

TOWARDS LEARNING ORGANIZATIONS - DIGITAL COMPETENCE DEVELOPMENT IN SMES

Jaana Lerssi-Uskelin

Faculty of Business and Hospitality Management, LAB University of Applied Sciences (Finland)

Abstract

Digitalization is advancing rapidly, and companies must keep up with developments to remain competitive. The speed and scope of digital transformation pose challenges for small and medium-sized enterprises (SMEs) in industry and logistics, whose development is hampered by limited resources and varying skills levels. A key barrier is the lack of competence required to adopt and utilize digital technologies—both at the management level and among employees. In these companies, systematic competence development is also rare. The LogDigiS project (Building Digital Competences, Work Well-being, and Productivity for In-house Logistic SMEs) examined the digital skills and systematic competence development practices of SMEs characterized by low levels of formal education in industry and logistics industries. One target of the study was exploring how companies' competence development responds to the need for developing digital skills. The quantitative study based on data collected from employee survey on well-being at work and competence in 13 small industrial or logistics enterprises in Finland. The survey was conducted in autumn 2025. An electronic survey received 229 respondents. The survey followed Ojala's (2018) learning organization framework. The survey investigated the systematic nature of competence development, the level of digital skills, the willingness and need to develop digital competence, and the perceived importance of developing digital skills. Findings show gaps in how companies identify and respond to competence needs. The survey showed, that 44% of respondents were completely or somewhat unaware of whether skills needs are being assessed. Employee motivation to develop digital competence was high: 86% expressed strong interest in upskilling. Open-ended responses adduced competence needs related to information technology, digital tools, analytics, and artificial intelligence. Management representatives recognized the importance of digital skills, with 96% rating the use of ICT and software as fairly or very important. But only 16 % of respondents felt they had received sufficient training in the digital skills needed at work and in the use of devices and software. Willingness to acquire new digital skills was high, 47% reporting strong interest to developing. In summary, the results show that while employees exhibit strong motivation and clear needs to develop their digital competence, companies lack systematic approaches to competence development and do not regularly assess competence needs. To keep up with the development of digitalization, must strengthen systematic competence development and improve their awareness of employees' digital capabilities as well as their broader competence needs.

Keywords: *Digital competence, SMEs, competence development, learning organization, digital transformation.*

1. Introduction

Digitalization is advancing rapidly, and companies must keep up with developments to remain competitive. The speed and scope of digital transformation pose challenges for small and medium-sized enterprises (SMEs) in industry and logistics, whose development is hampered by limited resources and varying skills levels. A key barrier is the lack of competence required to adopt and utilize digital technologies—both at the management level and among employees. In these companies, systematic competence development is also rare.

Finland is among the leading countries in the utilization of digitalization. Despite favorable conditions for leveraging digitalization, the most significant barrier—particularly in the utilization of big data—is the lack of employee competences. When examined by firm size, smaller companies employing fewer than 50 employees make the least use of digitalization (Ali-Yrkkö, Kässi, Pajarinen & Rouvinen, 2023).

Of all Finnish enterprises, 99% are small firms employing fewer than 50 employees. These small enterprises account for 43% of total employment, whereas the remaining 57% of employees work in larger

companies with more than 50 employees. According to statistical evidence, deficiencies in competences related to the use of information technology affect a substantial share of the Finnish workforce. (Yritykset, 2024)

Information technology is continuously evolving at a rapid pace, bringing with it ongoing challenges for competence development and emerging skill requirements. Responding to these rapidly changing competence needs requires continuous development of competencies, which in turn calls for agile learning strategies. According to Ojala (2018), agility emphasizes flexibility, adaptability, and autonomous and transparent ways of working. Research on agile learning is closely linked to studies on leadership development (Lombardo & Eichinger, 2000). Ojala (2018) introduces agile learning alongside traditional forms of learning to better respond to the rapid changes in working life. A central aspect of agile learning is that employees are aware of the future challenges and requirements of their work and understand what these imply for their own tasks or those of their unit. New competencies are acquired in order to respond to changes and challenges in work, solve emerging problems, and improve practices that function inadequately.

2. Design

The study was conducted as part of the LogGigiS project. The LogDigiS project (Building Digital Competences, Work Well-being, and Productivity for In-house Logistic SMEs) examined the digital skills and systematic competence development practices of SMEs characterized by low levels of formal education in industry and logistics industries. One target of the study was exploring how companies' competence development responds to the need for developing digital skills.

The theoretical background of the study was based on Ojala's (2018) model, which identifies several factors that support continuous learning, which is an increasingly important aspect of working life in organizations and companies. In this model, Ojala (2018) introduces the concept of agile learning, referring to a way of learning that is rapid, flexible, and just-in-time, occurring in practical situations directly within the context of work. Factors supporting agile learning include: 1) agile learners with a growth-oriented mindset, 2) clear goals and objectives known to everyone, 3) small, flexible, multidisciplinary teams as the basic operational units, 4) a competence strategy that aligns competence and learning with company goals and serves as a guide for the organization's operations, 5) interaction-based practices that promote agile learning, collaboration, and the sharing of knowledge and skills 6) structures that enable agile learning and knowledge sharing, such as interaction-supportive spaces and tools, 6) inspiring, guiding, and agile leadership, and 7) agile practices that prioritize people, flexible organizational structures, and fast decision-making.

Based on the factors outlined above, six key areas of analysis were identified in the project: 1) awareness of company's objectives and their monitoring (metrics), 2) monitoring the company's industry, 3) interaction within the company, 4) competence needs, competence strengths, and responding to competence needs within the company, 5) developing your own competence, and 6) collaborative competence.

This study examines competence needs, competence strengths, and how competence needs are addressed within companies.

3. Objectives

This study aims to explore how companies' competence development responds to the need for digital skill development.

4. Methods

The quantitative study based on data collected from employee survey on well-being at work and competence in 13 small industrial or logistics enterprises in Finland. The size of the companies (number of employees) ranged from 18 to 60 employees. The anonymous electronic Webropol survey was conducted in autumn 2025. The survey link was sent by email to the companies' staff. Some also responded using a QR code. The response time was 2-3 weeks. The survey followed Ojala's (2018) learning organization framework. The survey investigated the systematic nature of competence development, the level of digital skills, the willingness and need to develop digital competence, and the perceived importance of developing digital skills. The questionnaire included both open-ended and quantitative Likert scale questions. The questions analyzed in this study were quantitative and used direct frequency or percentage distributions. The survey received 229 respondents.

5. Results

The survey was answered by individuals in different positions within the companies. Most of the respondents (84%) were employees (Table 1). The proportions of supervisors, and administrative and management staff were significantly smaller.

Table 1. The position of the respondents (N=229).

Position	%
<i>Employee</i>	74
<i>Supervisor</i>	16
<i>Administration, management</i>	10

The slightly male-dominated gender distribution typical of the industries studied is also reflected in the gender distribution of the survey respondents. Among the respondents, 59% were men, 39% were women, and 2% identified as other.

The respondents had worked in their companies for a long time. The majority of them (41%) had worked in their enterprises for more than 10 years (Table 2). Of the respondents, 53% had worked in the company for 1–10 years, and only 6% had worked for less than a year.

Table 2. The length of employment of the respondents in the enterprises (N=229).

Length of employment	%
<i>less than 1 year</i>	6
<i>1 to less than 5 years</i>	26
<i>5 to less than 10 years</i>	27
<i>more than 10 years</i>	41

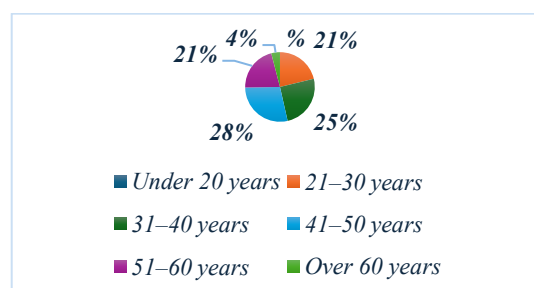
Due to the typical industry context, most respondents (68%) had completed upper secondary education, while a smaller proportion (11%) had only basic education (Table 3). One fifth of the respondents (21%) held a higher education degree. A higher proportion of women held higher education degrees (27%) compared to men (15%).

Table 3. Educational level of the respondents (N=227).

Educational level	%
<i>Basic education</i>	11
<i>Secondary education</i>	68
<i>High education</i>	21

The age distribution of respondents was evenly spread across the different age groups (Figure 1).

Figure 1. Age distribution of the respondents (N=224).



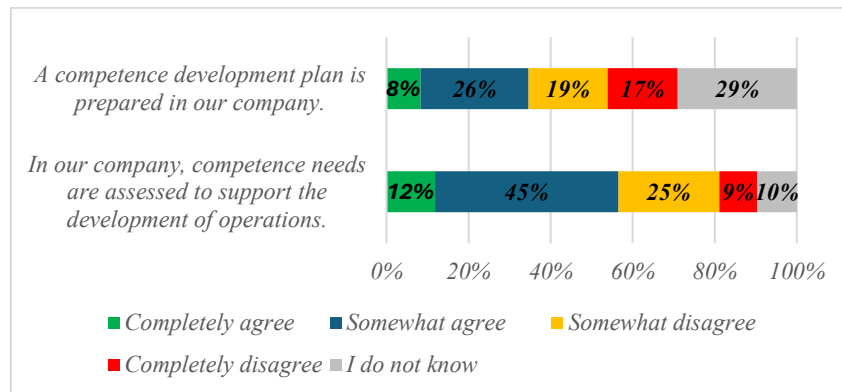
5.1. Competence development systematicity and needs assessment

The survey examined how systematically competence development is carried out in companies and whether competence needs are identified. Only 8% of respondents completely agreed that a competence development plan is prepared in their company. Meanwhile, 27% of respondents strongly disagreed that

such a plan exists, and the largest group (29%) reported that they were not aware of competence development plans at all (Figure 2). In particular, women (40%) were not aware of the systematic nature of competence development. Lack of awareness of competence development plans was observed in both employee respondents (32%) and supervisor respondents (27%).

The survey showed, that 44% of respondents were completely or somewhat unaware or did not know at all of whether skills needs are being assessed (Figure 3). There were no differences between genders in the assessment of competence needs. However, when the results were examined by respondent position, 23% of employee respondents and 15% of administrative and management respondents reported that competence needs are not assessed or that they were not aware of such assessments. The corresponding figure among supervisors was 11%.

Figure 2. Competence development plans and competence needs assessments in companies (N=224)



5.2. The willingness and need to develop digital competence

The respondents' motivation for competence development was high: 86% expressed strong interest in upskilling (Figure 3). Open-ended responses adduced competence needs related to information technology, digital tools, analytics, and artificial intelligence. The willingness to learn new digital skills was high. A total of 47% of respondents reported a strong or very strong interest in acquiring new digital skills, while only 7% reported no interest in developing their digital skills (Figure 5). Women showed slightly higher interest in developing digital skills. Among women, 80% and among men, just over 70% expressed interest in developing their digital skills. When examined by position, supervisor respondents (94%) and administrative and management respondents (91%) were particularly interested in developing their digital skills, although a strong interest was also observed among employees (69%).

Figure 3. Interest in competence development and in developing competence in the use of information technology tools (N=229).

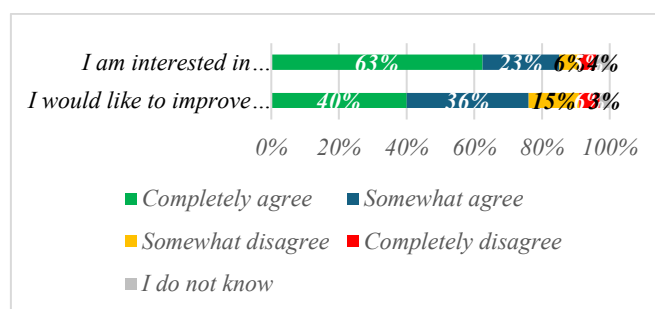
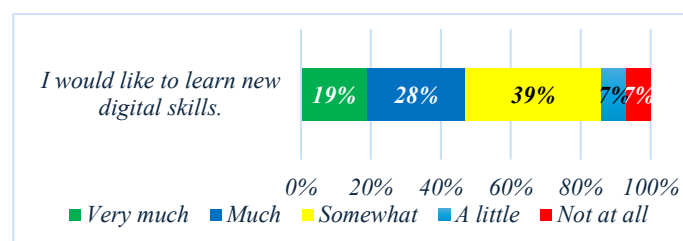
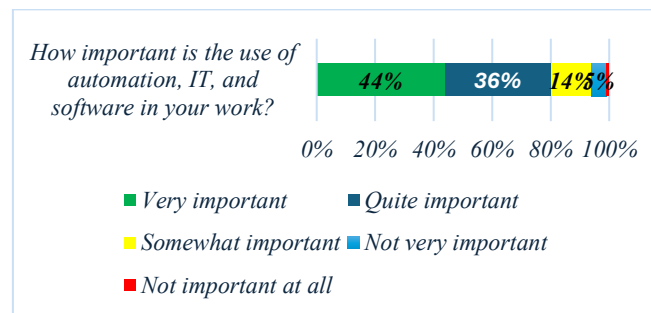


Figure 4. A willingness to acquire new digital skills (N=228)



The use of information technology, automation, and various software in work was considered very important. A total of 80% of respondents regarded them as an important part of their work. (Figure 5).

Figure 5. The importance of automation, information technology, and the use of various software in work (N=228).



But only 16 % of respondents felt they had received sufficient training in the digital skills needed at work and in the use of devices and software. Among employee respondents (12%), supervisors (11%), administrative and management respondents (23%), men (12%) and women (8%) respondents reported having received little or no training in the use of digital tools and software required for their work.

5.3. The importance of digital competence in companies

Management representatives (N=59), supervisors, administrative and management, recognized the importance of digital skills, with 96% rating the use of ICT and software as quite or very important. They had also identified the digital transformation of their industry fairly or very well within their companies (81%), whereas for some respondents (5%), the digital transformation remained largely unrecognized.

6. Conclusions

The results show that although employees demonstrate strong motivation and a clear need to develop their digital competence, companies lack systematic approaches to competence development and do not regularly assess competence needs. While the digital transformation was well recognized, this is challenged by insufficient digital competence among supervisors and administrative and management staff, which is also reflected in the limited development of employees' digital skills relative to the actual need. To keep pace with digitalization, companies must strengthen the systematic nature of competence development and enhance digital capabilities as well as IT- and software-related skills across all organizational levels. Agile learning, as proposed in Ojala's (2018) model, could provide a viable approach to addressing these challenges.

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