

## **DIGITAL COMPETENCE – STATE OF THE ART AND FUTURE NEEDS IN THE SWEDISH WOODEN HOUSE MANUFACTURERS**

Erdelina Kurti<sup>1\*</sup> and Glenn Sjöstrand<sup>2</sup>

*<sup>1</sup>Department of Informatics, Faculty of Technology, Linnaeus University, Sweden,  
erdelina.kurti@lnu.se*

*<sup>2</sup>Department of Social Studies, Faculty of Social Sciences, Linnaeus University, Sweden,  
glenn.sjostrand@lnu.se*

(\*Main presenter and corresponding author)

### **ABSTRACT**

Digital innovation has become a dominant discourse in relation to the future of industrial work, having unprecedented implications. Generally, it is understood as adoption and utilization of digital technologies in business and process of innovation (Yoo et al., 2010). Oftentimes it is referred to as Industry 4.0 (Eley and Lyytinen, 2022; Oesterreich and Teuteberg, 2016) or smart manufacturing. Oesterreich and Teuteberg (2016 p.122) define Industry 4.0 as comprising "a variety of technologies to enable the development of a digital and automated manufacturing environment as well as the digitisation of the value chain". However, these technologies are not just mere tools, but are becoming the main enabler of product, service, and business model innovations. Whereas digital transformation offers huge opportunities, it also gives rise to complexity and to several challenges, since it presents a new logic of doing business. These challenges become more evident in traditional industries, which wooden house manufacturing in Sweden are an example of. Wooden house manufacturing industry is important for Swedish economy. Sweden's wooden house industry comprises 533 companies with a total of 6,619 employees; they have a combined estimated production value of finished wooden houses of 20 billion SEK (TMF, 2019).

Digitalization is identified as one of the major needs and challenges of wooden house manufacturers, its suppliers and related industries (Smart Housing Smålands, 2020). Indeed, several technologies are used by companies in their daily business operations. However, the potential and value emerging from the use of these technologies and their role in process efficiency, strategy, competitive advantage and associated challenges is often not fully understood. Generally, this industry is characterized to lag behind in digitalization efforts (Vestin and Säften, 2021). Digital technologies have the potential to digitise hence to streamline the value chain processes and collaboration between actors in the industry, among other. It is therefore important to create an understanding, on what would be the best way for organisations to reap the potential of digital transformation, e.g. by streamlining internal processes, enhancing products, services and customer experience or leveraging data as an asset. However, digital transformation is intrinsically linked to the digital competence of companies. There is a noted gap between the existing and

needed digital competence. Digital competence is limited and sometimes even inexistent.

In order to thrive in the digital transformation journey, which is an imperative process for competitive advantage, it is important for the industry to identify the existing level of digital competence and the perceived needs of digital competence. The overarching aim of this pilot study is to identify the existing level of digital competence and skills at wooden house manufacturers and to understand the future perceived needs they have in relation to these competences. Only through clear identification and mapping of these needs, a future digital strategy plan for a successful digital transformation can be designed and implemented.

To understand this issue, data will be collected through two main sources: future workshops and survey. The future workshop (Vidal, 2005) method will enable to unfold multiple perspectives and understand the current situation of the industry in relation to digitalization and associate challenges as well as the envisioned future situation. In addition, in order to target a larger sample of companies and to draw wider and more general conclusions, a survey will be distributed. The expected results from this pilot study would provide insights on the current situation and challenges related to digitalization as well as a comprehensive overview of the existing digital competence within the industry and needs for these types of competence.

**Keywords:** digital transformation, wooden house manufacturers

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