to assess the compliance of the internal content of pages with their titles and sections.	The structure of the site is simple and straightforward, the titles of sections and pages have clear names that allow you to quickly find the necessary information about the region	The structure of the site is complex and does not allow finding the information necessary for investors or makes it difficult to find it; section titles do not reflect the actual content of this site page.
Informativeness	Reflects the completeness of the information on capital investments presented on the website: legal, analytical, contact information, etc.	The site is informative and contains all the information necessary for an investor about regulatory legal acts and regional development programs, information about the state of society and the economy in the region, about possible support for investors in different industries, etc.	The information on the site is scarce and does not allow to fully assess the opportunities and risks of investing in the regional economy
Relevance	Allows you to assess the frequency of updating information on the site, and, as a result, its relevance for the investor.	Information messages (news, analytical materials) are relevant, the latest news was posted no later than a week ago.	The news feed on the site is rarely updated, and the latest news is dated earlier than a month ago.
Design	Allows you to evaluate the design of sites, their visual appeal and ability to remember	The design of the site attracts attention, the site is designed in a single graphic style, text and visual elements are harmoniously combined in it, the design of the portal is different from the design of other similar sites.	There is no clear style in the design of the site, the text is unreadable and difficult to read.
Language selection	Allows you to assess the prospects for attracting not only domestic but also foreign investors.	Ability to select at least 3 site languages.	There is no language choice, the information is presented only in Russian
Direct connection	Allows you to assess the ability to ask questions of interest in real time, which simplifies and speeds up the interaction of regional authorities with potential investors.	There are mechanisms for direct communication with investors online via chat, it is possible to order a call or contact representatives of regional authorities on social networks.	There are no communication mechanisms through the site. Links to the page of the region in social networks are not indicated.
Related resources	Allowed to evaluate the presence of links to related resources and sites about the region and its authorities	There are direct links that allow you to switch from the investment portal to other sites in the region.	Links to related sites are missing or not working.

It should be noted that, despite the relevance of this topic, it remains poorly studied in the era of digitalization. Information openness of the region is one of the characteristics of its investment attractiveness for investors. Basically, the development of information resources of the region is seen as a tool for marketing the territory [4,5,6]. At the same time, its potential developments are becoming more and more. They are of great importance for economic development [7,8], the convenience of society [9,10] and the efficiency of public administration [11,12].

II. MATERIALS AND METHODS

The study was carried out for the example of individual Russian regions: the republics of Tatarstan, Bashkortostan, Mordovia, Udmurtia and Chuvash. For the study, two information tools were chosen: the investment portal of the region and its investment map.

The list of analyzed information resources of the selected Russian Federation regions is shown in Table 1.

To conduct a study of investment portals and investment maps of regions, we used such scientific methods as content

TABLE III. CRITERIA FOR SCORING INVESTMENT MAPS OF THE RUSSIAN FEDERATION REGIONS

Criterion	Content	Maximum score (5 points)	Minimum score (0 points)
Convenience	The simplicity of working with the map, the correctness of the names of the sections and layers of the map	The map is understandable, no additional instructions are required to work with it, navigation on the map is simple.	The card has a complex massive structure, which slows down and complicates work with it
Informativeness	Assesses the availability of various kinds of information: the availability of resources in the region, a description of its infrastructure, complete information about projects, etc.	The map makes it possible to assess the investment conditions, various indicators of the internal socio-economic environment of the region.	The map does not allow the investor to get an idea of the region and investment projects on its territory.
Number of information layers	Evaluates the variety of information provided about projects, resources, regional authorities , etc.	The information on the map is diverse and allows you to assess the availability of resources, the degree of infrastructure development , etc.	The number of layers and their internal content is not sufficient for the investor to be able to assess the potential conditions for investment.
Investment projects and objects	Assesses the completeness of information on potential investment projects and their status provided on the map.	Information about the projects is quite complete, there are photographs of investment objects, legal information about them, etc.	Information about the objects is scarce or completely absent, which prevents the investor from remotely assessing the prospects of participating in the project.
Completed projects	Assesses the availability of information on previously implemented investment projects in the region	Information on completed projects is provided, which allows the investor to better assess the conditions and risks of implementing similar projects	There is no information about completed projects.
Search	Evaluates the presence / absence of a search line on the map, which speeds up navigation on the site.	There is a search bar and allows you to quickly find information about investment projects of interest.	There is no search bar, the search for information on the map is carried out manually or thanks to filters
Direct connection	Evaluates the availability of an online chat, ordering a call and other communication channels with regional authorities on the website of the investment card.	There is an opportunity for quick and convenient online communication with the regional authorities.	There is no opportunity to ask a question, clarify information or get advice from regional authorities.

TABLE IV. ASSESSMENT OF INVESTMENT PORTALS OF THE REGIONS OF THE VOLGA FEDERAL DISTRICT

	Bashkortostan Republic	Mari El Republic	Mordovia Republic	Tatarstan Republic	Udmurt Republic	Chuvash Republic
Convenience	5	1	4	4	3	5
Informativeness	5	3	4	5	5	4
Relevance	4	1	5	4	2	4
Design	5	2	3	5	3	5
Languages	5	3	3	5	5	5
Direct connection	5	4	1	5	3	4
Related resources	3	0	5	0	0	0
Total	32	14	25	28	21	27
Rank	1	6	4	2	5	3

analysis of information resources and their content, scoring of collected information about content, design, site usability, etc., comparative analysis and ranking of regions according to the degree of development information environment for the investor.

Content analysis of information resources involved the collection of information about the structure of sites, their technical characteristics, the convenience of working with the Internet resource, etc. For the analysis of regional investment portals, the following criteria were selected (see Table 2).

To analyze investment maps of regions, similar criteria were also selected (see Table 3).

This information was assessed on the basis of a point scale from 5 to 0 with a step of 1 point. The final results of the

scoring of the regions investment portal and their investment cards were calculated using the formula

$$R_i = \sum_{k=1}^{n} r_k \qquad (1)$$

where Ri is the final assessment of the i -th region , rk – is the assessment of this region for each of the selected criteria, n – is the number of assessment criteria taken into account.

The total score of each of the regions made it possible to rank them and comparatively analyze the experience of the regions in terms of the level of information support for investors.

TABLE V.   ASSESSMENT OF INVESTMENT MAPS OF THE VOLGA FEDERAL DISTRICT

	Bashkortostan Republic	Mari El Republic	Mordovia Republic	Tatarstan Republic	Udmurt Republic	Chuvash Republic
Convenience	5	0	5	5	5	3
Informativeness	5	0	5	5	5	2
Number of information layers	5	0	5	4	5	2
Information about objects, projects	5	0	4	3	3	4
Implemented projects	0	0	5	0	5	0
Search	5	0	0	0	0	0
Direct connection	5	0	4	0	0	0
Total	30	0	28	17	23	11
Rank	1	6	2	4	3	5

TABLE VI.   COMPARATIVE ANALYSIS OF THE PRICES OF INDIVIDUAL INFORMATION RESOURCES OF THE CONSTITUENT ENTITIES OF THE RUSSIAN FEDERATION

Region	Investment Portal		Investment card	
	Rank	*Assessment*	*Rank*	*Assessment*
Bashkortostan Republic	1	32	1	30
Mari El Republic	6	14	6	0
Mordovia Republic	4	25	2	28
Tatarstan Republic	2	28	4	17
Udmurt Republic	5	21	3	23
Chuvash Republic	3	27	5	11

III. RESULTS

The results of the scoring of regional investment portals, carried out on the basis of an analysis of their content and capabilities, are shown in Table 4.

First of all, it should be noted that not all regions have a separate site yet - an investment portal. In Mari El, this page is included in a single integrated information system - the official website of the region. This fact can be considered an omission, therefore the portal of the Republic of Mari El has the lowest score.

If we consider the results of evaluating the investment portals of the remaining 5 regions, then the following conclusions can be drawn. The investment portal of Bashkortostan received the highest rating. The specified site is really convenient, informative and understandable for work. The advantages of this site are a large amount of information about the investment climate of the region, a convenient sitemap, clear titles of sections and pages of the portal. Information for investors is presented on the website in the form of lists. For example, support measures for investors are presented in the form of a list, which is divided into thematic sections by industry. This allows the investor to immediately choose those measures that will be useful to him. Next to each support measure, there is a link to a regulatory act, which contains information about the conditions, procedure, amount of the subsidy, etc.

A significant advantage of the investment portal of the Republic of Bashkortostan is the availability of feedback from the investor. Here he can ask a question in a chat with representatives of the authorities, order a call, go to the region's page on social networks, write an appeal via e-mail. This allows the investor to quickly and conveniently receive the necessary information directly from the employees of regional authorities. Direct communication options on portals in other regions are limited. This can be an obstacle for the investor, that is, negatively affect the investment attractiveness of the region. Therefore, investment portals from other regions received a lower score on the "Direct link" criterion.

Next, consider the investment maps of the regions (see Table 5).

It is important that each region develops a map independently. There is no single sample, requirements or recommendations for its formation, filling, updating. In this regard, the investment cards of different entities are very different from each other. Presently this fact can be considered the main limitation of the use of investment cards.

A significant difference between investment maps of different regions is the presence of various information layers: resources, infrastructure, planned, ongoing and completed projects, etc. Some maps allow you to select information layers of different topics, for example, the map of the Republic of Bashkortostan. The maps of other regions contain significantly less information about the conditions for investors. For example, on the investment map of the Chuvash Republic there is information only about the infrastructure of the region, while there is no information about resources, municipal areas, investment projects.

A common disadvantage of investment maps in most regions is the lack of a search bar and direct communication with authorities. While maps allow you to filter information about resources, objects, infrastructure of the region, etc.

However, this method of selecting information is convenient for assessing the investment climate of a region, but not for searching for specific objects.

Regarding the possibility of direct communication, it can be noted that it is absent on the investment maps of the republics of Mari El, Tatarstan, Udmurt and Chuvash. This drawback prevents investors from receiving information about the region and projects quickly, which creates a risk for the investor to refuse to invest.

After comparing the regions by the degree of development of information resources, we will conduct a comparative analysis of different investment resources of each region with each other (see Table 6).

Based on the data presented in Table 6 we conclude that in the ratings of investment portals and investment cards, the region-leader (Bashkortostan) and the outsider (Mari El) coincide. It is difficult to make an unambiguous conclusion regarding the rest of the regions: their information environment requires improvement either by finalizing the investment map, or by improving the investment portal.

It should be noted that the level of assessments of investment portals for most regions is higher than the level of assessments of investment cards. This fact can be explained by the fact that investment cards are a newer and technically more complex information resource. However, this resource is no less relevant for investors, which indicates the need for all considered regions to improve their investment cards in the future.

IV. DISCUSSION

From the research that has been carried out it is possible to evaluate and analyze two information resources of the region - an investment map and an investment portal. Based on the results of the study, based on the identified shortcomings of these sites, some practical recommendations were formed. First, a more detailed study of the structure of the region's investment portal is required, which will simplify and speed up work with it. Secondly, it seems relevant to improve the methods of direct communication of potential investors with specialized regional authorities through the website, which will allow to inform the investor in more detail and in detail, and to work more actively with him. Thirdly, a more detailed study of the design of the investment portal of each region is recommended so that each of them is remembered by the investor and attracted his attention.

The following recommendations were proposed regarding the investment map of the regions. The development at the federal level of a model investment map, common for all regions, is proposed. This will allow unifying the card format so that it is convenient for the investor to work with them. It is also proposed to expand the technical capabilities of maps for more convenient work with them: searching for information, choosing a language, the possibility of direct communication with the authorities of the region or municipality, etc. Such opportunities are already available on regional investment portals, but they are not yet available on investment cards, which complicates work with them.

The practical significance of the study is that the experience and recommendations for the considered Russian regions can be used as a model for other territories.

V. CONCLUSION

Summing up the results, it can be concluded that the development of the information environment for investors in the regions of the Russian Federation is still extremely heterogeneous and requires improvement. The analysis and ranking of regions made it possible to establish that while not all regions have separate investment portals or maps, the design of these resources often does not attract attention, the technical capabilities of the sites are limited. Moreover, the most significant are the disadvantages of investment cards, rather than investment portals of the constituent entities of the Russian Federation, which is explained by the novelty and technical complexity of the cards, as well as the information richness of their content. In connection with the identified shortcomings of the studied Internet resources, recommendations were formulated to improve the technical characteristics of sites, their design and filling their content. Comprehensive implementation of these recommendations in practice will allow not only creating regional investment portals and maps to inform investors, but making them effective tools for attracting more investments at lower average costs of regional authorities for these purposes.

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