

The Conceptual Framework for Economic Transformation of Devastated Areas – The Role of Information Technology and Tourism

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ABSTRACT Republic of Serbia, like many other countries, is faced with the problem of uneven regional development, where some areas' development level is well below average, compared to the whole country and to other developed areas. The state must create and undertake a series of measures to solve the problem of development of these devastated areas, so that these areas could be completely economically and demographically transformed and revitalized. The main objective of this research is to formulate comprehensive conceptual framework for approaches and solutions to this problem, with the greatest emphasis on the development of information technology (IT) and tourism potentials of devastated areas..

KEYWORDS information technology, tourism, regional development, economic transformation, devastated areas, conceptual framework.

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I. INTRODUCTION

This research considers the synergistic role of two factors (IT and tourism) in the economic transformation and development of devastated areas (Werthner & Ricci, 2004; Schegg & Stangl, 2017). Their role is to exert an initial impact on economic transformation and recovery of devastated areas, while, in later stages of economic development of these areas, this effect could be intensified under the influence of agricultural, industrial, and agro-industrial sector, thus achieving a new synergistic effect of real (industrial and agrarian) and service sectors (Leamer & Storper, 2017; Toyama & Dias, 2008). We believe that the initial impact on economic transformation and recovery of devastated areas is easier and cheaper to achieve by investing in IT sector and tourism services, rather than by investing in the real sector, which requires large, especially *greenfield* investment. (Bellini, Grillo, Lazzeri & Pasquinelli, 2017; De Santana Ribeiro, Da Silva, De Lima Andrade & De Souza, 2017).

Therefore, the main question that this research is trying to find the answer is how to exploit the potentials offered by information technology and tourism and use them for economic transformation and revitalization of devastated areas. The proposed concept or framework of solving the problem of regional development could be largely applicable to all areas that can be characterized as devastated, but the focus of this research is primarily on the region of Southern and Eastern Serbia, which has the most devastated areas.

Starting from the defined research objectives, the proposed conceptual framework of solving the problem of regional development can be divided into several related parts: 1. study of economic and demographic structure of devastated areas of Southern and Eastern Serbia; 2. study of IT development possibilities in these areas; 3. study of tourism development and improvement possibilities in these areas; 4. study of industrial and agrarian sectors in these areas; 5. study of macroeconomic policies and sources of financing the development of these areas; 6. study of the possibilities for improving the operations of small and medium-sized enterprises in these areas.

The first part of the framework relates to the study of possibilities for 1. economic and 2. demographic transformation of devastated areas. The second part of the framework includes the study of the existing IT infrastructure and situation in the IT sector in devastated areas and possibilities for improvement. The third part of the framework consists of two groups of activities: 1. activities related to the valuation of tourism potential of devastated areas, and 2. activities related to web presentation of the potential. The fourth part of the framework

consists of activities related to the study of potential resources (economic and demographic) for the development of industry and agriculture. The fifth part of the framework consists of two groups of activities and measures: 1. measures in the field of monetary, tax, and budget policy and 2. activities related to the study of different sources of financing the economic development of devastated areas. The sixth part of the framework relates to the study of business functions of small and medium-sized enterprises in devastated areas, such as human resources, marketing, accounting, and logistics.

Description of the framework structure with its defined elements is presented in the fifth part of paper in more details. After introduction, the next part of paper considers scientific and practical reasons that lead to idea for researching this topic, while the third part explain synergistic role of IT and tourism in regional socio-economic development. The fourth part of paper presents phases and activities defined by the proposed conceptual framework of regional development.

II. SCIENTIFIC AND PRACTICAL REASONS FOR THIS RESEARCH

This research is topical since Republic of Serbia has huge differences in the economic development of certain regions. Regional disparities in Republic of Serbia were particularly pronounced in the transition process (at the turn of the century), with the collapse of large-scale production systems, the collapse of industrial cities, and the emergence of a large number of *devastated areas*. On the one side, there is the city of Belgrade and Autonomous Province of Vojvodina, with an above-average development level, but, on the other side, the region of Southern and Eastern Serbia is far below the national average.

Also topicality of the problem of regional development of Republic of Serbia is reflected in the fact that the national economy has been in economic recession for two decades and that, among other factors, it contributed to total economic and demographic devastation of some areas, mainly in Southeast Serbia.

Serbian Government passed a Decree on establishing a unified list of regional and local self-government development levels in 2014, with 19 local self-government units representing devastated areas, with development level below 50% of the national average. According to this Decree, almost all devastated areas are in Southern and Eastern Serbia. At the time of new deep economic crisis, which hit Serbia too, this problem calls into question the economic and demographic survival of these areas. (Uredba o utvrdjivanju jedinstvene liste razvijenosti regiona i JLS, 2014)

The subject of regional economic development has been studied by a large number of researchers around the world and our country as well (Pikka, Iskanius &Page,2011; McCann&Ortega-Argilés, 2015; Camagni, 2017; Rodríguez-Pose,2013; Cooke& Leydesdorff, 2006). The most famous names in our country are: Kosta Mihailovic (Mihailović, 2003; Mihailović, 1975). Stevan Devetakovic (Devetaković, Jovanović-Gavrilović& Rikalovic, 2013; Devetaković, Rosić&Đorđević, 1999), Ilija Rosic (Rosić, 2004; Rosić, 1977), Edvard Jakopin (Jakopin, 2013a; Jakopin, 2013b; Jakopin, 2008), ZoranArandelović(Arandelović& Gligorijević, 2014), Petar Veselinovic (Veselinović, Despotović& Dimitrijević, 2013; Veselinović& Makojević, 2011)and others. Faculty of Economics in Niš has for 25 years organized the annual international conference, Regional Development and Demographic Trends of Southeast Europe, on the basis of which a large number of studies were published, collected in thematic proceedings (Arandjelović, 2017). Overview of this important source and other sources published in Serbia points to the conclusion that the role of IT and tourism in regional development is poorly treated, while their synergistic effect on economic development and transformation of devastated areas in Serbia has not been considered at all.

The concept of structural economic transformation based on the service sector development is not new in theory and practice. Italy (Cortés-Jiménez, 2008; Formica&Uysal, 1996)is the best example, which invested heavily in tourism development in the south of the country (including Sicily), wanting to accelerate overall economic development of this part of the country through tourism. Greece (Konsolas, Papadaskalopoulos &Plaskovitis,2012; Petrakos& Saratsis, 2000; Tsartas, 1992; Dritsakis, 2004) also used tourism to improve its hitherto undeveloped islands. The third example is Ireland (Giblin, Kennedy & McHugh,2013; Oliner& Sichel, 2000; Ken, 1999) which based its entire economic development, not just regional, on the service sector, primarily IT. The starting hypothesis in this research is that this framework and concept of economic transformation and development, which was successful around the world (Heeks, 2010; Rogerson, 2015) could be implemented in Republic of Serbia and similar countries in respect of devastated areas. In this regard, the research relies on scientific evidence to present the concept of economic transformation and development of these areas based on tourism and IT, and proposes specific measures to policy makers, which could help in the implementation of this concept.

III. SYNERGISTIC ROLE OF IT AND TOURISM IN REGIONAL SOCIO-ECONOMIC DEVELOPMENT

This research is in line with two priority areas determined by government of Republic of Serbia: 1. Sustainable economic development and 2. Digital technology and social changes. As we mentioned previously,

the Republic of Serbia has, in the last twenty five years, faced enormous problems related to economic development, one of the most important problems being uneven regional development that led to the devastation of entire areas, especially in Southern and Eastern Republic of Serbia. This research looks for a solution primarily to the recovery and transformation of these areas, and then their sustainable economic development. In seeking solutions to sustainable economic development of the devastated areas, the focus is on the role of information technology (IT). Effective utilization of IT potentials in the devastated areas would have an impact not only on economic but also on social development and changes in these areas and the whole country. (Dodson, Sterling&Bennett, 2012; Kuriyan, Ray & Toyama, 2008).

The concept and framework of sustainable economic development that is proposed here is based on the synergistic role of IT and tourism in initial phases of development, with more intense involvement of the real sector in later stages of development. Although the focus of this research is on the region of Southern and Eastern Serbia, this concept can be applied to other areas in Republic of Serbia as well. In addition, the methodology used here for the analysis and transformation of the economic structure, utilization of IT potentials, valorization of tourism resources, development of the real sector and the sector of small and medium-sized enterprises, analysis and use of sources of financing, and analysis and use of monetary and fiscal policy measures can be applied in the case of other areas and regions in Republic of Serbia as well, and possibly in other countries.

The results of this research are applicable in finding solutions to economic and demographic recovery of the devastated areas of Southern and Eastern Serbia, as well as their sustainable economic development. The expected benefit to the community is reflected in the increase in the number of employees in these areas in tourism and IT sectors, in early stages of development, and then in agriculture and industry, in later stages of development. This should have a positive impact on demographic trends in these areas, because the working-age young people will have a motive to stay in these areas and have a family, which will have a retroactive effect on the rise in demographic bases of future economic development of these areas. (Dana, Gurau & Lasch, 2014).

Investment in IT infrastructure in order to develop tourism and the overall economy of these regions will have an impact on the massive use of infrastructure and the reduction of digital divide, which is a basic requirement that the population, especially young people, get involved in social and economic trends in these areas. The availability of internet and mobile communications infrastructure at affordable prices is of great importance for the cultural and entertainment life of young people in the devastated areas, because telecommunication networks give them access to a variety of cultural and entertainment content. Given that this component of their lives is very important for them, it will, in addition to better economic conditions, increase their motivation to stay in the devastated areas, instead of going to large and more developed urban and industrial centers.

Another benefit for the social community refers to raising the level of socio-economic development of these areas and the building of not only economic capacities, but also educational, scientific, research, and health care infrastructure, as well as the infrastructure of cultural institutions and organizations.

IV. PHASES AND ACTIVITIES DEFINED BY THE PROPOSED CONCEPTUAL FRAMEWORK

The first step in this research is the territorial determination of research subject. According to the said Decree of the Serbian Government of 2014, devastated areas include 19 local governments. Insight into their territorial distribution points to the conclusion that 90% of these areas belongs to the region of Southern and Eastern Serbia, so that needs economic recovery and development. Next step is the analysis of existing economic structure of devastated areas of Southern and Eastern Serbia, to determine the role and share of tourism and IT sectors in their development. Logically, the main goal is the proposal of measures that can lead to economic transformation and demographic revitalization of these areas, with a strong influence of IT and tourism in the first phase of development, and greater share of agricultural and industrial sectors in later stages of development. Increasing share of IT in the economic structure of these areas can be achieved by encouraging the development of IT infrastructure and IT sector in these areas. In addition, in order for tourism to have a significant role in the economic development of these areas, it is necessary to explore and valorize tourism potentials of these areas and present them to the general public. To this end, we propose the development of the tourism web portal, which would provide an integrated presentation of tourism potential of these areas. When it comes to the development of the real sector in these areas and the proposal of agrarian and industrial policy measures for its advancement, special attention should be paid to small and medium-sized enterprises that represent the backbone of the development of these areas. Finally, one should explore the possibilities of monetary, tax, and budgetary policy, as well as different sources of financing, to support economic transformation and development of these areas.

Therefore core of phases and activities in the proposed conceptual framework for regional development can be summarized as follows:

1. Analyze the current economic and demographic structure of the devastated areas of Southern and Eastern Serbia and propose measures for structural transformation and demographic revitalization of these areas, given the economic, as well as demographic devastation of these areas.
2. Analyze the current situation of IT infrastructure, IT sector, and the digital divide in these areas, and propose measures for advancement in the field of IT and reducing the digital divide and inequality. Special focus should be on the analysis of infrastructure and human resources for the development of e-tourism, e-commerce, e-banking, and electronic public administration in these areas.
3. Explore tourism potentials of these areas and define the procedure for their valorization. Implement complex valorization of tourism potentials based on the degree of preservation of the environment, quality of available natural, cultural, and historical resources, as well as quantitative and qualitative characteristics of the population in devastated areas.
4. Design a web portal for the presentation of tourism potential of devastated areas. Given that the exploration of tourism potentials of devastated areas will identify the most important and most attractive tourist sites and natural and anthropogenic tourism resources, they need to be effectively presented on the Internet.
5. Explore the level of development and the structure of the real sector in these areas, as well as the potentials and resources for their advancement. Create a proposal of industrial and agricultural policy measures to create environment for business advancement and networking of small and medium-sized enterprises into clusters, as well as their integration into supply chains.
6. Create a proposal of macroeconomic policy measures and suggest the best mix of sources of financing to support the economic development of these areas.

V. THE STRUCTURE OF CONCEPTUAL FRAMEWORK FOR REGIONAL DEVELOPMENT OF DEVASTATED AREAS

Starting from the defined research objectives and previously presented phases and activities, this framework can be divided into several related units (parts):

1. Study of the existing economic and demographic structure of devastated areas of Southern and Eastern Serbia and proposal of measures for structural transformation and demographic revitalization of these areas.
2. Study of the current situation with IT infrastructure, IT sector, and the digital divide in these areas, and proposal of measures for advancement in the field of IT and reducing the digital divide and inequality.
3. Study and valorization of tourism potentials of these areas, as well as their presentation through the tourism web portal, in order to foster the sustainable development of tourism and the overall economy of these areas.
4. Study of the situation with the real (industrial and agrarian) sector in these areas and proposal of measures for its improvement.
5. Study of the possibilities of monetary, tax, and budgetary policy, as well as different sources of financing to support economic transformation and development of these areas.
6. Study of the possibilities for improving the operations of small and medium-sized enterprises that represent the backbone of the development of these areas.

The first part of the framework consists of two groups of research tasks: 1. Study of economic transformation and 2. Study of demographic transformation of the devastated areas.

1. Research tasks in the context of economic transformation are:

- a. Analysis of the situation of the economic structure of devastated areas.
- b. Creation of methodological instruments for measuring the structural transformation of devastated areas.
- c. Analysis of the impact of IT and tourism on the economic structure of devastated areas.
- d. Formulation of the strategy of restructuring the devastated areas and proposal of structural policy measures.

2. Research tasks in the context of demographic transformation are:

- a. Creation of an integrated research program of demographic characteristics and processes in the devastated areas.
- b. Study of spatial manifestation of depopulation and demographic emptying of devastated areas.
- c. Study of best practices in the field of exploitation of demographic and natural resources of devastated areas and formulation of strategies for conservation and improvement of demographic potentials and diversity of landscapes.

The second part of the framework consists of the following research tasks:

- a. Study of the existing IT infrastructure in these devastated areas.
- b. Study of IT infrastructure and human potentials for the development of e-tourism, e-commerce, e-banking, and electronic public administration in these areas.
- c. Proposal of measures for improvement of IT infrastructure in these areas, to be available and effective for citizens, the economy, and public administration.

d. Study of factors that influence the digital divide in these areas and proposal of measures to reduce it. Factors to be explored are: access to infrastructure, affordability of IT services, use of IT services, support of state authorities, and demographic factors.

e. Study of the situation in the IT sector of devastated areas and opportunities for improvement (explore the number and type of IT companies that operate in these areas and the possibility of opening new ones).

The third part of the framework consists of two groups of research tasks: 1. Tasks related to the valorization of tourism potentials of devastated areas and 2. Tasks related to their presentation.

1. Tasks related to the valorization of tourism potentials are:

a. Identification and determination of the most popular tourism sites and natural and anthropogenic tourism resources in the devastated areas.

b. Implementation of complex valorization of tourism potential of devastated areas, which should include: analysis of the traffic and tourism position of a certain site, its aesthetic value, attractiveness, and rarity, evaluation of the construction of necessary infrastructure, and so on.

c. On the basis of the degree of preservation of the environment, the quality of available natural, cultural, and historical resources, as well as the quantitative and qualitative characteristics of the population in the devastated areas, propose models for the development of sustainable forms of tourism, such as ecotourism, rural tourism, recreational tourism, and others.

2. Tasks related to the presentation of tourism potential of devastated areas refer to the development of a web portal and include the following.

a. Planning the construction of the portal with the portal map including the main topics, sub-topics, and content displayed, obtained through the exploration of tourism potentials of devastated areas.

b. Portal design, which will define the appearance of the portal, according to the structure and needs of potential tourists.

c. Implementation of the web portal on the basis of agreed elements in the design phase, with the creation of a prototype and functional portal.

The fourth part of the framework consists of the following research tasks:

a. Study of potential resources (economic and demographic) for the development of industry, agriculture, and small and medium-sized enterprises and entrepreneurs (SMEEs).

b. SWOT analysis of the development of industry, agriculture, and SMEEs, which would lead to the identification of the major constraints that hinder the economic development of the devastated areas.

c. Determination of the industrial and agricultural sectors that could deliver a high degree of specialization, and proposal of economic measures that would ensure the coordinated and integrated sectoral and territorial approach to sustainable development of devastated areas.

d. Proposals for the creation of a favorable environment for horizontal and vertical networking of small and medium-sized enterprises into clusters. A special role would be given to vertical networking throughout supply chains, linking agriculture and food industry, agriculture and tourism, and food industry and tourism.

The fifth part of the framework consists of two groups of research tasks: 1. Tasks in the field of monetary, tax, and budget policy and 2. Tasks related to the study of the possibilities of using different sources of financing economic development of the devastated areas.

1. The first group includes the following tasks:

a. Analysis of the existing fiscal policy measures in the field of allowances and exemptions aimed at devastated areas.

b. Mapping the structure of the monetary instruments of the National Bank of Serbia, with special focus on the study of measures in the field of selective credit policies.

c. Analysis of budgetary policy, with the focus on the state budget expenditure mechanism, to be transferred to the devastated areas.

d. Proposal of monetary, tax, and budget policy measures to support economic transformation and development of the devastated areas.

2. The second group includes the following tasks:

a. Analysis of the existing financial structure from the point of sources of financing the economic transformation of the devastated areas.

b. Study of the situation in the banking sector and lending opportunities for the development of the devastated areas.

c. Analysis of the possibilities of using the non-banking sector (leasing companies, investment funds, microfinance institutions, etc.) and financial market for stimulating the development of the devastated areas.

d. Study of the possibilities of using development funds, public-private partnerships, and the support of international financial institutions and governments to support the economic transformation of the devastated areas.

The sixth part of the framework relates to the study of small and medium-sized enterprises in the devastated areas, and includes the following research tasks:

- a. Research and data collection on small and medium-sized enterprises in the devastated areas of Southeast Serbia (record the number of such enterprises, dominant form, and their core activity).
- b. Study of the accounting system of these enterprises and proposal of solutions for its improvement.
- c. Study of the marketing system of these enterprises and proposal of solutions for its improvement.
- d. Study of the possibilities of these enterprises for networking into supply chains, especially intersectoral supply chains, such as agro-industrial, industrial-tourism, or agro-tourism chains.
- e. Creating recommendations for the improvement of human resource management in these enterprises.

VI. CONCLUSION

As already explained, uneven regional development of Republic of Serbia has led to the emergence of devastated areas, so that the basic aim of this research was to propose framework for solutions to the problem of the development of devastated areas of Southern and Eastern Serbia, with emphasis on the role of tourism and IT. The subject of regional economic development has been the focus of interest of a large number of researchers in the world and our country. They explored factors that contributed to economic stagnation and recession of certain regions and found solutions to reduction or elimination of the impact of these factors on economic trends. After examining a large number of relevant literary sources, we have come to the conclusion that the role of IT and tourism in regional development of devastated areas has little been analyzed, and even less their synergistic effect on economic and demographic transformation of undeveloped regions. Even greater scientific importance of this research is reflected in the fact that it considered areas that are far below the average level of development in relation to the whole Republic of Serbia, that demographic and economic problems of these areas have not been sufficiently studied, and that adequate solution approaches, methods, and concepts have not been created.

The concept of economic transformation based on service sector development is not new. It has been analyzed in the scientific community and successfully implemented in development practice of some countries and their regions (as evidenced by the cases of Italy, Greece, and Ireland). However, the adoption of this concept, particularly its application, has not been at a high level, given the degree of devastation of certain areas in Republic of Serbia. For this reason, we have used scientific evidence to explain the conceptual framework of economic development of these areas based on tourism and IT services, and proposed specific measures that can be of use to policy makers in Republic of Serbia in the implementation of this concept. So recommendations that can be extracted from the described conceptual framework are: formulation of measures for structural economic transformation of devastated areas, formulation of measures for improvement of IT infrastructure in devastated areas, analysis of digital divide in these areas and proposal of measures to reduce it, creation of design proposal of web portal to present the tourism potential of devastated areas, valorization of tourism potential of devastated areas and proposal of measures for its utilization, formulation of measures of structural economic transformation of devastated areas with stronger involvement of the real sector, and proposing solutions for the promotion of small and medium-sized enterprises in devastated areas.

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