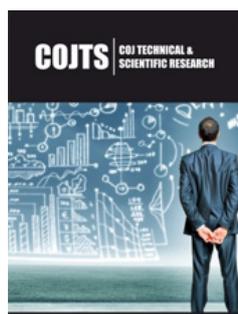


# Educational Model for Knowledge-Based Management for Finnish Social and Healthcare Sector

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## Opinion

Knowledge-based management, including production, gathering and utilization of information, is currently a hot topic in the social and health care sector in Finland. An extensive reform of social and health services is ongoing, which creates a need for a wider and more up-to-date utilization of available data and information. Knowledge-based management supports decision-making that bases on analysis of high-quality information. In this article, we describe main results of the European Social Fund (ESF) project (no S21972) "Preliminary study for the development of knowledge-based management and digitalization in Lapland: Competence needs, boundaries, and structures". Lapland University of Applied Sciences implemented the project during 2020-2021. The study included collecting information on the educational needs in knowledge-based management by a state of the art review of prior research and reports, a survey aimed at master's level students, six interviews with professionals working in the social and health field, and piloting a future skills oriented course and service model for organizations. Based on knowledge and experiences gathered during the project, a proposal for a new educational model for knowledge-based management was created.

## Clarifying Competence Needs Relating to Knowledge-Based Management

The expression 'Knowledge-based management' dates back to the definition of information management and its history. The English terms 'Business Intelligence' and 'Knowledge Management' are also often referred to. [1] defines knowledge-based management as a "part of information and knowledge management that aims to enact and facilitate knowledge-based decision-making". The importance of knowledge-based management in the social and health sector was emphasized during the study. According to the state-of the art review, the social and healthcare sector is under extensive reform process in Finland. Regional, national and global trends that include societal, administrative and technological dimensions have a significant impact on future prospects and developments. The rapid growth of the amount of information, the need for anticipation of future, intelligent interpretation of information and its uses, cross-border cooperation between organizations, customer focus and the need to utilize systems thinking were found as key themes. According to the report of Competence Structure 2035 [2], the special competence needs in the social and healthcare sector include the protection of personal information and privacy, knowledge management skills, knowledge assessment skills, and digital knowledge sharing skills. Furthermore, skills in data processing and utilization are also needed, including the identification of relevant information and the visualization of information [3]. In the social sector, there is also a need for, among other things, expertise related to foresight information, as well as expertise in the effectiveness

of services and evaluation, including expertise in metrics and indicators [4]. Scenario expertise, identification of weak signals, big- data expertise needs, and strategic management skills are also needed [5]. In addition to utilizing basic analytics in management, understanding, and utilizing artificial intelligence and machine learning will also be part of management work in the future [6].

Competence needs were also identified via a survey with 30 respondents. The competence needs were related to everyday working activities such as finding and applying the researched knowledge in practical work, utilizing the knowledge in respondent's own work, and developing the work community. In addition, respondents emphasize competence needs related to developing and managing services, presenting facts, evaluating effectiveness, enhancing cooperation between different sectors, basics of knowledge-based management, and using tools. Interviews of six persons working in managerial or development positions in healthcare sector were also carried out. Interviewees described the goal in management to be correct understanding of the situation so that it is possible to direct activities and make decisions. Skills to compile information for different needs and for different stakeholders were mentioned as important for professionals working in the field. Regarding the competence needs, the interviewees emphasized data literacy, the importance of recording data (quality and accuracy of the data), as well as the skills related to analysis, production, and utilization of data in general.

### Developing Educational Model to Mapping Competence Needs

Based on the pre-study findings an online pilot training was planned and implemented during the project (33 participants). The pilot training was conducted in four bi-weekly workshops online. Each workshop lasted for four (4) hours and a pre-assignment with materials was given to participants prior to each workshop. Workshop topics included identified future oriented topics and skills:

- a) Data, Artificial Intelligence and Ethics.
- b) Proactive Leadership.
- c) Multioperationality and Human-centredness.
- d) Customer Involvement. Sub-targets were set for each training entity.

After each training afternoon, feedback was collected from participants to keep track of how the goals were achieved and, of course, whether we had set the right goals. Feedback and experiences from the pilot training were used to further develop the educational model. The project also mapped the master's degree course offering of Lapland University of Applied Sciences related to knowledge-based management. In this way, a diverse and comprehensive offer was obtained from the basics of knowledge-based management to socially and health-specific topics. To create an overall picture, the already existing courses were grouped into thematic areas as follows:

#### • **Basic courses**

Basics of Knowledge-based Management, Ethics and Responsibility in Knowledge-based Management, and a pilot course on Basics of Knowledge Management in Social and Healthcare developed in another project.

- **Analytics:** Data Analytics and Open Data as a Development Tool, and Artificial Intelligence and Data Analytics in Healthcare and Welfare Sectors.
- **Management:** Proactive Leadership, Participatory Strategic Management, Utilizing Data in Business and Decision-Making.

#### • **Effectiveness**

Effectiveness of Health Promotion, and Effectiveness of Social Sector Development Work in the Digital Society.

#### • **Development**

Development of Customer-oriented Health Services, Customer-Oriented and User-Centered Product and Service Development, Change Management in the Social Services in Digital Age.

The analysis of existing courses revealed that there is an extensive offering that forms a basis for using them in developing a focused training programme or curriculum in knowledge-based management for social and healthcare sectors. Based on the analysis, not only master's level training, but also more focused or tailor-made service concepts for educating employees in various organizations as well as facilitating development activities could be offered. The gaps in the current offering were identified primarily related to basic data literacy and data creation related skills that are usually taught nowadays at bachelor's level in education. Filling this gap is under development by planning an online curriculum related to data literacy, ICT tools and related skills separately. Further topic to investigate in developing the offering is including more emphasis on the measurement and development and use of indicators in knowledge-based decision making. Data culture at every level in organizations proved also important and needs more emphasis. This means that everyone in the organizations understands the importance of data creation and use, factors affecting its quality, and using data in practical daily work of employees and in management activities, as well as in decision-making.

### Conclusion

The rapid development of digitalization is reforming customer services in the social and healthcare sectors, as well as the provision of services and service systems. At the same time, the importance of utilizing and managing information is growing in everyday decision-making and customer encounters. Knowledge-based management is seen as a key function in providing functional and high-quality services in the Social and Health Sector. Also, [4] emphasized that the competence needs of social and healthcare sector focus on the management, use and protection of information and data. The preliminary study was carried out for the social and healthcare sector to support the identification of knowledge-based

management skills needs and the planning of related education in the field. According to the study, the special competence needs in the field of social and healthcare sector are, e.g., personal information and privacy protection skills, data management skills, data evaluation skills, and data sharing skills. In addition to individual broad competence needs, the sector must increase its understanding of knowledge-based management as a cross-organizational operating model.

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