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Critical Competencies for the Innovativeness of Value Creation Champions: Identifying Challenges and Work-integrated Solutions

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Abstract

Medium-sized manufacturers of technical products with a high degree of in-house value adding activities – so-called *value creation champions* – are very important to the success of German industry and to safeguarding attractive jobs in Germany. Key to their success is their distinct innovativeness. The innovative capacities of these companies are increasingly under threat, especially as they are often based on the competencies of only few individual employees. Therefore, solutions are needed to first identify such critical competencies and then to develop new ways of work-integrated learning and knowledge exchange to develop respective capabilities. Based on current literature this paper first identifies the importance of four clusters of competencies, namely network competence, creative problem-solving competence, overview competence and integration competence, and explains under which conditions they should be rated as critical. This paper then proposes a five-step-process that enables companies to identify possible critical competencies and take suitable measures to avoid putting their innovativeness at risk.

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1. Introduction

Important for economic performance and for attractive and secure employment in Germany are companies that are rather cautious with outsourcing decisions and operate with a high level of internal value added. Such a strategy usually pays off in terms of productivity as well as profits [1]. Important features of these companies that we will refer to as

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value creation champions are a high domestic ratio of value-added and local sourcing as well as a high export ratio. Often these medium-sized manufacturers of technical products belong to the approximately 1,300 "hidden champions" in Germany [2].

These companies also heavily rely on their innovativeness [3]. In order to be able to compete internationally, *value creation champions* must be able to cover a broader set of competencies than less integrated companies. Current innovation challenges are, above all, the digitization of work and production processes, the development of digital business models and the development of specialized products for a clearly defined market.

Innovation success is often based on the knowledge and the competencies of experienced employees, who possess an extensive network within the company and beyond [4]. Despite this, not even every seventh company has appropriate structures (such as suitable "back-ups" for the competencies of these employees) and processes in place to ensure its innovativeness independently of the competencies of these individual employees [5]. The project *ChampNet*¹ [6] is devoted to finding answers to the resulting challenges and questions. Therefore, this paper addresses the following questions: Under which circumstances can a competence become critical? Are there certain competencies in the workforce that are likely to be particularly important for the innovativeness of *value creation champions*? How can such companies identify possible critical competencies and take suitable measures to avoid putting their innovativeness at risk?

2. How shortages of competencies can become critical

There are numerous definitions of competence. Especially the distinction between competence and knowledge or skills is often unclear. Based on various definitions [7] that were developed in recent years, we here use the term competence to define the individual dispositional ability and readiness to act successfully and self-organized when facing novel, unstructured or complex situations or tasks and the ability to develop solutions for future situations. Competence is hereby based on the activation, combination and use of personal resources that can be developed (such as knowledge, networks, cognitive and practical skills) as well as on social aspects or behaviour but not on a person's character. Knowledge as well as cognitive and practical capabilities are necessary for the development of competencies.

Shortages of critical competencies can occur for various reasons. To identify them, the company first needs to clarify which of the employees' competencies are essential to remain competitive. In the case of *value creation champions* these are competencies which are crucial for the ability to innovate. They can become critical competencies when

- a. they are very rare within the company, so that only very few or even only one employee possesses these competencies, and / or
- b. they are primarily present in employees who are leaving the company in the near or foreseeable future, and / or
- c. they are difficult to replace due to a current or expected shortage of skilled labour, and / or
- d. they are difficult to externalize, which means that the development of these competencies is hence a lengthy process.

As soon as one of the aforementioned problems (a to d) applies and the competence is at the same time essential for the company to remain competitive, it can be considered as being a critical competence. The number of problems that apply to a certain competence determine how critical the shortage is. Possible future shortages have to be identified regularly and individually by each company and respective competencies and capabilities have to be developed proactively. However, there are some innovation-related competencies that are likely to be critical for *value creation champions*. These will be described in some detail in section 3.

¹ The research and development project *ChampNet* runs from May 2015 to April 2018 and is funded by the German Federal Ministry of Education and Research (BMBF). The project focuses on questions concerning social network-based competency integration and development for *value creation champions* and involves two research partners, namely the Institute for Learning and Innovation in Networks (Karlsruhe University of Applied Sciences) and the Software Technology Institute (Bundeswehr University Munich), as well three leading German manufacturing companies.

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