

# Principal Starting Points of Organisational Knowledge Intensity Modelling

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## Abstract

Current business environment is highly competitive. Nevertheless, the organisations have to manage their activities and operate under such uncertain and hard conditions. It remains important that this environment can be identified not only at the organisational level, but also at the national level, where particular countries compete, and at the sub-organisational level, in which individual departments struggle to get required resources. In order to succeed, the knowledge intensity plays a significant role at all these levels. The knowledge intensity can be defined as an extent in which the knowledge processes are performed and knowledge resources are utilised. Therefore, the knowledge intensity represents an indicator that is worthy to be monitored. This paper deals with the theoretical fundamentals of this concept and outlines three potential approaches to knowledge intensity measurement. Additive model, multiplicative, and incremental models of knowledge intensity are introduced in particular sections of this paper. The main implication of the mentioned research is to present the possibility how to increase the organisational effectiveness and competitiveness. Both the limitations of the knowledge intensity modelling and further research options are also discussed.

**Keywords:** Competitiveness - Knowledge Intensity - Models of Knowledge Intensity.

## Introduction

Obtaining and retaining the competitive advantage is the primary task of all subjects not only from the organisational perspective. As discussed within various sectors and industries, knowledge is considered to be one of the rare renewable resources (Davenport and Prusak, 1998, van Zolingen, Sreumer and Stooker, 2001), which moreover possesses a significantly substantial innovative potential and therefore can be further developed. It is necessary to measure and monitor the ability and willingness of particular subjects to effectively use knowledge, especially for the purposes of the comparison of their capabilities and market position. The aim of this paper is to establish theoretical fundamentals of the knowledge intensity modelling which might represent a utilisable tool for the organisational evaluation and comparison in the realm of their competitiveness. Firstly, the paper determines the knowledge intensity concept and its context. In the next part three potential approaches to the knowledge intensity measurement are outlined. These are represented by the additive, multiplicative and incremental model of knowledge intensity. In the next section of this paper, both the limitations of the knowledge intensity modelling and further research options are mentioned and analysed. Finally, the discussed issues are concluded.

## Knowledge Intensity Definition and its Context

The knowledge intensity measurement aims to provide another indicator of competitiveness monitoring not only at the organisational level, but also for the purposes of the comparison of entire sectors, national economics as well as supranational units. This indicator might also enable the identification of

organisational potential and the areas ('gaps') for further improvement of the efficiency of the organisational and related knowledge processes. The knowledge intensity can be considered as a distinctive characteristic of the company department, organisation, a particular sector or the whole country perceived as a complex technical-economical-social system (Mildeová, 2005), and therefore should be modelled and monitored. As mentioned earlier, knowledge intensity might be measured at the organisational level. Chan argues that 'knowledge intensity increases with the rising complexity of business processes' (2009, 161). Moreover, Andreeva and Kianto (2011) prove its influence on the organisational innovation performance. Although the knowledge intensity is mentioned (Andreeva and Kianto, 2011, Makani and Marche, 2012), the particular and utilisable models are neither outlined nor discussed. Therefore, this paper focuses on the organisational perspective, because these issues are usually omitted and there are hardly any potential options of the quantification of the knowledge and related processes.

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## **Conclusion**

Currently, the tool utilisable for the measurement of knowledge and organisational potential utilisation at the organisational level is not available. Therefore, this paper deals with the introduction of theoretical fundamentals of a knowledge intensity concept usable for such purposes - the evaluation of organisational weaknesses, the identification of areas of further improvement and development and the consequent increase of its competitiveness. Three models of knowledge intensity modelling are described. These include the additive, multiplicative and the incremental one. Nevertheless, it remains important to up-to-date and amend the mentioned models and approaches according to the topical situational development and to changing internal and external conditions from both perspectives - the practical and theoretical one.

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