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Analysis of the competitiveness of the agricultural market of Uzbekistan: A systematic literature review

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Annotation: Due to the significant benefits in economy of Uzbekistan, the current agriculture businesses have become increasingly advantageous and are supported by local government. Inspired by this, many studies have investigated different aspects of the agricultural sector, especially competitiveness. However, the main characteristics and overall findings of these studies are scattered in term of competitiveness analysis of agricultural market in Uzbekistan, and to the best of our knowledge, there has been no attempt yet to systematically synthesize the literature produced so far on competitiveness in the agricultural market. Thus, this paper presents the results of analyzing and systematically synthesizing the literature that has been explicitly produced on the competitiveness of agricultural sector. We found a growing body of literature on the presence of competitiveness in the agricultural market, where there are indications that the main intentions behind the agricultural market are mostly affected by the following contributive research areas: land use, water management, farm restructuring, clustering in the agro-industrial complex. This implies that the research of competitiveness analysis in agricultural markets is a popular topic in Uzbekistan. In total, a pool of 30 papers published in 12 journals was selected for further analysis by using both automatic and manual search strategies. Our review study supports the relevant communities including researchers and academics, investors, and regulators by providing a structured network analysis for literature strands and the basis for better regulation and protection of investors in the agricultural market to cultivate and manage healthy competition. It also helps pave the way for further research.

Key words: Agricultural Markets, Competitiveness, Factors, Systematic Literature Review

1. Introduction

Local agricultural businesses have experienced a rapid rural transformation and have become one of popular ways of generating profits [1,2,3], drawing attention of different communities such as the media, individual investors, institutional investors, and regulators and becoming an important and actual topic in several directions of academic research [4,5].

Due to several factors, such as rapid population growth, and urbanization, [6,7], cultivating agricultural products is also becoming a critical activity of every country in the world to sustain their economy. This is because these factors trigger directly agricultural industry as a primary source of agri-food production around the world.

Considering those factors has become a major issue of agricultural industry of Uzbekistan since the agricultural sector is a reliable provider of export earnings, food staples and farm jobs. The recent optimization efforts are directed towards enlarging farm sizes and diversification from cotton to horticulture and garden farms.

As the growth of the agricultural exports is increasing significantly, competitiveness is at the core of the agricultural development agenda of Uzbekistan. A profound change in the agriculture system is needed to cultivate the competitive agricultural businesses in improving different aspects of agricultural production such as effective land use, water management, fertilization, and the use of new agricultural technologies [6,7,8]. As diversified products of agriculture are more common in the farms, farming processes will become increasingly knowledge and resource intensive for sustainable development of business. With this, the aggregation and synthesis of existing knowledge produced so far, as well as extraction of relevant information become extremely important for the farm managers on competitiveness of the agricultural market.

The remainder of the paper is further organized as follows: Section 2 provides discussion of the research methodology used to gather the literature. Section 3 describes the results of the systematic literature review obtained after a general analysis of the selected relevant papers. Finally, section 4 concludes the paper with a

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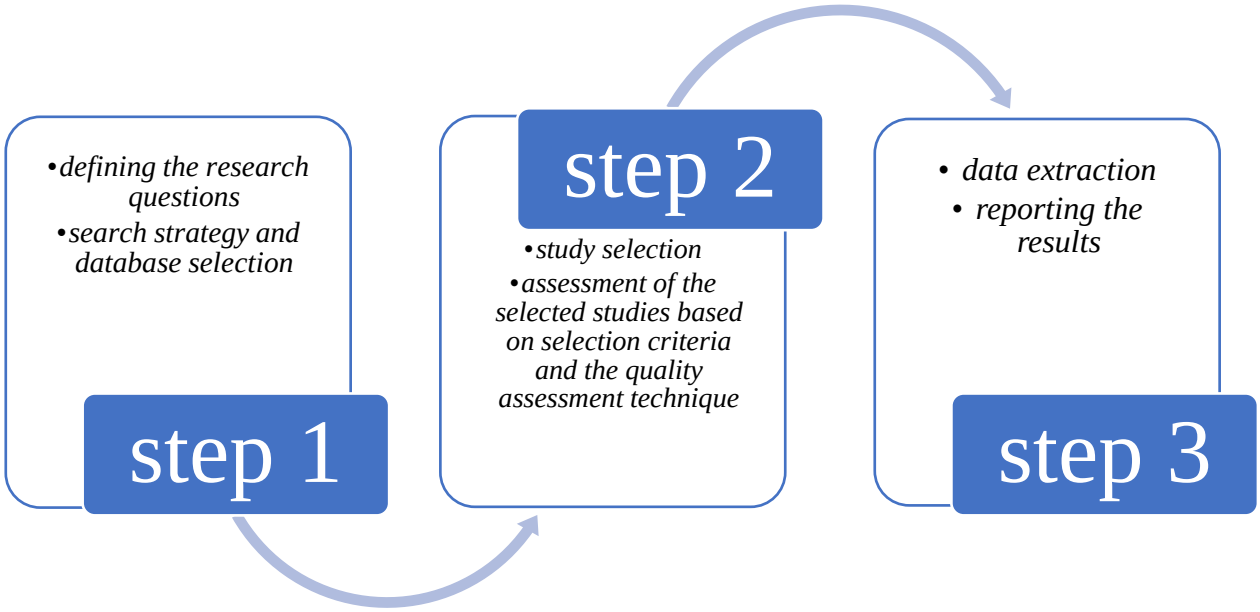
detailed overview of knowledge acquired regarding competitiveness in the agricultural market in Uzbekistan and some future research directions.

2. Methodology

The methodology that we employed for this study is systematic literature review (SLR) used to manage the diversity of complex knowledge and identify the studies relevant to a predetermined topic. In this study, SLR is conducted to analyze the competitiveness of local markets in agricultural industry. Particularly, search inquiries are made with the terms 'agriculture', 'markets', and 'competitiveness' appeared concurrently in the title, abstract, or keywords of scientific papers with 'Uzbekistan', focusing in Web of Science and science direct databases. To ensure the integrity, transparency, and high-quality of our sample, we followed the guidelines as proposed by [8-10] that are also redeeming features of systematic literature review. **Fig. 1** represents the review protocol that we used in this systematic literature review study classified.

Figure 1: Stepwise representation of systematic literature review protocol



2.1 Research questions and search strategy

We constructed research questions based on the purpose of the study and keywords of the title (Uzbekistan, market competitiveness, and agriculture) that need to be answered using the selected studies. The following research questions are used for SLR.

Which aspects of competitiveness have been analyzed in the literature for competitiveness of agricultural markets?

How and to what extent have agricultural markets been explored in Uzbekistan such as tools and techniques used, and agriculture type?

What are the obstacles and possible solutions in developing competitiveness of local markets of agricultural industry?

The first research question is addressed by identifying which aspects of competitiveness of agricultural markets have been analyzed so far. The second research question is answered by identifying How and to what extent agricultural markets have been explored in the selected studies while the third question is addressed by identifying the obstacles and possible solutions in developing competitiveness of local markets.

The academic databases in which we chose to make our inquiries are science direct, web of science, and research gate since they provide original and up to date researches. We also used to google scholar analytics system to enrich our content as supplementary to our research. We constructed our search strings by using alternatives and synonyms of title or keywords of this study. Examples included "agricultural markets in Uzbekistan", "export-oriented products of agriculture", Uzbek agricultural products in competitive markets"

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and so on. Manual search and analysis of the potential documents is also performed manually as well. Consequently, we found 30 articles [1-7, 11-30] after applying the automatic, manual analysis processes, and selection criteria that are explained later. In total, 53 papers were gathered, which are shown in Table 1.

Table 1. Detailed outline of search sources and results

Sources	After Automated and manual search	After applying selection criteria
Web of science	18	10
Science direct	20	15
Research gate	15	5

2.2 Inclusion and Exclusion criteria

To avoid noise generated from massive number of documents in databases and decrease irrelevant content, we used study selection criteria as a filtering tool that make our searches purposeful and organized.

Inclusion criteria:

- journal articles and conference papers that are relevant to the topic
- Studies that focus on quality assessment ones
- Studies that include information to answer to the research questions.

Exclusion criteria:

- The studies that are not available in full text.
- The studies that are not in English.
- The studies that do not contain content relevant to Uzbekistan agricultural industry

2.3 Quality assessment

We also decided to assess the quality of 30 studies before doing the data extraction and reporting the results. The quality assessment is considered as a part of systematic literature review research. As in the process of analyzing and filtering the articles, we used quality criteria presented in Table 2. We followed the guidelines of [8-10] and other SLRs research to base these criteria on their quality instruments. The quality assessments process is performed based on the quality of study's final product by using a three-point scale (yes, partial, no) with regard to quality criteria. Exclusion score of the papers is considered as below four points of eight. As the result of using quality criteria, no exclusion decision is made for all 30 studies that are next used for the data extraction process.

Table 2. Qualiy assessment criteria

Quality criteria	**Yes (1) partial (0,5) no (0)**
Clearly stated aims	
Clearly described scope and context	
Adequate level of documenting research process	
Clearly stated findings	

2.4 Data extraction

We developed a data extraction form that enable us to collect and retrieve all needed information from 30 selected studies. This also enables us to answer research questions that requires careful and entire reading of those studies. we perform the following tasks iteratively according to the data extraction form.

- Random and rigorous selection of several articles used to create the data extraction form.
- Using the initial data extraction form for other selected articles to extract the data
- Updating the form and using the revised form on the following articles.
- Repeating the process if the form did not cover all of the necessary information yet

Finally, final data extraction form is completed with general information such as the title of the study, the authors, year of publication, publication venue, and publication type. It also contains the specific information with direct answers to the research questions

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3. Results

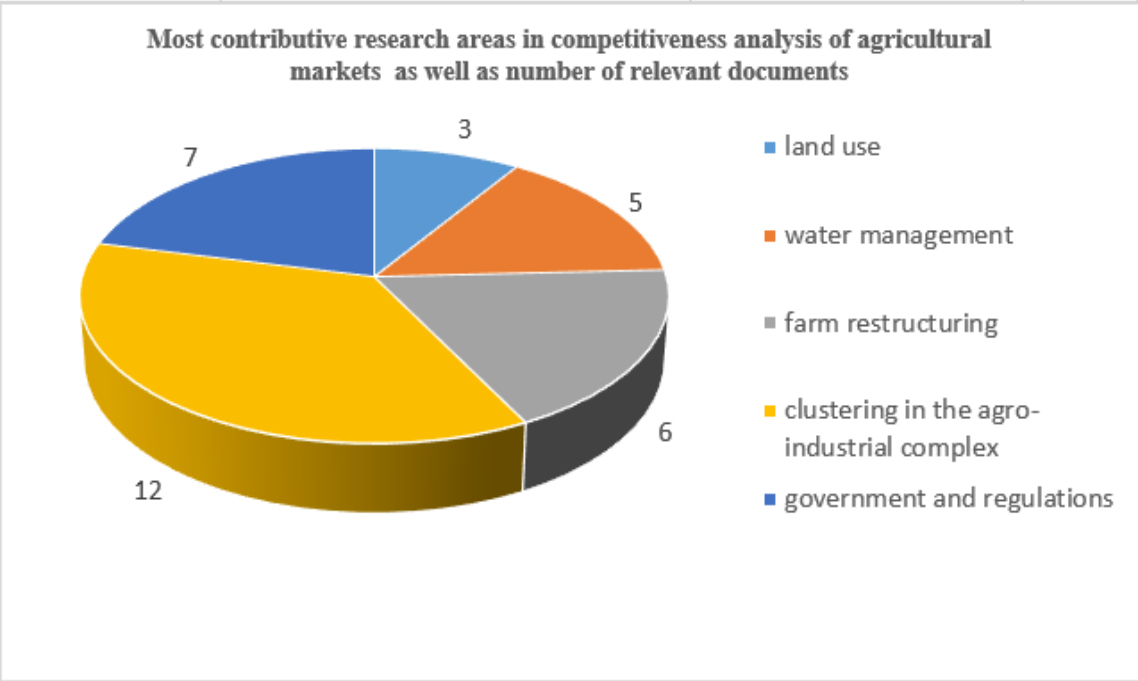
This literature review highlights the competitiveness of agricultural markets in Uzbekistan and provides a structured network analysis by understanding and investigating literature strands. Thus, this literature trend found that the main intentions behind competitiveness of local agricultural markets are water and land use policies [1-6]. In addition to land and water, other factors influence in the competitiveness of agricultural markets, such as crop diversity in the irrigated areas [7], necessary resources [12], and food security policy [13].

In a competitiveness analysis of agricultural market, investors highlights farm restructuring as an opportunity to promote agricultural competitiveness of local markets in Uzbekistan, unlike traditional ways of improving the agricultural competitiveness, where the authors perceive that the competitiveness of the agribusiness market depends on the quality of resources and the average market value of the agricultural sector [14-19]. Additionally, farm managers tend to pursue clustering in the agro-industrial complex, believing that cluster approach provides better spatial organization of agricultural production and economic development as well as significant increase in export potential of the country [20-22]. By enforcing the idea of state's coordinating tasks in the agricultural markets, researchers of [23-29] believe that intensification of production and services specialization, the maximization of the consumer needs of the market, the increase in the profitability are the major tasks for government in order to develop the competitiveness of agricultural markets. This finding demonstrates that efficiency of agricultural production also depends on proper management and regulations.

To further analyze the competitiveness of local agricultural markets, factors that influence the competitiveness of agricultural markets were examined, revealing public-private partnership, social capital, synergistic effect, cooperation between the state, business, science and education as the factors to increase the competitiveness of agricultural markets [30-33].

In addition to conceptual findings of our systematic literature review, we also decided to provide quantitative summary of our findings based on the selected studies. Fig. 4 presents the analysis of the most contributive research areas focusing on the competitiveness of agricultural markets and number of documents related to those areas. Clustering in the agro-industrial complex is the research area with more contributions, followed by the agriculture related government & regulations area. However, this analysis also reveals that other unexpected areas of knowledge have contributed to the analysis of agricultural markets, such as land use, and water management.

Figure 2. Most contributive research areas



Based on the findings of [34], we also take the quantitative research methodology and the environmental insights into consideration while analyzing and summarizing key documents.

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4. Discussions and Conclusion

Using the systematic literature review for analyzing the competitiveness of agricultural markets allows us to more fully explore the conditions of agricultural markets, determine contributive research areas and create a structured network analysis for literature strands and the basis for better regulation of agricultural markets and protection of investors in the agricultural market to cultivate and manage healthy competition. To inform, land use, water management, farm restructuring, clustering in the agro-industrial complex are identified to be the most contributive research areas to analysis of agricultural markets competitiveness. Clustering in the agro-industrial complex is identified as the research area with more contributions, followed by the agriculture related government & regulations area.

This systematic literature review study provides important contributions for academic and business communities such as researchers and academics, investors, and regulators. It also provides a structured network analysis for literature strands for researchers and academics to conduct different academic activities such as future researches on the competitiveness of agricultural markets in Uzbekistan by using relevant information. It helps investors to make their investment decisions and their respective implications by providing the relevant knowledge to better understand the market and showing the most relevant factors that influence the competitiveness of agricultural market and its investors. In addition, policy-makers can take full advantage of our study to better regulate competitiveness of the agricultural markets and to provide necessary conditions to cultivate healthy competition among agro-business companies.

As the future research agenda, systematic literature review of the competitiveness of agricultural markets in Uzbekistan can be carried out with high accuracy as a result of obtaining more complete information about other aspects of agricultural markets such as products, and quality standards. We also highlight the necessity to investigate other factors and help better understand the adoption of environmental regulations by agricultural society [32-34]. For instance, environmental analysis can be expanded to include effective use of natural resources, evaluation of agrarian activities into environment, using information technologies to increase the efficiency of environmental regulations [34], in different contexts such as the preserving animals and plants, and land degradation. Future research should also further explore phenomenon such as agricultural company competitiveness strategy implementation and market diversification. In addition, conducting research that involves several partners from different backgrounds is also essential to take a broad view of the competitiveness of agricultural markets.

Overall, this systematic literature review contributes to the research being carried around the competitiveness of agricultural markets in Uzbekistan. The main shortcomings of this review are twofold: firstly, only three academic databases are used for literature search (web of science, science direct and research gate), and secondly limited use of keywords and synonyms might may restrict other valuable studies.

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