

The business ecosystem is a system of the organization, along with a complex set of factors that create a network of relationships in a specific environment. The business ecosystems are distinguished based on the existence of stronger links within them, than between their components and the environment. A particular case is the business ecosystem created by the organizations of the Environmental Goods and Services Sector (EGSS), whose objectives are environmental protection (EP) and resource management (RM). In connection with the main goals of this sector, both inside and outside of the ecosystem are required, which are crucial for its development and evolution. The EGSS consists of both private and public organizations that present the entire spectrum of multidimensional relationships. The inter-organizational network established based on relationships are the core component of the business ecosystem and affect its (i) structural (ii) process and (iii) system dimensions.

The reasons for undertaking research on relationships in the EGSS and formulation of the relationships model for chosen sector are: (i) complexity of relationships (ii) different roles of public and private organizations, (iii) two types of management - environmental and environment management, (iv) goals and directions of management - EP and RM, (v) based on relationships, the features (i.e. dynamics, centrality) of the inter-organizational network can be described. Because the surveys do not cover all organizations of the environmental goods and services sector, we decided to create our software environment R that recognizes various relationships based on the random forest method with the use of secondary data.

We are interested in finding network motifs, patterns of inter-organizational relationships and/or factors responsible for the functioning of the EGSS in Poland. Our goal is to identify traits; they are present in all relationships, as well as distinguishing them. The identification of relationships patterns characteristic of the business ecosystem of the EGSS may bring new insight into processes of formation, self-regulation, co-evolution and co-adaptation also in other sectors of the economy.

In the project, we are going to test the hypothesis according to which the relationships inside and outside the inter-organizational network of the EGSS business ecosystem interacts with other inter-organizational systems of different sectors of the economy in the process of creating a green economy in Poland and abroad.