

# The use of digital occupational health services among employer customers: A cross-sectional study

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## Abstract

Occupational health (OH) service providers, together with their client organizations co-operate in promoting health and work ability. Alongside with the so-called traditional services, more and more digital services are offered by OH service providers. However, little is known how the employer customers experience and use digital OH services.

This study evaluates the types of digital OH services employer customers use and how they assess the usefulness and ease of use of these digital services. Furthermore, the aim is to find out factors associated the usefulness and ease of use. To determine these features of usefulness and ease of use of digital services the Technology Acceptance Model was utilized. A cross-sectional, electronic survey was carried out to the members of human resources (HR) and entrepreneur associations between December 2022 and January 2023. The survey was in Finnish. The research material consisted of the employer customers' answers to the multiple-choice questions of the use, usefulness and ease of use of digital OH services. The data was analyzed by quantitative statistical analysis.

A total of 455 respondents took part in the study, comprising 198 representatives of HR professionals and 257 entrepreneurs. Most of the respondents were women (65%) and over 50 years old (61%). HR professionals rated their information and communications technology skills significantly more often good or really good compared to the entrepreneurs, being 92 % and 62 %, respectively. The most frequently utilized digital OH services were the ability to update personnel's information in the OH patient registry (48.0%) and remote action plan negotiations (37.1%). Less than one-third of the respondents (29.9%) took part in remote work ability negotiations, while approximately one-fifth (20.8%) participated in remote workplace surveys. In general, the HR professionals used digital OH services more frequently and estimate the usefulness and the use of digital OH services more positively compared to the entrepreneurs ( $p < 0.05$ ).

The study produced new information of the use and experiences of using digital OH services among the employer customers. The findings can be used to optimize the delivery and effectiveness of digital OH services for all employer customers, especially for the entrepreneurs who seemed be less used to utilize digital services.

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**Keywords:** occupational health services, customers, usefulness, usability, digitalisation

## Introduction

Occupational health (OH) co-operation means systematic and goal-oriented collaboration between the employer, employees and OH services [1]. In accordance with the Occupational Health Care Act [2], workplaces and OH services jointly promote safety and health at work, the prevention of work-related illnesses and accidents, as well as the health of employees and the functioning of the work community. Successful co-operation requires regular and confidential interaction between the workplace and OH services, as well as functioning co-operation structures. Effective co-operation also requires that the exchange of information between workplace and OH services is smooth and current [3-6].

In the co-operation between workplaces and OH services employers make decisions of the contents of OH services. The co-operation includes, among other things, preparing action plan, recognizing and preventing health and work ability risks of employees, as well as identifying safety risks in the work environment. [7]. OH service providers monitor the smoothness of OH activities through customer satisfaction surveys. It has been established that employer customers are often more dissatisfied with OH services than employee customers, which may reflect the fact that OH services are targeted more at individuals [8].

In recent years, health care has been subject to major structural changes and needs to renew services. The changing working life also challenges OH services' operating methods to match the development of technology and digitalization. Digital services also offer new opportunities for OH cooperation, which has also been a national goal [9]. Previous studies have shown that digital services, for example, facilitate access to the service

and improve service quality and smooth the flow of information [10,11]. On the other hand, the use of digital services also has negative effects, such as a decrease in close encounters, challenges related to the use of technology and insufficient skills [10-12].

Despite the increased use of digital services and a clear willingness for service development [13], there is still a growing need for functional digital and technological solutions in social and health care [9]. The services in OH are also being developed from both digital and traditional service perspectives. According to the development guidelines for OH, digital OH services should improve the accessibility and coverage of OH services [1,9]. This goal is crucial, as previous studies on the use and accessibility of digital services have shown differences among various user groups in relation to age, digital literacy, or functional limitations [11,13].

Previous studies of digital OH services have focused specifically on the experiences of OH professionals [10,14-16] and employee customers [17]. In contrast, the views, and experiences of the use of digital OH services among employer customers have not been previously investigated. The purpose of this study is to investigate the use, usefulness and ease of use of digital OH services by employer customers. We investigated the usefulness and ease of use by utilizing Davis' (1989) Technology Acceptance Model (TAM), of which measurement scales (statements) were tailored to fit the OH services using by employer customers. According to the TAM model, the intention to use technology is influenced by the perceived usefulness, i.e. the experience of how the technology enhances or improves operations, and the perceived ease of use, which means that the technology is effortless to use [18]. In this study, employer customers refer to representatives of human resources (HR) and

entrepreneurs who make decisions regarding the content of OH contracts and OH co-operation. The research questions (RQ) are:

**RQ 1:** What kind of digital OH services are used by employer customers?

**RQ 2:** How useful and easy to use digital OH services are assessed by employer customers?

**RQ 3:** Which factors are associated with the usefulness and ease of use of digital occupational health services as experienced by employer customers?

## Material and methods

### *Study design and participants*

This cross-sectional study is part of the project conducted by Finnish Institute of Occupational Health (FIOH) and funded by the Social Insurance Institution of Finland. The study followed the guidelines of the Research Ethics Advisory Board ([www.tenk.fi](http://www.tenk.fi)) and the ethical approval of this study was granted by the Ethical Board of FIOH on March 2022. The research data were collected through an electronic survey sent to member organizations of personnel management and entrepreneur between December 2022 and January 2023. A designated contact person from each organization sent the electronic survey link to their members. Exact information on the number of recipients of the survey form was not available, so the response rate could not be calculated. Participation was voluntary, and respondent personal data were kept confidential. A single reminder was sent to encourage survey completion.

### *Contents and development of the survey*

The survey aimed to gather background information from employer customers, including gender, age, level of education, workplace size, OH

provider and the coverage of medical care services in OH contract. It also explored the overall satisfaction with OH services, and with digital OH services, on a scale of 4-10, and self-rated information and communications technology (ICT) skills with a multiple-choice question (really good or good; moderate or weak). The survey included one question of the use of digital OH services, i.e. what digital OH services employer customers use. The use of OH services was assessed by a 3-point scale (yes; no, not needed; no, not available).

The questions, both for the usefulness and ease of use, were based on Davis's [18] Technology Acceptance Model (TAM). In this survey, concerning the usefulness of digital OH services, the respondents were asked to select how they felt about three following statements: Digital OH services (1) improve the quality of the service, (2) help me to get the help I need from OH professionals even faster and (3) help me get the information I need about health, illness, or work ability even faster. In addition, respondents were asked to select how they felt about the following statements concerning the ease of use of digital OH services: (1) learning to use digital OH services is easy for me, (2) it is easy to use digital OH services, (3) I can use digital OH services flexibly according to my needs, (4) the use of digital OH services is clear and (5) I can easily find instructions for using digital OH services. The abovementioned statements were chosen to reflect the employer customer's perspectives from six statements of the usefulness and six statements of ease of use [18]. The statements on both the usefulness and ease of use of digital OH services were measured using a 5-point Likert scale (1=completely disagree; 2=somewhat disagree; 3=neither agree nor disagree; 4=somewhat agree; 5=completely agree). In the cross-tabulation analysis the 5-point Likert scale was coded into a 3-point model: disagree; neither disagree nor agree; agree.

### **Data analysis**

SPSS statistical software (version 27) was used for the data analyses. As descriptive statistics we used both frequencies and mean values with standard deviations (RQ 1- RQ 3). Cross-tabulation with Pearson Chi-Square ( $\chi^2$ -test) was used to evaluate difference between HR professionals and entrepreneurs (RQ 1 - RQ 3).

Variables describing the usefulness and ease of use of digital OH services were aggregated into a sum variable, and their association with respondents' background information was examined. The sum variable was assessed using Cronbach's alpha coefficient, resulting in a value of 0.895 for the usefulness and 0.952 for the ease of use. Linear regression was used to evaluate the associations between the explanatory variables and dependent variables (RQ 3). In the multivariate regression model customer group (the entrepreneurs as a reference group), gender, age, level of education, perceived ICT-skills, workplace size, OH provider, inclusion of medical care services in OH contract and overall satisfaction with OH and digital OH services, were included. Before conducting linear regression analysis, the relationships between variables were examined using Pearson's correlation. The fulfilment of the conditions for linear regression analysis was

ensured by checking the correlations between variables and their variance inflation factors (VIF). The variables with low correlations and VIF values between 1 and 2 were included in the final model. Adjusted R Square was calculated for the degree of explanation in linear regression models. Unstandardized coefficient (B) and their 95% confidence intervals (95% CI) were calculated for the explanatory variables. Statistical significance was accepted at p-value <0.05.

### **Results**

#### ***Participants' characteristics***

A total of 455 participants took part in the study, comprising 198 HR professionals and 257 entrepreneurs. Table 1 describes the background data of the whole employer customer group, and in addition separately for the HR professional and entrepreneur subgroups. When evaluating the ICT skills, HR professionals rated their skills significantly more often good or really good compared to the entrepreneurs, being 92% and 62%, respectively. Respondents were also asked to rate digital OH services, and the average grade received was 8.05 (SD=1.4) on a scale of 4 to 10. Respectively, the average grade by the HR professionals was 8.4 (SD=1.1) and by the entrepreneurs 7.5 (SD=1.6). (Table 1).

**Table 1.** Background information on the participants. The results are frequencies (n) and percentages (%), except mean values with standard deviation for the variables describing overall satisfaction with the occupational health services.

Variable	Total n (%)	HR professionals n (%)	Entrepreneurs n (%)
<b>Gender (n=452)</b>			
Female	296 (65)	183 (93)	113 (44)
Male	152 (34)	10 (5)	142 (56)
Other or do not want to say	4 (1)	4 (2)	0 (0)
<b>Age, years (n=453)</b>			
21-30 years	6 (1)	6 (3)	0 (0)
31-40 years	52 (11)	31 (16)	21 (8)
41-50 years	118 (26)	59 (30)	59 (23)
51-60 years	201(44)	88 (44)	113 (44)
61 years or more	76 (17)	14 (7)	62 (24)
<b>Level of education (n=450)</b>			
Lower level (public, primary, high or vocational school)	168 (37)	25 (13)	143 (56)
Upper level (vocational college, vocational university or university)	282 (63)	170 (87)	112 (44)
<b>Perceived ICT-skills (n=453)</b>			
Really good or good	343 (76)	183 (92)	160 (62)
Moderate or weak	110 (24)	15 (8)	95 (37)
<b>Workplace size (n=453)</b>			
Entrepreneur or under 10 employees	217 (48)	8 (4)	209 (82)
10-49 employees	70 (15)	28 (14)	42 (16)
50-249 employees	61 (13)	56 (28)	5 (2)
250 or more employees	105 (23)	105 (53)	0 (0)
<b>OH provider (n=445)</b>			
Private sector	374 (84)	181 (92)	193 (78)
Public sector or employer's OH centre	28 (6)	15 (8)	13 (5)
Something else / can't say / no OH service available	43 (10)	1 (1)	42 (17)
<b>Medical care services included in OH contract (n=446)</b>			
Yes	292 (65)	174 (88)	118 (47)
No	129 (29)	19 (9)	110 (44)
Can not say	25 (6)	4 (2)	21 (8)
Overall satisfaction with OH services (n=385)	7.9 (1.3)	8.4 (1.0)	7.5 (1.5)
Overall satisfaction with digital OH services (n=313)	8.05 (1.4)	8.4 (1.1)	7.5 (1.6)

Abbreviations: OH, Occupational Health and HR, human resources.

### ***The use of digital occupational health services***

We asked what kind of digital OH services are used by employer customers. As a whole, the most frequently utilized digital OH services were updating personnel's information in the OH patient registry (48.0%) and remote action plan negotiations (37.1%). In general, the HR professionals used the digital OH services significantly ( $p < 0.05$ ) more frequently compared to the entrepreneurs, as an exception in the activities for remote workplace

survey and the use of digital system for OH action plan, where the differences between the groups were not significant. The results showed that HR professionals had used the least the digital system of workplace survey, either because the activity was not needed (57.4%) or it was not even available (20.0%). Among the entrepreneurs, the monitoring system for work ability risks was the least used service, with the values of 74.0% and 19.5%, respectively. (Table 2).

**Table 2.** The use of digital occupational health services by employer customers and itemized by respondent groups. Values are frequencies (n) and percentages (%).

Digital OH services		Total n (%)	HR profes- sionals n (%)	Entrep- reneurs n (%)	$\chi^2$ -test, p-value be- tween groups
Taking part in remote action plan negotiation	Yes	158 (37.1)	112 (57.7)	46 (19.8)	<0.001
	No, not needed	228 (53.5)	79 (40.7)	149 (64.2)	
	No, not available	40 (9.4)	3 (1.5)	37 (15.9)	
Using digital system for OH action plan	Yes	95 (22.6)	47 (24.5)	48 (21.0)	0.046
	No, not needed	241 (57.2)	98 (51.0)	143 (62.4)	
	No, not available	85 (20.2)	47 (24.5)	38 (16.6)	
Taking part in remote workplace survey	Yes	88 (20.8)	47 (24.6)	41 (17.8)	0.054
	No, not needed	280 (66.2)	126 (66.0)	154 (67.0)	
	No, not available	55 (13.0)	18 (9.4)	37 (16.1)	
Using digital system for workplace survey	Yes	85 (20.2)	43 (22.6)	42 (18.3)	0.409
	No, not needed	255 (60.7)	109 (57.4)	146 (63.5)	
	No, not available	80 (19.0)	38 (20.0)	42 (18.3)	
Taking part in remote workability negotiation	Yes	127 (29.9)	93 (48.4)	34 (14.5)	<0.001
	No, not needed	260 (61.2)	97 (50.5)	163 (69.9)	
	No, not available	38 (8.9)	2 (2.1)	36 (15.4)	
Updating personnel's information in the patient registry	Yes	204 (48.0)	118 (60.8)	86 (37.2)	<0.001
	No, not needed	173 (40.7)	63 (32.5)	110 (47.6)	
	No, not available	48 (11.3)	13 (6.7)	35 (15.2)	
Using sick leave notification system	Yes	113 (26.7)	88 (46.1)	25 (10.8)	<0.001
	No, not needed	247 (58.4)	81 (42.4)	166 (71.6)	
	No, not available	63 (14.9)	22 (11.5)	41 (15.2)	
Using work ability risk identification system	Yes	99 (23.5)	84 (44.2)	15 (6.5)	<0.001
	No, not needed	243 (57.7)	72 (37.9)	171 (74.0)	
	No, not available	79 (18.8)	34 (17.9)	45 (19.5)	
Using digital reporting system	Yes	112 (26.5)	95 (49.7)	17 (7.4)	<0.001
	No, not needed	237 (55.2)	69 (36.1)	168 (72.7)	
	No, not available	73 (17.3)	27 (14.1)	46 (19.9)	

Average number of participants (n): Total=422; HR professionals=191; Entrepreneurs=230

p-value < 0.05 is considered to be significant.

Abbreviations: OH, occupational health and HR, human resources.

### **Experiences of the usefulness and ease of use of digital occupational health services**

According to the entire study population, a large part of the respondents found the use of digital OH services to be easy (61.5%) and easy to learn (62.9%). Furthermore, more than half of the respondents answered the digital services to be flexible (59.7%) and clear to use (53.0%), and they agreed that these services helped them receive the

necessary support from OH professionals (57.3%). However, less than half of the respondents believed that digital services could enhance the quality of the service (41.9%), and quite same proportion reported difficulties in finding instructions for using digital OH services (40.9%). The results revealed that HR-professionals rated all single factors of usefulness and ease of use more positively compared to the entrepreneurs (p<0.05). (Table 3).



**Table 3.** The employer customers' attitude statements regarding perceived usefulness and ease of use of digital occupational health services. Values are frequencies (n) and percentages (%).

The usefulness of digital OH services		Total n (%)	HR professionals n (%)	Entrepreneurs n (%)	x <sup>2</sup> -test, p-value between groups
Using digital OH services improve the quality of the service	Agree	179 (41.9)	110 (56.4)	69 (29.8)	<0.001
	Neither agree nor disagree	157 (36.8)	63 (32.3)	94 (40.5)	
	Disagree	91 (21.3)	22 (11.3)	69 (29.8)	
Using digital OH services help me get the help I need from OH professionals even faster	Agree	244 (57.3)	158 (81.0)	86 (37.3)	<0.001
	Neither agree nor disagree	116 (27.2)	25 (12.8)	91 (39.4)	
	Disagree	66 (15.5)	12 (6.1)	54 (23.4)	
Using digital OH services help me get the information I need about health, illness, or work ability even faster	Agree	192 (45.2)	123 (63.7)	69 (29.8)	<0.001
	Neither agree nor disagree	159 (37.4)	51 (26.4)	108 (46.6)	
	Disagree	74 (17.4)	19 (9.9)	55 (23.7)	
The ease of use of digital OH services		Total n (%)	HR professionals n (%)	Entrepreneurs n (%)	x <sup>2</sup> -test, p-value between groups
Learning to use digital OH services is easy for me	Agree	269 (62.9)	172 (88.2)	97 (41.6)	<0.001
	Neither agree nor disagree	115 (26.9)	13 (6.7)	102 (43.8)	
	Disagree	44 (10.3)	10 (5.1)	34 (14.6)	
It is easy to use digital OH services	Agree	262 (61.5)	169 (86.7)	93 (40.2)	<0.001
	Neither agree nor disagree	117 (27.5)	14 (7.2)	103 (44.6)	
	Disagree	47 (11.0)	12 (6.2)	35 (15.1)	
I can use digital OH services flexibly according to my needs	Agree	255 (59.7)	161 (83.0)	94 (40.3)	<0.001
	Neither agree nor disagree	129 (30.2)	23 (11.9)	105 (45.5)	
	Disagree	43 (10.1)	10 (5.1)	33 (14.2)	
The use of digital OH services is clear	Agree	227 (53.0)	149 (76.4)	78 (33.5)	<0.001
	Neither agree nor disagree	140 (32.7)	28 (14.4)	112 (48.1)	
	Disagree	61 (14.3)	18 (9.3)	43 (18.5)	
I can easily find instructions for using digital OH services	Agree	175 (40.9)	108 (55.3)	67 (28.7)	<0.001
	Neither agree nor disagree	173 (40.4)	56 (28.7)	117 (50.2)	
	Disagree	80 (18.7)	31 (15.9)	49 (21.1)	

Average number of participants (n): Total= 426; HR professionals= 194; Entrepreneurs=232

p-value < 0.05 is considered to be significant.

Abbreviations: OH, occupational health and HR, human resources

### **Perceived usefulness and ease of use of digital occupational health services in relation to background factors**

Table 4 presents eight explanatory variables associated with perceived usefulness and ease of use of digital OH services. Because of a strong collinearity

between the workplace size and customer group, we left the variable of workplace size (correlation 0.81 and VIF 3.7) out of the final model.

In the model of adjusted estimates, the employer customer group associated significantly both with the usefulness (B 0.627, CI 0.383 to 0.871) and ease

of use (B 0.431, CI 0.211 to 0.65) of digital OH services. Respectively, satisfaction with OH services as well as inclusion of medical care services in OH contract associated with both the usefulness and ease of use of digital OH services. Concerning the ease of use of digital OH services, significant association

was found between lower age (B -0.134, CI -0.235 to -0.033,  $p=0.010$ ) and higher perceived ICT-skills (B -0.167, CI -0.298 to -0.036,  $p=0.013$ ). Linear regression for the usefulness and ease of use of digital OH services is presented in Table 4.

**Table 4.** Linear regression for the usefulness and ease of use of digital occupational health services. The analysis is performed as the adjusted estimates among whole study population.

	The usefulness of digital OH services		The ease of use of digital OH services	
	B (95% CI)	sig.	B (95% CI)	sig.
Employer customer -group*	0.627 (0.383 – 0.871)	<0.001	0.431 (0.211 - 0.651)	<0.001
Gender	-0.034 (-0.267 – 0.199)	0.775	0.086 (-0.124 - 0.297)	0.419
Age	-0.097 (-0.209 – 0.015)	0.089	-0.134 (-0.235 - -0.033)	0.010
Level of education	0.181 (-0.177 – 0.478)	0.233	0.150 (-0.117 - 0.417)	0.271
Perceived ICT-skills	-0.081 (-0.226 – 0.064)	0.272	-0.167 (-0.298 - -0.036)	0.013
Satisfaction with OH services	0.103 (0.028 – 0.178)	0.007	0.118 (0.051 - 0.185)	<0.001
Satisfaction with digital OH services	0.018 (-0.050 – 0.086)	0.605	-0.018 (-0.079 - 0.043)	0.564
Medical care services in OH contract	-0.243 (-0.417 - -0.069)	0.006	-0.347 (-0.505 - -0.189)	<0.001

Model summary for degree of explanation (Adjusted R Square): Usefulness of digital OH services 0.197; Ease of use of digital OH services 0.261.  $p$ -value < 0.05 is considered to be significant.

Abbreviations: OH, occupational health and HR, human resources.

\*The entrepreneurs as a reference group.

## Discussion

The purpose of the study was to examine the use of digital OH services among the employer customers. Furthermore, the study evaluated the employer customers' experiences of, and the factors associated with, the usefulness and ease of use of digital OH services. Focusing on the HR professionals and entrepreneurs give much needed information about the employer customers' experiences of utilizing digital technologies [11,13,14,16,17]. According to our knowledge, we were the first to conduct a study on digital service experiences of employer customers in OH services. The study meets the current need considering the rapid growth of digital health services.

The survey revealed that the most frequently used digital services were updating personnel's information in the OH patient registry and participating in remote action plan negotiations. In contrary, the activities involved in remote workplace survey were the least used services among employer customers. We found significant differences between the subgroups, as generally the HR professionals reported to have used more frequently the digital OH services compared to the entrepreneurs. This may indicate that HR professionals are more active in practical processes of work ability management [19] and accustomed to use digital OH services in OH co-operation [20]. Obviously, benefit from digital services, e.g. statistical monitoring, gives added value for data collection, interpretation, and



exchange of information [21] in bigger workplaces compared with the small ones.

Contrary to our results, the services of digitalized workplace surveys have become more common in OH services. Despite this trend, there is still work to do for utilizing the technology in practices of remote workplace surveys [15]. However, the spread of digital workplace surveys is limited by the fact that, according to the Occupational Health Care Act [2], a physical visit to the workplace is required when OH cooperation at the workplace begins or when working conditions change substantially, the so-called basic workplace survey of OH. This poses a challenge to OH cooperation, especially with workplaces where work is carried out on a mobile manner [22].

Even though digital tools and technology have become more common e.g., in work ability management and occupational co-operation [16,23], our results showed that digital OH services were not yet widely used nor always even available among the employer customers. This came up especially among the subgroup of the entrepreneurs since, depending on the single studied variable, tenth to fifth of the respondents stated that digital tools or digital technology was not available to use. There is a need for enabling flexible and appropriate, preferably digital, OH services also for the entrepreneurs [24,25]. It is known that entrepreneurs appreciate the services of OH professionals. According to the national OH development guidelines [9] digital OH services should be developed alongside the traditional services, and especially for the needs for small enterprises and for the entrepreneurs. More information is needed, how digital OH services should be developed to correspond with the needs of different users, e.g., the entrepreneurs [26].

Previously it has been shown that perceived usefulness and ease of use affects positively on the use of

digital health services [26,27]. This also supports our findings that HR professionals with more positive attitudes on digital services also use these tools more frequently. Entrepreneurs can be busy in their work, or at least they have a variety of tasks compared to HR professionals, whom we assume are more able to focus on co-operation with OH services. It is essential that OH services can offer digital services to facilitate co-operation, but tailored services that take into account the requirements of e.g. entrepreneurship should also be developed for OH co-operation [28]. At the same time, this would promote the goal of OH development guidelines to produce OH services suitable for entrepreneurs [9].

We found that the employer customer group showed significant association with the usefulness and ease of use of digital OH services. Also, we found that the perceived ICT skills associated significantly with the ease of use. This result is supported by the study of Koivisto et al. [14] who stated that digitalization requires extensive digital competence, e.g., technical skills for using digital tools, and skills for building OH co-operation with digital services. In addition to sufficient ICT -skills, positive attitude, and motivation to use technology are related to willingness of using technology [26,29,30].

In our study, the overall satisfaction with OH services, but not specifically the satisfaction with digital services, had a significant association with perceived usefulness and ease of use of digital OH services. Moreover, coverage of medical care services in OH contract associated with both with usefulness and ease of use of digital services. We assume, that a comprehensive OH contract means also wider co-operation between workplaces and OH services. OH services are able to promote this co-operation with useful and user-friendliness technology, thus enabling even higher-quality and faster responses to the needs of workplaces [10].

Like in the present study, age, i.e. younger individuals, has previously been shown to interact the willingness to use e-services [27,29,31]. However, it has been reported the age is not an independent factor since good digital competence can hinder the effect of higher age on digital competence decline [31].

### **Strengths and limitations**

This study has both strengths and weaknesses. Theoretical framework of Davis's [18] Technology Acceptance Model (TAM) provided a good foundation to study the usefulness and ease of use of digital OH services. The strength is that the framework guided the collection and analysis of survey material, thus confirming the reliability of the study. Furthermore, the novelty value of our study is that the survey was implemented in co-operation with member organizations of entrepreneur and personnel management. Thus, promoted the accessibility of the target group, and enabled up-to-date and practical information on the present research topic.

The survey was in Finnish, and the statements of usefulness and ease of use of digital OH services were translated from original Davis's (1989) Technology Acceptance Model (TAM) [18]. Pre-testing the survey with five OH professionals confirmed the relevant questions. The questions were also refined based on the feedback received. It is worth noticing, that this same survey has also been used in studies collecting information on the experiences of OH professionals [16] and employee customers [17] regarding the usefulness and ease of use of OH digital services.

There are also limitations in this study. The first limitation of this study is that it is based on self-assessments for data collection. This may involve a risk of

not getting answers to the desired research questions. However, certain valuable information is only able to obtain through surveys, as was the case in this study. The second limitation lies in the unavailability of data on non-respondents. The results are indicative, and because of this the survey results cannot be generalized.

### **Conclusion**

This cross-sectional survey gives much-needed understanding of the relationship between digital technology and OH employer customers. In conclusion, a large part of the respondents found digital OH services easy to use and flexible. However, there was a clear difference between the employer customer subgroups since HR professionals utilized the digital OH services more frequently and evaluated their usefulness and ease of use higher compared with entrepreneurs. In addition to employer customer subgroup, factors related to perceived ICT skills and satisfaction with the OH services were associated with the user experiences of OH digital tools. The findings highlight the importance to optimize the delivery and effectiveness of digital OH services for all employer customers, especially for the entrepreneurs. However, more research, both quantitative and qualitative, is needed on understanding the different needs for the use of digital OH services among employer customers.

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### **Conflict of interest statement**

Authors declare no conflicts of interest.

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