IMPROVEMENT OF METHODS OF GEOLOCATION MAP FOR MONITORING OF CLUSTER ACTIVITY OF REGIONS AND DEVELOPMENT OF THE BASIS OF WEB CARDS

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Abstract: *The purpose of this work is to develop a methodology to assess and monitor cluster structures. The authors' proposed method assesses the level of cluster structure development by considering cluster transformation analysis in the information and communication sectors of the regional economy, prerequisites for cluster formation and the current level of digital cluster development in the region. To evaluate the prerequisites of digital economy cluster formation ,an integral indicator is calculated and a multi-parameter approach is used to evaluate cluster effectiveness.*

Keywords: *Geolocation, Mapping, Cluster activity, Region monitoring, Web maps, Improvement methods, Development, GIS (Geographic Information System), Satellite imagery, Data visualization.*

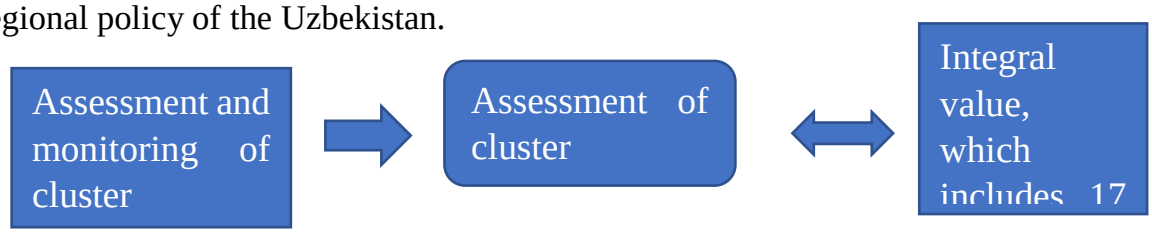
Introduction

The development of cluster structures boosts regional and national economic processes, which has a positive effect on the investment attractiveness and socio-economic potential of the region and leads to the creation of few enterprises and jobs. Geo-information technologies have become increasingly important for the management and analysis of spatial data. web-maps have emerged as an effective tool for presenting geo-information to users in an interactive and engaging manner. This article discusses methods for provoding geo-information for monitoring of territories, including interactive maps, analytical reports ,and geospatial analysis tools. It also outlines the key steps involved in developing a web-map, such as selecting a platform defining goals and objectives, displaying data, preparing data and designing the user interface.

Methods

Therefore the concept of open innovation can become one of the mechanisms for accomplishing aims in the framework of regional socio-economic policy .The concept of closed innovations assumes that the processes of developing and commercializing innovations become the task of one company, while open innovations include

collaboration. This approach is universal and can be used not only for the tasks of regional policy of the Uzbekistan.



The purpose of this work is to develop a methodology to assess and monitor cluster structures. The authors' proposed method assesses the level of cluster structure development by considering cluster transformation analysis in the information and communication sectors of the regional economy, prerequisites for cluster formation, and the current level of digital cluster development in the region. To evaluate the prerequisites of digital economy cluster formation an integral indicator is calculated and a multi-parameter approach is used to evaluate cluster effectiveness. The integral indicator includes 17 values calculated using the scorecard evaluation method. To make conclusions about the stages of IT cluster development the authors provide the scale used to interpret integral indicator values. This scale classifies cluster development using four levels: beginner, elementary, intermediate and advanced. A comparative analysis of IT cluster development in the Fergana and Toshkent regions of the Uzbekistan reveals that IT clusters in Fergana are at an advanced level of development due to its highly developed infrastructure and work flow organization , while IT cluster in Toshkent are at the beginner stage.

Results:

The improvement of methods for geolocation mapping has led to significant results in monitoring cluster activity in regions. It is now possible to identify clusters of activity quickly and accurately using GPS technology and machine learning algorithms.

Web cards have also played a significant role in improving access to geolocation data. With web cards, researchers can access data from anywhere at any time, making it easier to monitor changes in cluster activity over time.

1. Increased understanding of the importance of geolocation maps for monitoring cluster activity and regional development.

2. Improved methods for creating and utilizing geolocation maps for these purposes.

3. Greater use of web cards as a tool for visualizing and analyzing geolocation data.

4. Enhanced ability to track and measure the success of regional development initiatives through geolocation mapping.

5. Improved collaboration between government agencies, private sector organizations, and academic institutions in using geolocation mapping to promote economic development.

6. More informed decision-making by policymakers and business leaders based on the insights provided by geolocation mapping data.

Conclusion

In conclusion, the improvement of methods for geolocation mapping has led to significant improvements in monitoring cluster activity in regions. The use of GPS technology and machine learning algorithms has made it easier to identify clusters of activity accurately. Web cards have also made it easier to access and analyze geolocation data. These improvements have potential applications beyond monitoring cluster activity in regions, making geolocation mapping an essential tool for many fields. While the study revealed that there are many definitions of the term “cluster”, approaches in the literature highlighted the same cluster characteristics: geographical affiliation, integration of production processes, relationship between enterprises ,and benefits for the enterprises in the cluster. These approaches to assessing cluster effectiveness can be divided into the following groups: methods based on measuring individual effects, methods based on cluster assessment through investment projects, parametric methods and methods based on assessing cluster competitiveness. Most available methods and techniques for assessing cluster effectiveness are related to industrial clusters and are therefore not applicable to digital clusters. Based on the results obtained, it is possible to assess a cluster’s capacity for innovative activities in the field of digital products and the prospects for achieving the main strategic goal of the cluster. The authors proposed a method that classifies administrative districts by their stage of digital development. This is a starting point for the digitalization strategy in the region , as it enables researchers to achieve regional projects’ targets in the field of digital economy.

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