Framing digital competence in media work – The case of Finland

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Abstract

Purpose – This article aims to study digital competence (DC) in media work.

Design/methodology/approach – The authors utilize frame analysis to investigate how DC is framed in media work using 30 semi-structured interviews as data with journalists in Finland.

Findings – The authors identify three main frames of DC in the context of media work. The individual attitude frame emphasizes employees' attitudes toward DC, the team-level support frame underlines the need for support in the work community and the organizational-level practice frame highlights enablers of and organizations' requirements for digital competence.

Practical implications – First, media workers' DC is necessary to enhance work efficiency and accomplish tasks and may be supported with supportive management practices. Second, the findings suggest that DC should be understood and analyzed as a multi-level issue. Third, the findings suggest that appropriate continuing education and study opportunities were needed. Besides formal arrangements for learning, informal contexts of learning are important.

Originality/value – The article contributes to media studies and studies on the digitalization of work by taking account of the organizational, team and individual levels in discussing digital competence in the news media sector.

Keywords Digital competence, Media work, Frame analysis, Digitalization of work

Paper type Research paper

1. Introduction

Digitalization is reshaping ways of working in many sectors, including changes in work tasks (Brynjolfsson and McAfee, 2014). The digitalization of media has been ongoing for several decades and has shaped the business models of media corporations (Kueng, 2017), and of the media sector as a whole (Schena *et al.*, 2018; Marta-Lazo *et al.*, 2020). Digitalization has transformed the daily work of journalists, who must now, for example, be able to use numerous different digital tools and content production methods (Cohen, 2019). Therefore, at the individual level, digitalization poses a new challenge to journalists' digital competence (DC) – that is, their competencies, skills and knowledge (Ala-Mutka, 2011; Ferrari, 2012, 2013). In recent decades, DC has become a significant concept in discussions on which technology-related skills employees should acquire. The European Parliament and European Council have recommended DC as one of the eight key competencies for lifelong learning. It involves confident, critical and responsible use of and engagement with digital technologies for learning at work and for participation in society (European Commission, 2018).

Earlier studies (Ala-Mutka, 2011; Ferrari, 2012, 2013; Schena *et al.*, 2018) stress the need to consider DC in a specific sector. Although the digitalization of media work has been extensively studied and the need for DC is widely acknowledged (e.g. Schena *et al.*, 2018; Marta-Lazo *et al.*, 2020), there is a limited body of research on DC in media work and the media sector. Further, the research on DC in organizations in general is rather limited, except from the viewpoint of employment (Kispeter, 2018). Research on journalistic DC is especially scarce and most studies are based on quantitative survey data (e.g. Schena *et al.*, 2018; Drok, 2019). For example, Schena *et al.* (2018) investigate DC in journalism by identifying the most important competencies for the current practice of journalism, while Drok (2019) focuses on journalistic roles, values and qualifications in the 21st century. As there are few qualitative studies (e.g. Marta-Lazo *et al.*, 2020; Estella, 2021) on DC, our study adds to this limited body of qualitative research in this field.

The use of various technologies and applications is currently increasing across life spheres. Technological change has even been described as the Fourth Industrial Revolution (Brynjolfsson and McAfee, 2014). The use of information and communications technology (ICT) and various digital tools has also become routine in the workplace (Marlowe *et al.*, 2017; van Zoonen *et al.*, 2017). In the context of work and employment, digitalization signifies various things: it can replace work or be utilized in work processes or it can create new tasks and even professions (Brynjolfsson and McAfee, 2014; Autor, 2015; Levy, 2018; Parkatti and Tammelin, 2020).

Digitalization at work means that both the context and the means of accomplishing the work are changing. Yet there are differences in the pace of change: some sectors are more affected than others by the digital disruption. It is justified to state that media work is at the forefront of digitalization (Malmelin and Villi, 2017). The media industry has experienced several waves of digital disruption, and the foundations of working as well as doing business in the media industry have changed very rapidly (Achtenhagen and Raviola, 2009; Anderson, 2013). The burgeoning of new digital platforms as well as changes in consumers' media behavior have undermined the media industry's traditional business models (Villi and Picard, 2019) and have led to a constantly changing situation. The inclusion of social media in media work patterns (Bechmann and Lomborg, 2013; Tandoc Jr and Vos, 2016) has resulted in the emergence of other platform-centric practices as media consumption moves online. Thus, media work provides a useful context for understanding the various ways in which digital disruption affects work, particularly regarding contemporary knowledge work. These changes, among others, influence the organizational dynamics and work practices as well as expectations on the individual in the media sector.

Media work is not limited to journalistic work or content production but encompasses other activities undertaken by professionals in the media field (e.g. community managers and data analysts) aimed at promoting the success of media products and services (Malmelin and Villi, 2017). However, in this article, we focus on journalists, whose work has been affected by a tremendous digital change – or disruption – in recent decades. The job descriptions of journalists have expanded from the requirements of conventional journalism to new roles involving creating graphics and interactive story models and analyzing data (Kosterich and Weber, 2019).

In this article, we focus on DC from the perspective of individual workers in Finnish media organizations. The Finnish media sector offers an interesting context for research on DC because it represents a rapidly digitized "media welfare state" with media support provided by the state and a strong public service media company (Ala-Fossi, 2020; Ala-Fossi *et al.*, 2021). In addition to the public service broadcaster *YLE*, the Finnish news media includes a robust but challenged newspaper sector and private broadcasters. The main question of this article is *how is DC framed by journalists*? Thus, we aim to interpret how they perceive the competencies

needed in digitized media work to analyze how DC is framed at the individual, team and organizational levels.

The remainder of the article is organized as follows. In the next section, we present an overview of the theoretical background of the study and define the concept of DC. In the third section, we present the empirical data and analysis method. In the fourth section, we present the results of the analysis and discuss their significance to the understanding of journalistic work. The fifth section concludes the paper.

2. Digital competence

While definitions of DC vary, they have some similarities. Besides including skills and knowledge, most definitions emphasize attitudes and social skills. van Laar *et al.* (2017, 2020) define DC as a combination of knowledge, skills and attitudes. They categorize digital skills into seven core and five contextual skills. The seven core skills are technical and information management, communication, collaboration, creativity, critical thinking and problem-solving. The five digital contextual skills are ethical awareness, cultural awareness, flexibility, self-directedness and lifelong learning (van Laar *et al.*, 2017, 2020).

Van Laar and colleagues do not propose arranging these skills in hierarchical order, in contrast to others, such as Ala-Mutka (2011), who define skills that are prerequisites for developing more advanced skills. According to Ala-Mutka (2011, pp. 6, 18), DC includes, first, instrumental knowledge and skills for digital tool and media usage, which are preconditions for developing or using more advanced skills. Second, there are advanced skills and knowledge for communication and collaboration, information management, learning and problem-solving and meaningful participation. Third, Ala-Mutka adds attitudes to strategic skills usage in intercultural, critical, creative, responsible and autonomous ways and perceives attitudes as the motivators of performance.

Contrary to Ala-Mutka's proposed hierarchy, Jansen *et al.* (2013, p. 479) categorize the dimensions of DC according to their functions. They describe DC as a multi-level, multi-dimensional structure consisting of several "knowledge blocks" based on core, primary and supportive competencies. Core competencies represent the daily use of digital technology and primary competencies involve the use of cognitive skills. Supportive competencies, also referred to as contextual skills, include attitudes, ethics, legality and understanding of digitized society.

DC is not a single, one-dimensional construct. As discussed, the definitions vary, and DC should also be understood as a dynamic construct transforming over time. Oberländer *et al.* (2020), in particular, argue that from the individual perspective, DC is multi-dimensional. In the KSAO concept, DC is based on the combination of knowledge (K), skills (S), abilities (A) and other characteristics (O) that enable employees to accomplish professional tasks relating to digital technology efficiently and productively. The KSAO concept is aimed toward the organizational context of DC by taking account of both the organizational and societal perspectives that contribute to employees' DC. DC can, thus, be divided into the basic DC needed to accomplish everyday tasks, such as writing emails, and the more specific DC needed in organizations, such as using in-house software or communicating the findings of a workgroup (Oberländer *et al.*, 2020). Moreover, the understanding of DC should be dynamic and regularly revised because of the evolving new technologies and their use in society and the context-based nature of DC (Ala-Mutka, 2011; Ferrari, 2012).

The literature employs different concepts to discuss DC, Internet skills and media literacy depending on the branches of science and focal aspects of studies. Attitudes, practical skills in using technology and digital tools, communication skills, critical thinking, contextuality and problem-solving skills are common to the theories presented above. DC refers to the digital and 21st-century skills needed in work (Ala-Mutka, 2011; Ferrari, 2013; van Laar *et al.*, 2017, 2020; Schena *et al.*, 2018). In the literature, terms typically associated with the concept of DC

include digital literacy (e.g. Martínez-Bravo *et al.*, 2020) and digital skills (e.g. van Dijk and van Deusen, 2014; Kispeter, 2018).

Despite the growth in DC research, there are few studies on journalists' DC (Reyes-de-Cózar *et al.*, 2022). Instead, there has been extensive research seeking to define the conceptual frameworks of DC, for example, in the education profession, to establish what is needed to strengthen teachers' professional development in the context of the integration of digital technology (e.g. Ilomäki *et al.*, 2016; McGarr and McDonagh, 2019; Zhao *et al.*, 2021). Instead of concentrating on DC in education, Janssen *et al.* (2013) investigate DC more broadly, focusing on experts' views on what DC means at different proficiency levels, from basic skills to specific professional skills, depending on the context. DC has been examined in relation to policy (Ala-Mutka, 2011; Ferrari, 2012, 2013; Ilomäki *et al.*, 2016) and these studies have identified the knowledge, skills and attitudes needed to be digitally competent to propose a conceptual model for developing DC.

We chose to adopt the concept of DC in this study because previous studies seem to agree that competence is broader than basic skills and the use of digital devices. Especially in media work, given the nature of the work in the sector, the need for DC is great and varied, as will be explained in the next section.

2.1 Digital competence in media work

In media work, DC is an essential skill, but other skills relating to the profession and specific sectors thereof remain critical. Schena *et al.* (2018) divide journalists' skills into four categories: disciplinary knowledge, professional, academic and other specific competencies. Marta-Lazo *et al.* (2020) suggest that media work currently involves combining the classic competencies of journalists with technological competencies. Besides journalists' traditional professional competencies, Schena *et al.* (2018) recognize that DC is in line with the demands of technological and social changes. On the basis of an extensive literature review, Marta-Lazo *et al.* (2020) highlight the importance of social networks in journalists' work and present three core competencies related to practicing digital journalism in social networks: (1) business-technological competencies referring to multi-channel publishing, (2) content communication competencies relating to editorial requirements for producing material for different digital platforms and (3) professional-user competencies regarding the need to rethink professional practices in a technological environment. Both studies suggest that technology and digital platforms are at the core of present-day journalism, and journalistic competence is understood to be the combination of journalists' traditional professional skills and technological competencies. In the last decade, media work has shifted toward digital and social platforms, demanding that journalists enhance their professional skills to meet the new demands of the digital environment. Therefore, journalists offer an interesting research focus for understanding how DC is perceived in digitized work.

Our study utilized van Laar *et al.*'s (2017, 2020) perspective on DC as a combination of knowledge, skills and attitudes. Additionally, attitudes have been identified as an important aspect of the concept of DC, and our research provides an attitudinal perspective to consider the digital skills needed in media work (Janssen *et al.*, 2013; van Laar *et al.*, 2017, 2020). In Europe, discussions about DC are often based on the DC framework developed by the Joint Research Center Institute for Prospective Technological Studies (JRC-IPTS) (Ala-Mutka, 2011; Ferrari, 2013). Therefore, the results of this study can be used and compared at an international level.

Earlier studies (Kispeter, 2018; Oberländer *et al.*, 2020) argue that the recent literature on DC in an organizational context is limited. To fill this gap, we examined DC at three levels: the individual, team and organizational levels. Our study adds to the knowledge of DC by situating it in the context of the media organization.

3. Research methodology

3.1 Aim of the study

The aim of this research is to understand how employees frame DC in the context of media work.

We systematically reviewed our material, asking the following questions:

Q1. How do journalists frame DC in media work?

Q2. How is DC framed at different levels – the individual, team and organizational levels?

Q3. How do journalists frame the requirement to develop their DC at different levels?

3.2 Data

We gathered data for this study from interviews conducted with 30 journalists (Table 1) in early 2020. The target group was Finnish media workers with membership in the Union of Journalists in Finland, an industrial policy interest organization for printing houses and production companies in the graphics industry representing 650 member organizations and approximately 14,000 media workers (Finnmedia, 2021). The sample represented various kinds of media and both women and men of different ages from across Finland. The interviewees were recruited among respondents to an e-survey ($n = 1,004$) conducted in 2019 on media workers' working conditions and occupational well-being. A qualitative, non-representative sub-sample of respondents was invited to participate in the interviews. The sub-sample was selected to ensure diversity among the interviewees, including both women and men of different ages. The interviewees also had varying lengths of work experience in the media sector, and the selection process ensured the participation of journalists working in organizations of different sizes (see Table 1).

The interviews were semi-structured and their thematic structure comprised three main areas: changes in work and the media sector, digitalization in media work and experiences of well-being at work. Some of the first interviews were conducted face-to-face, but due to the COVID-19 pandemic, the majority of them were conducted by telephone. The interviews lasted between less than an hour (44 min) and just under two hours (119 min). All interviews were recorded and transcribed verbatim. To protect the interviewees' anonymity, their

Dimension	Category	Description
Gender	Female	$n = 17$
	Male	$n = 13$
Age	Min	27 years
	Max	63 years
	Mean	45 years
Job title	Journalists	$n = 26$
	Chief editors	$n = 2$
	Other	$n = 2$
Level of education	Master's or equivalent	$n = 14$
	Bachelor's or equivalent	$n = 9$
	No university level degree	$n = 7$
Years in media work	Min	5 years
	Max	42 years
	Mean	21 years
Field of work	Press, magazine journals	$n = 22$
	Television or radio	$n = 4$
	Others (e.g. online media, news service)	$n = 4$

Table 1.
Interview data

identities and professional affiliations are not revealed in this article. The interview data are described in Table 1.

3.3 Frame analysis as method and theory

The idea of framing is based upon the work of Goffman (1986), a theorist of social interaction, which has been highly influential across a range of disciplines, including social movement theory (Benford and Snow, 2000; Snow, 2013), media studies (Angelo, 2002; Reese, 2007; de Vreese *et al.*, 2011) and organizational studies (Creed *et al.*, 2002; Mueller, 2018). A frame can be described as an invisible infrastructure giving shape to meanings (Creed *et al.*, 2002, p. 481) and organizing individuals' experiences in social interaction and the world (Goffman, 1986).

According to Goffman (1986, p. 127), the purpose of frame analysis (FA) is to make sense of events by isolating some of the basic frameworks of understanding available. This includes how an individual views the phenomenon and defines the situation through the given frame (pp. 9–10). This entails understanding the context of the situation (p. 499). FA focuses on how individuals structure their experiences. Each interaction is accompanied by the question, "What is really going on here?" (p. 8). Individuals aim to identify clues from the environment to answer this question (pp. 43–45, 441). According to Goffman, some frames can be *primary frames*, which are used to locate, perceive, identify and label events (pp. 21, 24). This is the frame of reference that cannot be traced back to something earlier. Primary frames can be natural or social. Natural frameworks are determinant because of the independence of the will. The social aspects of the primary frame include the individual's intelligence, agency, will and aims (pp. 21–22). Primary frames may vary, but they have some common features: from the individual perspective, they are connected by objective reality. In this study, we concentrated on primary frames.

FA is more of an approach than a narrowly understood method of mechanical analysis (Burns, 1992). We view it as a holistic approach to studying employees' DC in the context of media work. Regarding the digitalization of work, FA has been used, for example, to analyze the challenges and opportunities of digitalization in the Norwegian media industry policy (Sundet *et al.*, 2020). It has also been used to illustrate learning in the context of nursing (Clinton *et al.*, 2020) and to conceptualize education, socialization and care in social situations among teachers (Mertala, 2019). Media scholars have used FA to analyze reported stories and conflicts (e.g. Gever, 2019), news (Casillo and Sandersson, 2018) and social media (Simis-Wilkinson *et al.*, 2018).

We selected FA because frames provide a context, highlight what is considered a relevant issue worthy of attention and mark off what is seen as important compared to the rest. Without a contextual framework, meanings are ambiguous. The first reading allowed us to form a preconceived notion of what could be found in the data.

Our analysis proceeded in stages. The first stage addressed the understanding of DC in the context of media work. We coded the data by identifying the thematic entities rather than one particular phrase or word (Braun and Clarke, 2006). The phrases used in the text were clues which were the basis for determining the frames. In the second stage, FA helped us answer the research questions (Goffman, 1986) by identifying primary frames and conceptualizing interviewees' experiences of DC through these frames. Following FA, we paid attention to how the interviewees defined the situation, what factors they took into account when discussing DC and what these different interpretations were about. This stage also involved identifying the level DC at which was located: individual, team or organization. In the final stage, we identified the qualities related to the frame.

4. Findings

As a result of our analysis, we present three main frames of DC in the context of media work. We name them the *individual attitude frame, team-level support frame* and *organizational-level practice frame*.

4.1 Individual attitude frame

The primary frame of individual attitude describes attitudes toward developing one's own DC. Most interviewees expressed a neutral or positive attitude toward DC. Many interviewees stressed the individual's own responsibility for improving their DC. Their attitudes reflected ambivalent feelings about the digitalization of the media sector, and differences in interpretations were based on selective observations of the multi-dimensional world of media work. They linked a positive attitude to professional development, as the following extract illustrates: "I see that you have to be willing to learn new things. Through it . . . maybe apply and develop the work as a journalist."

In this frame, the performance of the job was considered to influence whether the attitude is negative or positive. When discussing the DC required in a hectic work environment and efficiency in general, interviewees gave clues (Goffman, 1986) that deadlines act as "indicators" of how to accomplish job tasks efficiently and achieve goals set by the organization. All interviewees shared the view that sufficient DC improves work efficiency. Accordingly, we interpret that most of those reporting negative attitudes toward changed work processes were conceding that they possessed insufficient digital skills.

In discussing factors affecting attitudes, interviewees gave examples of their attitudes toward DC. Adjectives such as "investigative", "knowledgeable" and "curious" were related to the qualities of journalists in the context of a positive attitude toward DC. In their research, van Laar *et al.* (2020) show that not only personal determinants but also demographic and socioeconomic determinants are important for DC. Interviewees' positive attitudes are also perceived as actions and choices to challenge themselves to develop their DC. A positive attitude toward the system determines behavioral intentions, which lead, directly or indirectly, to actual system usage (Venkatesh *et al.*, 2003). Positive attitudes toward professional development are justified by the core values of journalistic professionalism: serving the public and societal interests, autonomy and objectivity (Deuze, 2005). Interviewees who expressed passion and enthusiasm for learning perceived DC as an opportunity for professional development. Journalists also reflected on their attitudes in relation to the journalistic profession and future expectations. Phrases used in the interviews referred to strong motivation toward the profession and a future orientation:

> I just like this job so much, or what this is at its best, I just want to do this job and my nature is also that I like to develop myself and my skills and I do not like to get stuck on things. But it, therefore, requires that you have to train and develop yourself all the time. And I have done so.

Yet negative attitudes emerged when discussing the digitalization of the media sector, technological changes and the development of online journalism, the diversity of digital platforms in the work process and multi-channelization. These were all reported to increase the demands of the work. In particular, interviewees criticized the intensification of work. In expressing negative attitudes toward DC, they used adjectives, such as "negative-aggressive", "reluctant" and "annoyed", and lacked the enthusiasm that would indicate a positive attitude. Although they perceived DC as necessary, some interviewees were reluctant or unwilling to invest in it. For example, one interviewee described how "reluctant" she remained to participate in online meetings despite them being a daily practice.

Positive attitudes toward DC extended to the societal level. Journalists conveyed that the social responsibility they feel is a professional obligation to operate in an environment in

which the public also operates. In this context, interviewees considered DC as referring to the skills needed to create content for publication on digital platforms. This could be textual content, music and video, or images and multimedia content. They perceived communicating with the audience as an opportunity to develop perspectives on the work of a journalist as well as to develop professional skills, including DC. However, they saw the easier opportunities for the public to exert an influence on social media platforms as somewhat of a threat to the journalist's work that can be addressed by developing one's own professional skills.

In any event, interviewees shared that they experience their journalistic work, both for themselves and for society, as meaningful, which contributes to the appreciation of their work and the positive attitude toward developing their professional and digital skills. In general, journalists perceived their professional competencies (Schena *et al.*, 2018) and contextual skills (van Laar *et al.*, 2017), such as adapting to technological and organizational changes, critical thinking, flexibility, time management, organizational skills and problem solving as sufficient.

4.2 Team-level support frame

In the context of the team-level support frame, DC is defined as a common, shared cause. Whereas the individual responsibility frame emphasizes an individual's own responsibility and attitude toward competence, this frame emphasizes the sharing of DC as knowledge to benefit the work community.

Team and colleagues had a powerful influence on how interviewees perceived their learning experiences in the workplace. They saw learning as taking place in everyday work situations and through problem-solving by oneself and with colleagues and in training events organized by the employer. Despite the autonomy in journalists' job descriptions, they work in cooperation, where it is perceived as natural to share DC expertise. It follows that collective knowledge within the team is deemed relevant for the development of DC.

Interviewees reported that collaborative and co-operative learning in work processes promoted learning through a conversational and open atmosphere, team spirit, equality of the work community members, a team-oriented attitude and collaboration. Mutual trust in the team strengthened individuals' motivation and positive attitudes toward DC, as described by an interviewee:

> This is a very forward-looking team. When something new comes along, we're very interested in it and we think about how we can do it even better. [. . .]. That we do not become stuck, that's really motivating.

However, some interviewees mentioned structural problems that restricted opportunities for learning, as the team is responsible for carrying out work tasks. For example, having no substitute workers made it impossible to participate in training. Furthermore, haste and unclear division of responsibilities in the work process as well as lack of communication reportedly hampered information sharing.

Departing from the individual frame's personal responsibility for DC, the team frame describes the responsibility for DC as partly collegial. Interviewees perceived individual competence as enhancing team performance; conversely, they observed collegial competence increasing individual DC and, more generally, improving work performance. The phrases typically used within this frame emphasized teamwork skills, such as "respect between colleagues", "team spirit", "co-operation" and "reciprocity". The interviewees used these phrases in a context that idealized both teamwork and learning practices in the work processes. One interviewee summed up the importance of teamwork as follows:

My work influences the work of my colleagues. I have to be very precise about when certain things are ready. This is teamwork – doing things in a smaller group – so the teams must also be really motivated so that it works, or perhaps so that everyone is aware of the issues.

Networking appeared to have gained new value in the journalists' digitalized work processes. Network discussions were potential opportunities to receive support from other members on both professional and technological issues. Networks were seen as means of accessing relevant information, gaining knowledge and communicating with colleagues. Possessing sufficient digital skills was a requirement for creating networks and enhancing collaboration on digital platforms (Marta-Lazo *et al.*, 2020). In short, the recognition and sharing of knowledge in the work community on digital platforms were deemed key factors in promoting learning in digitized work processes.

4.3 Organizational-level practice frame
The third way of framing DC is the frame of organizational practice, where DC is presented in relation to expectations of professional development, training opportunities and support offered by managers. These are largely dependent on organizational requirements and professional skills related to the work of a journalist.

Within the frames of the individual's attitude and team competence, DC is addressed from the individual and team perspectives. In this frame, DC is viewed from the organization's perspective and is seen as an opportunity for professional development supported by the organization. DC was described as a positive skill when it was perceived as contributing to personal professional development, as enhancing employability and as a factor contributing to autonomy. DC was linked to an autonomous attitude and awareness – that is, taking an interest in developing digital skills demanded in new circumstances (Ala-Mutka, 2011; Ferrari, 2012). Diverse professional skills were perceived as promoting competitiveness in the labor market and as increasing the ability to adapt to change:

In my opinion, [digitalization means] the emergence of new ways of telling stories, and it is terribly inspiring and fascinating [. . .]. You can use social media; you can make Instagram using images, sound and text and make a mini-story. I think it's really interesting to see what new ways [of disseminating news] the web offers.

The diversification of job profiles and work tasks was seen as an opportunity to acquire new skills and as a way to use time more efficiently, which in this context, was equated with allowing time for creative writing and for quality work. Among the dimensions of DC in van Laar *et al.*'s (2017) study, theorization, creativity, cognitive skills and self-management are key skills in this context. However, for several interviewees, the multiple roles in media work were an object of criticism due to the perception that digitalization causes specialized skills to diminish in organizations:

In my opinion, it's a shame that a certain kind of expertise is disappearing. Now, it's a situation where one should know everything about everything, and that leads very easily to a situation where no one knows anything about anything.

When discussing more individual perspectives on training and DC, the frame shifted to more attitudinal perspectives, with interviewees seeing the primary aim of training as the responsibility to develop professional skills. They saw adequate DC as necessitating self-directed learning, meaning that organizations equip their employees with basic skills, but the ability for self-directed learning is needed to acquire more professional digital skills. Journalists recognized a need to acquire more digital skills but also expressed concern over their ability to engage in learning given the lack of time and resources. For example, one interviewee claimed that employees must be proactive in enhancing their DC and find

suitable training by themselves and then ask the employer for an opportunity to participate in such training.

The need for lifelong learning (Ferrari, 2013; van Laar *et al.*, 2017; European Commission, 2018) was presented in all three frames and was particularly common in forward-looking interviews. The interviewees were striving to make their own situational assessments of their digital skills in relation to future needs. The need to develop DC was justified as the conclusion of individuals' self-observations of their aims and need for DC in the future. Digitally competent persons are more flexible and able to evaluate the digital environment and their own expertise in relation to the requirements in changing work environments (Janssen *et al.*, 2013; van Laar *et al.*, 2017). Journalists' willingness to participate in training and their satisfaction with the learning outcomes seemed key to improving their DC in the future.

Interviewees perceived the training opportunities offered by their organizations in two ways. Some interviewees expressed disappointment that their organization did not provide sufficient time for training. Other interviewees had declined the opportunity for training to enhance their DC. Those expressing an interest in training were also aware that a lack of financial resources in their organization possibly prevented participation and that from their employer's perspective, participation in training reduces working hours, which would, in turn, exacerbate haste. Despite a general awareness of the availability of training, the interviewees' preferences and interests caused them either to refuse or seize training opportunities.

Within the organizational frame, interviewees emphasized their expectations regarding competence management. They expected leaders to manage competencies, including DC, in line with the individual's personal goals and the general professional requirements of journalists as defined at the organizational level. They saw supportive management as consisting of functional practices and communicative superior–subordinate relationships. Further, they perceived functional practices as consisting of a fair and clear division of labor and non-hierarchical organization and communicative superior–subordinate relationships as consisting of mutual trust and appreciation.

5. Conclusions

The digitalization of media has transformed the business models of news media (Kueng, 2017), the media sector as a whole (Marta-Lazo *et al.*, 2020) and the daily work of journalists and other media workers. This transformation has changed media workers' requirements in terms of skills and competencies and the overall orientation to technology – that is, DC (Ala-Mutka, 2011; Ferrari, 2012, 2013). To understand how employees frame DC in the context of media work, we analyzed Finnish journalists' views on the role of DC in media work using FA (Goffman, 1986) as a research method.

We identified three frames through which media workers discussed DC: the individual attitude frame, the team-level support frame and the organizational-level practice frame. Within the individual attitude frame, DC was described as an opportunity for professional development and as a challenge in the context of negative attitudes. The results show generally positive attitudes toward new technologies and mainly sufficient DC. A positive attitude and strong internal motivation to work as a journalist affected an individual's potential and ability to acquire the required DC. This finding is in line with that of Schena *et al.* (2018).

Within the team-level support frame, basic training of DC was understood as the task of the organization, but broader expertise in digital skills required an interest in self-directed learning to develop more DC. Thus, learning, combined with work practices, is an important means for continuing competence development in organizations (Manuti *et al.*, 2015; Lemmetty and Collin, 2020). In particular, our results indicate the use of self-initiated learning

and communities of practice as effective ways for journalists to acquire professional DC (see also Schena *et al.*, 2018).

Within the organizational-level practice frame, the organization's positive approach to organizational development was seen to strengthen interviewees' positive attitudes to self-development in the work community. Practices enabled by organizations confirmed reciprocally interviewees' intention to develop their professional and digital skills. Organizations develop DC through an ongoing process which is also oriented to meet the anticipated DC needs (i.e. Ala-Mutka, 2011; Ferrari, 2012, 2013; European Commission, 2018; Kispeter, 2018). Our analysis showed that perceiving supervisors as supportive and motivative seemed to elevate media workers to express a positive attitude toward their professional development. To sum up, concurring with Goffman (1986), the individual and organizational levels had similar views on "What is it that's going on here?"

The results of this study have practical implications. First, media workers' DC is necessary to enhance work efficiency and accomplish tasks and may be supported with supportive management practices. Second, our findings contribute to the research field by broadening the focus of research on DC beyond the individual level to include team- and organizational-level DC (see e.g. Schena *et al.*, 2018). The findings suggest that DC should be understood and analyzed as a multi-level issue. Therefore, DC and its development should not be left to the responsibility of employees alone. Our findings suggest that an individual's positive attitude did not guarantee a high level of proficiency; appropriate continuing education and study opportunities were also needed. Besides formal arrangements for learning, informal contexts of learning were important. Self-learning, practical experiments and peer support were typical ways of developing DC and, thus, were built in everyday life and in interaction with others (Janssen *et al.*, 2013).

Third, our results are in line with those of previous studies (Ala-Mutka, 2011; Ferrari, 2013; European Commission, 2018) in suggesting that DC also provides a new dimension to lifelong learning. It provides an opportunity for developing one's own profession, offers means of developing work processes, gives tools for learning from colleagues and broadens collaboration with colleagues. In particular, social technologies enable the sharing of expertise. This has practical implications for management: successful management of these processes can leverage dispersed expertise across an organization. For example, by combining collective knowledge and expertise, teams can promote the development of innovative solutions. Thus, collective DC is situated within social interactions among team members, and it is contextualized.

This study has some limitations. For example, individuals, teams and organizations have specific characteristics that vary, and our approach did not allow for a careful systematic analysis of these. The significance of the specific field of work and responsibilities of the individual or the size of the organization and the need for DC should be analyzed using a different research strategy. Furthermore, teams and organizations could be studied using a multi-informant approach; this would allow for identifying varying views that together form a context for DC. Such an analysis was beyond the scope of this study.

A better understanding of media work is still needed in the field of research on DC. An interesting topic for further research would be how DC evolves and transforms over time at different levels and in the context of a changing digital landscape. A qualitative longitudinal setting would benefit the theoretical and empirical knowledge. To conclude, media work is an interesting context for DC owing to the far-reaching digitalization of the sector. For media organizations to cope with the changes taking place, they require knowledge of DC to achieve their strategic goals and develop digitized work processes that support sustainable work development.

References

Achtenhagen, L. and Raviola, E. (2009), "Balancing tensions during convergence: duality management in a newspaper company", *International Journal on Media Management*, Vol. 11 No. 1, pp. 32-41, doi: 10.1080/14241270802518505.

Ala-Fossi, M. (2020), "Finland: media welfare state in the digital era?", *Journal of Digital Media and Policy*, Vol. 11 No. 2, pp. 133-150, doi: 10.1386/jdmp_00020_1.

Ala-Fossi, M., Grönvall, M., Karppinen, J.K. and Nieminen, H. (2021), "Finland: sustaining professional norms with fewer journalists and declining resources", in Trappel, J. and Tomaz, T. (Eds), *The Media for Democracy Monitor 2021: How Leading News Media Survive Digital Transformation (1)*, Nordicom Göteborg, pp. 153-196.

Ala-Mutka, K. (2011), *Mapping Digital Competence: Towards a Conceptual Understanding*, Publications Office of the European Union, Luxembourg, available at: http://www.dctest.org/uploads/6/8/7/0/68701431/jrc67075_tn.pdf (accessed 10 September 2021).

Anderson, C.W. (2013), "Towards a sociology of computational and algorithmic journalism", *New Media and Society*, Vol. 15 No. 7, pp. 1005-1021, doi: 10.1177/1461444812465137.

Angelo, P. (2002), "News framing as a multiparadigmatic research program: a response to Entman", *Journal of Communication*, Vol. 52 No. 4, pp. 870-888, doi: 10.1111/j.1460-2466.2002.tb02578.x.

Autor, D.H. (2015), "Why are there still so many jobs? The history and future of workplace automation", *Journal of Economic Perspectives*, Vol. 29 No. 3, pp. 3-30, doi: 10.1257/jep29.3.3.

Bechmann, A. and Lomborg, S. (2013), "Mapping actor roles in social media: different perspectives on value creation in theories of user participation", *New Media and Society*, Vol. 15 No. 5, pp. 765-781, doi: 10.1177/1461444812462853.

Benford, R.D. and Snow, D.A. (2000), "Framing processes and social movements: an overview and assessment", *Annual Review of Sociology*, Vol. 26 No. 1, pp. 611-639, doi: 10.1146/annurev.soc.26.1.611.

Braun, V. and Clarke, V. (2006), "Using thematic analysis in psychology", *Qualitative Research in Psychology*, Vol. 3 No. 2, pp. 77-101, doi: 10.1191/1478088706qp063oa.

Brynjolfsson, E. and McAfee, A. (2014), *The Second Machine Age: Work, Progress, and Prosperity in a Time of Brilliant Technologies*, W.W. Norton and Company, London.

Burns, T. (1992), *Erving Goffman*, Routledge, London.

Casillo, D. and Sandersson, J. (2018), "'I don't think it's worth the risk': media framing of the Chris Borland retirement in digital and print media", *Communication and Sport*, Vol. 6 No. 1, pp. 86-110, doi: 10.1177/2167479516654513.

Clinton, M., Doumit, M., Ezzeddine, S. and Rizk, U. (2020), "Using frame analysis to re-analyse the results of inductive thematic analysis: a methodological discussion of investigating meanings and learning context in baccalaureate nurse education", *Journal of Advanced Nursing*, Vol. 76 No. 11, pp. 3204-3212, doi: 10.1111/jan.14485.

Cohen, N. (2019), "At work in the digital newsroom", *Digital Journalism*, Vol. 7 No. 5, pp. 571-591, doi: 10.1080/21670811.2017.1419821.

Creed, W.E.D., Langstraat, J.A. and Scully, M.A. (2002), "A picture of the frame: frame analysis as technique and as politics", *Organizational Research Methods*, Vol. 5 No. 1, pp. 34-55, doi: 10.1177/1094428102051004.

de Vreese, C.H., Boomgaarden, H.G. and Semetko, H.A. (2011), "(In) direct framing effects: the effects of news media framing on public support for Turkish membership in the European Union", *Communication Research*, Vol. 38 No. 2, pp. 179-205, doi: 10.1177/0093650210384934.

Deuze, M. (2005), "What is journalism? Professional identity and ideology of journalists reconsidered", *Journalism*, Vol. 6 No. 4, pp. 442-464, doi: 10.1177/1464884905056815.

Drok, N. (2019), "Journalistic roles, values and qualifications in the 21st century: how European journalism educators view the future of a profession in transition", available at: https://www.

ejta.eu/sites/ejta.eu/files/2019%2004%2012%20DROK%20Report%20RVQ.pdf (accessed 12 September 2021).

Estella, P.G. (2021), "Digital populism, digital network and the concept of journalistic competence: the Philippine condition", *Media International Australia*, Vol. 179 No. 1, pp. 80-95, doi: 10.1177/1329878X211003568.

European Commission (2018), "Proposal for a council recommendation on key competences for lifelong learning", available at: https://eur-lex.europa.eu/resource.html?uri=cellar:395443f6-fb6d-11e7-b8f5-01aa75ed71a1.0001.02/DOC_1&format=PDF (accessed 12 September 2021).

Ferrari, A. (2012), *Digital Competence in Practice: An Analysis of Frameworks*, Publications Office of the European Union, Luxembourg, available at: http://ftp://ftp.jrc.es/pub/EURdoc/JRC68116.pdf (accessed 10 September 2021).

Ferrari, A. (2013), "DIGCOMP: a framework for developing and understanding digital competence in Europe", available at: http://digcomp.org.pl/wp-content/uploads/2016/07/DIGCOMP-1.0-2013.pdf (accessed 10 September 2021).

Finnmedia (2021), "Finnish media federation", available at: https://www.medialiitto.fi/finnmedia/ (accessed 23 November 2021).

Gever, C.V. (2019), "When solution triggers more conflicts: frames and tone of media coverage of the anti-open grazing law of Benue State, Nigeria", *Media, War and Conflict*, Vol. 12 No. 4, pp. 468-482, doi: 10.1177/1750635218810908.

Goffman, E. (1986), *Frame Analysis: An Essay on the Organization of Experience*, Repr., New ed., Northeastern University Press, Boston, MA.

Ilomäki, L., Paavola, S., Lakkala, M. and Kantosalo, A. (2016), "Digital competence – an emergent boundary concept for policy and educational research", *Education and Information Technologies*, Vol. 21 No. 3, pp. 655-679, doi: 10.1007/s10639-014-9346-4.

Janssen, J., Stoyanov, S., Ferrari, A., Punie, Y., Pannekeet, K. and Sloep, P. (2013), "Experts' views on digital competence: commonalities and differences", *Computers and Education*, Vol. 68, pp. 473-481, doi: 10.1016/j.compedu.2013.06.008.

Kispeter, E. (2018), "Digital Skills and Inclusion Research Working Group evidence brief. What digital skills do adults need to succeed in the workplace now and in the next 10 years?", available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/807831/What_digital_skills_do_adults_need_to_succeed_in_the_workplace_now_and_in_the_next_10_years_.pdf (accessed 11 September 2021).

Kosterich, A. and Weber, M.S. (2019), "Careers in modern professional journalism: a case study of NYC journalist networks histories 2011–2015", *Journalism Practice*, Vol. 13 No. 8, pp. 982-987, doi: 10.1080/17512786.2019.1642134.

Kueng, L. (2017), "Going digital, a roadmap for organisational transformation", available at: https://reutersinstitute.politics.ox.ac.uk/sites/default/files/2017-11/Going%20Digital.pdf (accessed 16 November 2021).

Lemmetty, S. and Collin, K. (2020), "Self-directed learning as a practice of workplace learning: interpretative repertoires of self-directed learning in ICT work", *Vocations and Learning*, Vol. 13, pp. 47-70, doi: 10.1007/s12186-019-09228-x.

Levy, F. (2018), "Computers and populism: artificial intelligence, jobs, and politics in the near term", *Oxford Review of Economic Policy*, Vol. 34 No. 3, pp. 393-417, doi: 10.1093/oxrep/gry004.

Malmelin, N. and Villi, M. (2017), "Media work in change: understanding the role of media professionals in time of digital transformation and convergence", *Sociology Compass*, Vol. 11 No. 7, p. e12494, doi: 10.1111/soc4.12494.

Manuti, A., Pastore, S., Scardigno, A.F., Giancaspro, M.L. and Morciano, D. (2015), "Formal and informal learning in the workplace: a research review", *International Journal of Training and Development*, Vol. 19 No. 1, pp. 1-17, doi: 10.1111/ijtd.12044.

Marlowe, J.M., Bartley, A. and Collins, F. (2017), "Digital belongings: the intersections of social cohesion, connectivity and digital media", *Ethnicities*, Vol. 17 No. 1, pp. 85-102, doi: 10.1177/1468796816654174.

Marta-Lazo, C., Rodríguez Rodríguez, J.M. and Peñalva, S. (2020), "Digital journalism competences. Systematic review of the scientific literature on new professional profiles of the journalist", *Revista Latina de Comunicación Social*, Vol. 75, pp. 53-68, doi: 10.4185/RLCS-2020-1416en.

Martínez-Bravo, M.C., Sádaba-Chalezquer, C. and Serrano-Puche, J. (2020), "Fifty years of digital literacy studies: a meta-research for interdisciplinary and conceptual convergence", *Profesional de la informacion*, Vol. 29 No. 4, doi: 10.3145/epi.2020.jul.28.

McGarr, O. and McDonagh, A. (2019), "Digital competence in teacher education, output 1 of the Erasmus+ funded developing student teachers' digital competence (DICTE) project", available at: http://hdl.handle.net/10344/7700 (accessed 20 September 2021).

Mertala, P. (2019), "Digital technologies in early childhood education – a frame analysis of preservice teachers' perceptions", *Early Child Development and Care*, Vol. 189 No. 8, pp. 1228-1241, doi: 10.1080/03004430.2017.1372756.

Mueller, F. (2018), "Taking Goffman seriously: developing strategy-as-practice", *Critical Perspectives on Accounting*, Vol. 53, pp. 16-30, doi: 10.1016/j.cpa.2017.03.009.

Oberländer, M., Beinicke, A. and Bipp, T. (2020), "Digital competencies: a review of the literature and applications in the workplace", *Computers and Education*, Vol. 146, doi: 10.1016/j.compedu.2019.103752.

Parkatti, A. and Tammelin, M. (2020), "Finanssialan työn digitalisaatio [Digitalization of work in the financial sector]", *Työelämän tutkimus*, Vol. 18, pp. 145-178, doi: 10.37455/tt.94888.

Reese, S.D. (2007), "The framing project: a bridging model for media research revisited", *Journal of Communication*, Vol. 57 No. 1, pp. 148-154, doi: 10.1111/j.1460-2466.2006.00334.x.

Reyes-de-Cózar, S., Pérez-Escolar, M. and Navazo-Ostúa, P. (2022), "Digital competencies for new journalistic work in media outlets: a systematic review", *Media and Communication*, Vol. 10 No. 1, pp. 27-42, doi: 10.17645/mac.v10i1.4439.

Schena, J., Besalú, R. and Casellas, C.S. (2018), "Updated assessment of the competencies required from Spanish journalists in the professional workplace", *RLCS, Revista Latina de Comunicación Social*, Vol. 73, pp. 531-555, doi: 10.4185/RLCS-2018-1268en.

Simis-Wilkinson, M., Madden, H., Lassen, D., Yi-Fan Su, L., Brossard, D., Scheufele, D.A. and Xenos, M.A. (2018), "Scientist joking on social media: an empirical analysis of #overlyhonestmethods", *Science Communication*, Vol. 40 No. 3, pp. 314-339, doi: 10.1177/1075547018766557.

Snow, D.A. (2013), "Framing and social movements", in Snow, D., Della Porta, D., Klandermans, B. and McAdam, D. (Eds), *The Wiley-Blackwell Encyclopedia of Social and Political Movements*, Wiley-Blackwell, Oxford, pp. 470-475.

Sundet, V.S., Ihlebaek, K.A. and Steen-Johnsen, K. (2020), "Policy windows and converging frames: a longitudinal study of digitalization and media policy change", *Media, Culture and Society*, Vol. 42 No. 5, pp. 711-726, doi: 10.1177/0163443719867287.

Tandoc, E.C. Jr and Vos, T.P. (2016), "The journalist is marketing the news. Social media in the gatekeeping process", *Journalism Practice*, Vol. 10 No. 8, pp. 950-966, doi: 10.1080/17512786.2015.1087811.

van Dijk, A.J.A.M. and van Deusen, J.A.G.M. (2014), "The digital divide shifts to differences in usage", *New Media and Society*, Vol. 16 No. 3, pp. 507-526, doi: 10.1177/1461444813487959.

van Laar, E., van Deursen, A.J.A.M., van Dijk, J.A.G.M. and de Haan, J. (2017), "The relation between 21st-century skills and digital skills: a systematic literature review", *Computers in Human Behavior*, Vol. 72, pp. 577-588, doi: 10.1016/j.chb.2017.03.010.

van Laar, E., van Deursen, A.J.A.M., van Dijk, J.A.G.M. and de Haan, J. (2020), "Determinants of 21st-century skills and 21th-century digital skills for workers: a systematic literature review", *Sage Open*, Vol. 10 No. 1, pp. 1-14, doi: 10.1177/2158244019900176.

van Zoonen, W., Verhoeven, J.W.M. and Vliegenthart, R. (2017), "Understanding the consequences of public social media use for work", *European Management Journal*, Vol. 35 No. 5, pp. 595-605, doi: 10.1016/j.emj.2017.07.006.

Venkatesh, V., Morris, M.G., Davis, G.B. and Davis, F.D. (2003), "User acceptance of information technology: toward a unified view", *MIS Quarterly*, Vol. 27 No. 3, pp. 425-478, doi: 10.2307/30036540.

Villi, M. and Picard, R.G. (2019), "Transformation and innovation of media business models", in Deuze, M. and Prenger, M. (Eds), *Making Media. Production, Practices, and Professions*, Amsterdam University Press, Amsterdam, pp. 121-131.

Zhao, Y., Sánchez Gómez, M.C. and Pinto Llorente, A.M. (2021), "Digital competence in higher education research: a systematic literature review", *Computers and Education*, Vol. 168, 104212, doi: 10.1016/j.compedu.2021.104212.

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