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Knowledge Grid in City Management

Summary of PhD Dissertation

In the era of Knowledge Based Economy, the most valuable asset considered as the basis of demanded proper organization development is knowledge. Widely understood phenomena of organizational self-learning or knowledge based approach for organizational development is rooted in management sciences. Nowadays organizations are using available information and knowledge for not only limiting the risk level of made decisions but also to ensure the most adequate fulfilling the needs of their stakeholders by delivery of proper products or services. Knowledge transfer within the organization and it's environment is in the center of knowledge grid concept, based in information technology sciences.

Knowing that, National Spatial Development Concept 2030 for Poland assumes Polish cities to raising their competitiveness, seeking to ensure the integration of infrastructure (mainly in the area of information technology, social and governance) and achieving spatial cohesion, author decided to choose a city as the explored object. Taking into account the experiences of enterprises based on knowledge management strategy implementation, their market positions and functioning models, author decides to explore the cities, if it is possible to manage this special kind of organization by ensuring the knowledge transfer.

Presented dissertation focuses on knowledge management implementation in the cities considered as type of smart . Research problem of the thesis focuses on knowledge grid transfer within urban economic triangles based on ICT technologies. The main aim of dissertation is to present the concept of integrated knowledge sharing platform, which will allow better cross-sector cooperation within the city.

To achieve presented goal, it was necessary for author to provide interdisciplinary research. First stage of research consisted on proving that city might be classified as the form of organization. Author needed to analyze all aspects of city according to definitions of organization and its management concepts (classical and modern) with focusing on smart city concept. Aspects of major city problems and barriers in development have been investigated as well.

In dissertation, defined term of urban knowledge, as the tailored asset for cities, characterizing its fundaments, management strategies, possible usage and possible ICT solution supporting the processes.

Next stage of conducted research assumed analyzing the inter-sector cooperation within the cities, classified as the current situation of city management for future development based on knowledge. Concept of network management was investigated. Author narrowed investigation to urban economic triangles (city's authorities – science – business) supported by knowledge sharing platforms, as the currently functioning form of city's modern management method. Provided results allowed author to provide evidences for proving the right of knowledge grid concept implementation.

Knowing the business case of city's management and city as the organization, it was possible for author to conduct research on preparing the concept of knowledge sharing platform for urban economic triangles. In author's opinion, it is a potential starting point for ensuring the integrity within city's infrastructure layer, which is required by National Spatial Development Concept 2030 in Poland. Analyses was focused around aims, features and possible usage of the knowledge sharing platform, defining the possible types of stakeholders, required main functionalities, architecture model concept and possible effects after implementation.

As the last stage of research, author provided case studies for verification of proposed model. As the example of cities, which are classified in many international reports as smart cities, author choose: Wrocław, Gdańsk and Rzeszów. In the presented case studies, author proved that those cities are managed in modern way, by analysis in strategical documents. Case studies include examples of urban economic triangles, as the examples of inter-sector cooperation within the cities. Author analyzed urban knowledge for each of the cities by defining theirs categories and roots. Already existing city's platform has been presented and analyzed as the possible knowledge sharing platform for future development for each of the cities.