DIGITALISATION AND CIRCULAR ECONOMY: forestry and forestry based industry implications

12th International Scientific Conference WoodEMA 2019

Varna, September, 11-13, 2019

EFFECTS OVER THE FORESTRY-BASED INDUSTRIES AS A RESULT OF THE DIGITALIZATION OF THE TRANSPORTATION SERVICES ON THE DANUBE

Petya Koralova - Nozharova

Main purpose

- To be studied the impact of the digitalization process over the development of the separate economic sectors, as the accent is put on the effects over the forestry-based industries;
- The analysis is based on the comparison between the aforementioned economic sectors, because since 2005 the process of automatization of the transportation services on Europe’s inland waterways

PERSPECTIVES TO THE DIGITALIZATION OF THE TRANSPORTATION SERVICES ON THE DANUBE

- automatization of the transportation services;
- implementation of unmanned vehicles and traffic management, which will lead to prequalification of the working force rather than its reduction;
- the digitalization will have positive impact over the demographic situation in the countries, over the economic effectiveness of the transportation companies and safety of the population

PROBLEMS TO THE DIGITALIZATION OF THE TRANSPORTATION SERVICES ON THE DANUBE

- it is still impossible to be fully digitalized the transportation services on the Danube, because the transport operators in the separate Danube riparian countries have not deployed harmonized information and communication applications;
- the national legislation of the countries which regulates the dissemination and sharing of information amongst the various stakeholders is not harmonized;
- limited responsibility of the port authorities and transport operators, concerning the process of sharing information amongst the all parties in the transportation contract.

IMPACTS OF THE INLAND WATERWAY TRANSPORT ON THE DANUBE OVER THE FORESTRY-BASED INDUSTRIES

- the economic effects over the forestry-based industries;
- the technical effects of the inland waterway transport on the Danube over the forestry-based industries;
- the ecologic effects of the inland waterway transport over the forestry-based industries;
- the socio-political effects over the forestry-based industries;
- effects, related to the traffic planning issue

RESEARCH METHODS AND RESULTS

- there is used linear regression analysis;
- period of the analysis is 10 years and the data collected, characterises the transportation services with inland waterway transport of all Danube riparian countries, including also these countries, which are EU non member-states;
- approximately 50% of the variations in the values of the forestry-based products, which are supplied at the forestry market and delivered to the final customers via inland waterway transport will depend on the level of digitalization of the transportation services and the equipment of vessels with information and communication technologies;

CONCLUSIONS

- *Supply of forestry products* = 8730 + 0,028**forestry products transported by IWT* + ε,
- the problems that impede the full digitalization of the transportation services on the Danube are identified;
- the main effects for the forestry-based companies as a result of the usage of inland waterway transportation services instead of these of the road or rail transport are outlined;
- the present publication could be use as basis for future research, related to the studying of the opportunities how the share of forestry products in the total volumes of cargos transported with multimodal transport could be increased, as a result of the interoperability amongst the inland transport modes

THANK YOU FOR YOUR ATTENTION