

Explaining which competences are necessary in order to cope with unforeseen incidents: What is missing in the field of innovation?

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Abstract

Introduction: Our main research question in this article was: What are the competence structures for innovative processes? Both the nature of the unforeseen and innovation are related to something unknown, i.e. that competence needs to be developed to be able to handle situations and solutions that are not yet completely known. In our article, we address the question of how studies of innovation describe and use concepts of competence in various forms by systematically reviewing the scholarly literature on innovation and the unforeseen to see what competence they recommend. The aim of our systematic review was to increase our understanding of what distinct competences are necessary in order to initiate and implement innovative processes. **Method:** We performed a systematic review of the relation between the unforeseen and innovation. In this systematic review we followed the Non-Interventional, Reproducible, and Open (NIRO) Systematic Reviews protocol. The identification of studies via databases and registers was conducted in accordance with the Preferred Reporting Items for Systematic reviews and Meta-Analyses (PRISMA) statement. The various types of competence found in the literature review were grouped in such a way that we could develop a structure to use as the basis for a new concept of competence needed in order to initiate and implement innovative processes. We refer to this overview of different competence types as designated competence structures for innovative processes. The searches resulted in the following number of abstracts, respectively Web of Science (2997 abstracts), ERIC (454 abstracts), and PsychInfo (550 abstracts), a total of 3768 abstracts was found as relevant. The 3768 abstracts was imported into the program Covidence for screening in the first search. The interrater reliability (IRR) among the five reviewers as to whether the different abstracts were to be included or excluded was at approximately 70%, **Results:** After completing the evaluation process in accordance with the PRISMA checklist and flow diagram, 32 abstracts were found to be relevant for our research question as they were related to competence for the unforeseen and innovation. **Conclusions:** Our aim with this article was to find what competence is deemed necessary or useful for initiating and implementing innovative

processes, however few of the studies we investigated specifically mention competence. Another finding is that the innovation literature describes the activities that should take place linked to what the innovation literature refers to as competence. Thus, the innovation research field does not define what the competence is or what it consists of, either at individual or group level, but rather describes the activities which contribute to successful innovation in an organisation. Therefore, very few publications within the literature field of innovation thus mention how this competence should be developed, i.e. there seems to be a lack of a training perspective when it comes to competences.

Keywords: Innovation, competence, the unforeseen, systematic review, PRISMA statement