(How) Should I quantify my employees?
An assessment of the risks and potentials of eHealth technologies for occupational health management

Abstract

Employee health is increasingly important, as is the use of eHealth technologies in private and the organizational context. This paper examines which existing eHealth technologies are applied in occupational health management (OHM) and investigates the advantages and disadvantages of their application. To pursue this intention, we analyze the current state of research with a structured literature review and provide a comprehensive overview of relevant works in a concept matrix. The results show that numerous technologies such as smartphone applications or activity trackers are already being used in OHM. Thereby, positive outcomes such as an increase in employee health can be achieved, but it can also lead to negative outcomes such as a reduced work-life balance. Furthermore, the impact of the application depends on various mediators such as the work area (blue- and white-collar work) or leadership support.

1. Introduction

Many chronic diseases that humanity faces today are associated with an increasingly sedentary modern lifestyle and an unhealthy diet. In industrialized nations, only about one-third of the population is sufficiently physically active [1]. In addition to increasing physical inactivity and an aging workforce, dietary patterns in industrialized countries are characterized by high energy intake and excessive consumption of (saturated) fats, cholesterol, sugar, and salt that [2] classify as unhealthy. Besides, workplace health problems as for example, due to prolonged sitting in front of computers increase.

However, employee health is essential for productivity and economic as well as social development, as workers makeup half of the world's population and spend a significant amount of time at work [3–5]. With the aim of creating a healthier work environment, promoting changes in lifestyle, and thus improving the health of society, the World Health Organization (WHO) has acknowledged the workplace as one priority setting for health promotion in the 21st century [3, 6]. Therefore, occupational health management (OHM) emerged as a growing research stream for both researchers and practitioners [7]. OHM addresses all aspects of occupational health and safety and focuses heavily on various areas related to employee health, such as primary prevention of hazards, but also social and individual factors, and access to health services. Despite the tremendous benefits of OHM, they have been plagued in the past by low employee participation rates and difficulties in tracking employees' progress. Low participation rates result from skepticism or a lack of interest on the part of employees. The difficulty in measuring employee progress can be due to the high level of data protection that needs to be observed. With the rapid development of eHealth technologies, more and more companies see a promising benefit in integrating digital technologies in their OHM. They wish to revitalize their OHM activities and to promote a healthy and active lifestyle for their employees [8, 9]. Next to wearable devices, other digital technologies such as applications on employees' mobile phones and more complex technologies like smart mirrors for measuring health parameters or risk potentials are also applied [10] and used in white- and blue-collar jobs.

Although the use of eHealth applications in the workplace context is steadily increasing, there is still a lack of clear understanding about which eHealth technologies could be used for different purposes in OHM and which technologies are already in use. Accordingly, there is a lack of clarity of the advantages and positive consequences of integrating eHealth technologies in the context of OHM, as well as the disadvantages and risks, or limitations of their use [9]. Therefore, we ask the following research questions:

RQ1: Which existing eHealth technologies are applied in OHM?

RQ2: Which advantages and potentials exist within the application of eHealth technologies in OHM?

RQ3: Which disadvantages and limitations exist within the application of eHealth technologies in OHM?

The paper is organized as follows: In the subsequent section, we provide a theoretical background, while in section 3, we introduce the systematic literature review (SLR) and its process. Then, section 4 displays the main findings, while section 5 discusses these and leads to answer the RQs. Finally, we outline further directions for researchers and practitioners in Section 6, considering the limitations of our study.

2. Theoretical basics

The introduction of *eHealth* or *electronic health* marked the promise of information and communication technologies (ICTs) to improve health and the health care system [11, 12]. Although there is no clear definition of eHealth to date, some authors argue that eHealth has replaced telehealth and telemedicine [13]. In general, self-tracking, quantified-self, and personal analytics describe the current trend to collect data on specific characteristics of life through mobile and wearable digital devices [14]. These enable the individual to collect a great amount of data on daily activities, exercises, vital parameters, disease symptoms, sleep, and more [15]. Within these theoretical distinctions, mHealth represents the intersection between eHealth and the application of eHealth supported by smartphone technology that captures, analyzes, processes, and transmits health-related information through sensors and other systems [16]. At the same time, wearable health monitoring systems include different types of wearables or even implantable miniature sensors. Typically, self-tracking or activity tracking is performed with wearables such as smartwatches and smart clothing that measure physical activity. As no clear distinction between monitoring and activity tracking exists in literature, we follow the characteristic that monitoring is usually performed by a device or external person mainly supervising medical data, while activity tracking records data and displays evaluations, whereby the user itself keeps track of its activities [14, 17].

3. Literature review of eHealth technologies in OHM

To analyze the current state in which eHealth technologies are used in OHM and which advantages and disadvantages exist, we conduct a structured and rigorous literature review providing an overview and evaluation of the relevant literature in the respective research field. This review aims to provide initial insights and answers to the proposed RQs.

3.1. Overview of the literature review process

We incorporate a structured review methodology to identify peer-reviewed articles from electronic databases that increase the quality of material on the issue being studied. Therefore, we applied the procedures of an SLR as proposed by [18–22]. To define the scope of the literature review, [18] and [19] suggest beginning with keyword research and enriching the results with more generic research since the keyword analysis cannot provide all available results from the literature. Thus, after conducting an extensive keyword search, the keyword analysis is enriched by backward research and completed with forward research. The keyword research was carried out in six different databases known for high-quality literature: Business Source Premier (via EBSCOhost), AIS eLibrary, IEEE Explore Digital Library, Science Direct, Emerald Insight, and ACM Digital Library.

We created two search strings, both consisting of major terms related to the RQs; the synonyms and alternative spellings of these terms as the main concepts 'occupational health' and 'eHealth' are often named differently. We searched all databases for these two search strings thoroughly. Boolean operators such as '*' for displaying all possible endings of the respective keyword or '-' for displaying all possible connections between the two respective keywords also played an important role in this research because of the various possible combinations of the keywords [23]. The final search strings were:

1) *("work* health" OR "employee health" OR "occupational health" OR "operational health" OR "corporate health" OR "company health" OR "office health") AND (digital* OR ehealth OR e-health OR "electronic health" OR mhealth OR m-health OR "mobile health")* and

2) *("work* health" OR "employee health" OR "occupational health" OR "operational health" OR "corporate health" OR "company health" OR "office health") AND (tracking OR self-tracking OR self-monitoring OR wearable* OR quantified self).*

Since this work focuses on current and future developments in this area, the search in the databases was limited to publications from the year 2013 onwards. The searches were conducted exclusively in titles, abstracts, and keywords to ensure high-quality results. We identified 853 database entries for the first search term and 624 entries for the second search term, thus in total 1,477 entries. After excluding duplicates, a total of 1,306 entries remained.

3.2. Exclusion criteria, data extraction, quality assessment, and forward and backward search

We screened the 1,306 remaining entries under consideration of various exclusion criteria. First, only papers written in English were considered. Second, we excluded all dissertations and master's theses, and textbooks and only included journal articles and conference contributions in the result list, as scientific research recommends citing only journals and conferences. Third, all commentaries, guest editorials, presentations, periodicals, and research proposals were excluded for quality reasons [24]. Because the research field is still young, articles containing conceptual frameworks or conceptual developments remained included in the literature review. Also, both quantitative and qualitative studies were included. This process led to 1,255 remaining journal articles and conference papers, appearing to be valuable contributions at first sight.

The next step was to complete the data form so that each result had a unique title, author, year, publication source, and abstract. To find publications that addressed our RQs, we first screened the articles' titles and subsequently their abstracts. The selection process was carried out by three authors independently. We only included articles in the further process if all authors considered the article suitable for answering at least one of the RQs. This first quality assessment step led to a total of 63 results.

Forward research implies finding citations to a paper, whereas backward research aims to find citations in a paper [23]. Moreover, [18] recommend enhancing the literature review by reviewing the citations for the articles that have been identified to determine prior articles that should be considered. A backward references search was conducted in this paper as described by [19] to extend the knowledge deeper. Also, the backward research process was performed to address the critique of SLRs being incomplete [25] and, therefore, to determine whether any referenced papers have not been included in the initial selection process [18]. According to [21], we included mainly particularly relevant articles in the backward research. Therefore, we selected the relevant literature of [9] and [26] for this purpose. The reference section of both publications contained 80 entries. All of these went through the whole screening process as described in the previous sections once again. Of the total 80 sources within the publication screened in the backward screening process, we considered ten valuable contributions for this work. After implementing the backward research, forward references search as proposed by [19] was carried out to expand the knowledge on the topic by locating follow-up studies or identifying newer findings and developments on the topic. Therefore, we selected the same two publications as in the backward search and screened them forward with Google Scholar. This process led to another 20 findings, all of which went through the same screening process as the keyword search and the backward research. Out of these, we consider another four as valuable contributions. Consequently, the backward and forward search led to 14 additional contributions (cf. Table 1). In sum, we identified a total number of 77 relevant entries, which we analyzed in their entirety and extracted relevant data and information.

Table 1. SLR final results

Retrieved papers from database screening	1,477
After duplicates removed (-171)	1,306
After quality assessment and exclusion criteria (-1,239)	67
After forward/ backward search (+14)	77

4. Results

According to research streams, we clustered the final pool of 77 articles and presented them in a concept-oriented matrix. Identifying research streams in the context of digital OHM is essential and thus contributes to answering our RQs. To classify them, we tagged each article with different keywords dealing with the applied context, technology, and the impact of its use. This led to the final typology of 11 topics related to eHealth in the working context.

Finally, the clustering leads to identifying three major research streams in the research domain: 1) occupational health 2) eHealth technology 3) human well-being. We classified the papers identified in the concept matrix according to the prevailing research streams and subcategories (see Table 2).

4.1. Application context

According to the first research stream (occupational health), employee health was examined much more often (in 68 articles) than employee safety (in 29 articles), and employee health is at the same time the most prominent topic of investigation overall. In 51 articles, the monitoring of employee health using different methods was also explicitly examined. Less important is the aging workforce (in five articles).

In nearly half of the publications dealing with employee safety, the context of blue-collar work was explicitly addressed, and only two cases examined white-collar work.

Table 2. Concept-orientated matrix

Author	Research Stream: Occupational Health				Research Stream: eHealth Technology				Research Stream: Human Well-being			Blue (B) / White (W) Collar
	Employee Health	Employee Safety	Employee Monitoring	Aging Workforce	Gamification	Activity Tracking	mHealth	Wearables	Physical Well-being	Mental Well-being	Social Well-being	
[27]	x				x		x		x		x	
[28]	x		x			x	x		x			W
[29]	x							x	x			B
[30]	x	x							x	x	x	W
[31]	x		x			x			x			W
[32]	x		x					x				
[33]		x					x	x		x		B
[34]	x	x	x			x	x	x	x			B
[35]	x		x			x	x	x	x			
[36]		x						x				
[37]	x	x	x			x	x	x	x			B/W
[38]	x		x	x				x	x	x		W
[17]	x	x	x			x		x				B
[39]	x	x								x	x	W
[40]										x		W
[41]	x		x			x		x	x			W
[42]	x		x	x	x	x	x	x	x			
[43]							x	x				
[44]	x	x	x				x	x	x			B
[45]	x							x	x	x		
[46]	x	x	x			x			x			
[47]	x		x			x		x	x	x	x	W
[48]	x		x				x	x	x			B
[49]	x		x			x	x	x	x	x	x	
[50]	x		x		x	x	x	x	x	x		
[51]	x		x			x	x	x	x	x		
[52]	x								x			W
[53]	x	x	x			x	x	x	x			B
[54]	x	x	x			x	x	x	x	x	x	
[55]	x		x	x			x		x			W
[56]	x		x		x	x		x	x	x		B/W
[57]	x	x	x			x		x	x			B
[58]	x	x	x					x	x			B
[59]	x		x			x	x	x		x		W
[60]	x		x		x	x	x	x				
[61]			x		x	x	x	x	x			
[62]	x	x	x					x	x			B
[63]	x	x	x			x		x	x			
[9]	x		x		x	x	x	x	x	x	x	
[10]	x		x		x	x		x	x	x	x	W
[64]	x	x					x	x	x			
[65]	x	x					x	x	x			
[66]	x							x		x		

Table 2. Concept-orientated matrix (cont.)

Author	Research Stream: Occupational Health				Research Stream: eHealth Technology				Research Stream: Human Well-being			Blue (B) / White (W) Collar
	Employee Health	Employee Safety	Employee Monitoring	Aging Workforce	Gamification	Activity Tracking	mHealth	Wearables	Physical Well-being	Mental Well-being	Social Well-being	
[67]	x						x		x	X		
[68]	x		x		x	x		x	x	x	x	W
[69]	x		x			x				x		W
[70]	x	x	x			x		x	x	x		B
[71]					x	x	x		x		x	
[72]	x		x		x	x	x		x	x	x	
[73]	x	x	x	x	x			x	x	x	x	B/W
[74]	x		x			x	x	x	x			B
[75]	x		x							x	x	
[76]	x						x			x		
[77]	x	x	x					x	x			B
[78]	x								x	x	x	W
[79]	x				x	x	x	x	x		x	
[80]	x	x	x					x	x			B
[81]	x				x	x	x	x	x	x		
[82]	x									x	x	
[83]	x	x	x				x	x	x			B
[84]	x	x	x			x	x	x	x			B
[85]	x		x				x	x	x			W
[86]	x						x		x	x		W
[87]	x	x	x			x		x	x			B
[88]	x		x			x		x	x	x		B/W
[89]	x		x					x	x			W
[90]	x	x	x			x		x	x			B
[91]	x					x		x	x			B
[15]	x					x		x	x			
[92]		x	x			x		x	x	x		
[26]	x					x	x	x	x			
[93]	x						x	x	x			W
[94]	x	x	x					x	x	x		B/W
[95]	x		x	x		x	x	x	x			
[96]	x					x	x		x			
[97]		x	x			x		x	x			
[98]		x	x			x		x	x			
Total	68	29	51	5	14	43	37	58	63	31	16	

Thus, we conclude that employee safety is of enormous importance above all in the blue-collar field, where more manual work is carried out, and less work is done at the desk. However, in terms of employee health, monitoring of employee health, and aging workforce, no obvious difference can be detected in the blue- or white-collar sector.

4.2. Classifications of eHealth technologies

The second identified research stream deals with different eHealth technologies that have been investigated in the publications within the framework of OHM. The most significant trends visible in this regard are gamification, activity tracking, mHealth technologies, and, above all, wearable technologies. The SLR shows that wearable technologies are the most extensively investigated trend in the past years, which has been studied in 58 out of 77 publications. The use of mHealth technologies was investigated in 37 articles, activity tracking in 43 articles, and gamification in 14 articles. In terms of frequency, the boundaries between these trends are blurring since they interrelate very strongly. For example, most mHealth technologies are connected to a wearable device, as is activity tracking. Gamification is often associated with mHealth but not always.

The utilization of wearable technologies is also investigated to a varying intensity for blue-collar and white-collar occupations. All publications focusing on blue-collar work or examine blue- and white-collar jobs investigate wearable technology. In contrast, out of 19 publications focusing on white-collar work, only nine examine wearable technologies.

4.3. Impact on well-being

The third retrieved research stream addresses the impact of eHealth on overall employee well-being. In this sense, most articles have not perceived health as a holistic concept but instead focused on specific (or a combination) health facets such as physical, mental, or social well-being. The results indicate that most previous studies focused on physical well-being (63), followed by mental well-being (31). Only a comparatively small number of papers dealt with social well-being (16), which has been studied primarily in the white-collar sector.

5. Discussion

With the classification of predominant research streams, we obtained an overview of the entire research field. The following section serves to answer the RQs based on the results of the SLR.

5.1. RQ1: Which existing eHealth technologies are applied in OHM?

The use of technologies in OHM is diverse and difficult to classify, as the technologies employed are often interlinked and connected. However, our results indicate that ICTs, including mobile technologies and wearable technologies, are predominantly explored. However, other technologies have already received attention in the literature, which we subsequently present.

ICTs. In general, the use of ICTs is crucial for the application of eHealth technologies in OHM [32] because eHealth is always associated with the use of ICTs, whether telecommunications, the Internet, or similar technologies [16]. Through ICTs it is possible to monitor employees' health with various devices and techniques [32]. Additionally, [38] have examined an ICT-driven health prevention program and conclude that ICTs are an important factor in workplace health programs. They can be used to collect, store, and process lifestyle and health-related data through various applications. ICTs also enable early diagnosis and intervention advice based on predictive analytics.

Further, they can be used to provide feedback to participants by visualizing the accomplishments of the health prevention program. Similarly, [82] developed an intelligent tool as an availability assistant for the desired work-life balance using ICTs. According to them, ICT services often include applications for smartphones, computers, smartwatches, and tablets for better availability management. These applications can e.g. restrict the use of other applications or block calls and messages for a certain period.

***Mobile technologies*.** Companies use mobile technologies linked with specific applications on smartphones that allow employees to monitor various health-related aspects such as activity or weight [e.g. 26, 28]. Smartphone applications are also applied to engage with users and communicate the company's wellness program [27, 42]. Even persuasive applications based on psychological theories on mobile devices for the health-conscious behavior of employees are applied [67]. These applications attempt to track employees’ daily tasks to change their behaviors towards healthy nutrition, physical activity, and napping at the workplace, partly with an additional built-in reminder in the form of push notifications [55].

Many mobile technologies use embedded sensors connected to wearable devices to measure physical activity, which perform the actual measurement by built-in sensor technologies. The applications on smartphones are then used to capture and display physical activity or facilitate self-reporting in a structured manner [55]. For example, [59] collected physiological data with a prototype wearable chest sensor to measure heart rate, pulse, and skin temperature of office workers and connected the wearable device with a smartphone app that visualized the recordings.

Wearable technologies. Especially the ubiquitous use of digital technologies, advancements in low-cost and unobtrusive wearable devices as well as the declining willingness of employees to participate in corporate health programs has led to an increase in the use of commercial wearable devices such as Fitbit or Jawbone in the operational context [9, 41, 50, 60, 68, 71, 73]. The devices can either be brought from home as private equipment [39] or are provided by the employer [9, 81]. Other wearable devices used by companies are usually pilot devices [41]. These trackers are then used to track physical fitness, sleep patterns, or mood. Fatigue sensors are also applied to monitor work safety [37, 46].

Moreover, measuring other aspects like blood sugar, heart health, or even brain activity of employees can track mindfulness during work [41, 42]. Furthermore, wearables are used to monitor employees' posture and body motions and alert them when the behavior is unhealthy [84]. Finally, additional information such as body temperature and pulse might be transmitted to a computer for analysis [57].

Sometimes, employers even link wearable technologies to a specific reward system to motivate users and remind them to work actively on their daily goals [68]. Some companies also distribute Fitbits to their employees and incentivize them to use the devices and share their information, e.g. by offering lower health insurance premiums [9, 34].

Wearable devices, such as wrist-worn watches, can also monitor the environment and environmental conditions like air quality in a factory through built-in sensors [65]. If the air quality becomes a risk factor, the watch alerts the employee.

Some companies even implant inertial measurement units or radio-frequency identification (RFID) chips into the employees themselves, for example, to automatically identify risk factors during work. [56, 62, 63, 83].

Other wearable technologies, such as smart shirts, are designed to ensure the safety of firefighters [e.g. 34, 83]. In this role, they can track heart activity, respiration rate, and body temperature through built-in sensors [32, 94].

Other (supportive) technologies. Alongside wearable or mobile devices, other eHealth technologies are used in OHM, which may have interfaces to the previously mentioned technologies. Some companies, for example, monitor their employees' health with existing workflow systems [75]. Others use the computer workstation itself to monitor employee health [32]. Webcams installed on the computer can also be deployed to track health parameters like heart rate or posture in front of the computer [31, 47, 48]. Further, smart mirrors are used in rare cases, motivating employees to adopt physical habits at the workplace by giving exercise instructions [10]. Other applications include the development of an e-health education program [86].

Furthermore, gamification elements are often used to engage employees in good health, motivate employees to participate, simplify the usage, and make it more appealing with playful approaches [9, 27, 35, 42, 60].

5.2. RQ2: Which advantages and potentials exist within the application of eHealth technologies in OHM?

The potential of already existing eHealth technologies in OHM is huge and depends on how the technology is implemented. Since mobile technologies enable location-independent access to corporate health programs and their resources, these technologies represent a key factor for the success of OHM in general [40, 43, 49]. Studies even show that the mere recording and sharing of employees' data (e.g. via social media) leads to a better understanding of their health [92], well-being [9, 49] and thus increases employees' motivation to collect more data [38].

The use of eHealth technologies within OHM increases general health awareness [9] and changes unhealthy behavior or habits [57, 73, 79], such as incorrect posture [48, 77]. Furthermore, wearable technologies can detect risks or injury hazards and alerting the user accordingly [63, 65, 83]. The collection and evaluation of large amounts of data, such as daily activity levels, pulse or heart rate, weight, oxygen saturation of the blood and body temperature, can help employees to detect diseases or risks at an early stage so that appropriate measures can be taken promptly [17, 42, 53, 70].

Moreover, eHealth technologies increase physical activity [35, 51, 79, 81] and improve health [68]. The use of wearable technologies can even encourage employees' mental well-being, for example, by increasing physical activity or generally engage employees in a healthy lifestyle [9, 34, 42, 63, 68]. Regarding several studies, wearable technologies can increase motivation for and enjoyment of health initiatives and help develop new habits that promote a long-term healthy lifestyle, especially for employees without a regular fitness schedule [9, 61, 68, 79].

In addition to physical health, some studies have also shown that eHealth reduces work stressors, and improve employees' mental health [51, 56, 59]. At the same time, eHealth technologies can improve the quality of life and life expectancy of employees [43, 57, 73].

Several studies even confirmed that eHealth technologies minimize and prevent health risks in the workplace, e.g. back injuries or cardiovascular diseases, before they appear or before they influence the employees or the organization [46, 47, 58, 78]. Numerous sources also state that the use of eHealth technologies helps to increase employee productivity and efficiency through better health [9, 27, 37, 56, 68, 73, 74]. Integrating social components in eHealth tools can trigger feelings such as belonging to a group, affiliation, and emotional support and promote an environment of positive peer pressure. The reward and incentive systems usually included in these competitions might encourage activity [61, 68, 71, 73]. Furthermore, research demonstrated that the implementation of eHealth technologies in OHM reduces health-related absences and increases the employees' job satisfaction [27, 37, 46, 68]. As a consequence of direct benefits for employees' health, studies also confirm that health care costs and health insurance premiums can be reduced through the use of eHealth technologies [9, 27, 35, 41, 45].

5.3. RQ3: Which disadvantages and limitations exist within the application of eHealth technologies in OHM?

The use of eHealth technologies can also harm various areas in the workforce. First, the constant monitoring of activity can feel like an obligation to some employees and reduce the enjoyment of self-monitoring. Second, demotivation can also arise when goals are set too high. Demotivation, in turn, may reduce physical activity, which is particularly detrimental in the long term [27, 50, 81]. In contrast, particularly challenges or activity tracking can encourage employees to engage in too much physical activity and take risks such as injury or overtraining. This is especially the case when the goals set are too high [68, 71, 79]. In addition, occupational safety can suffer from the use of technology if too much reliance is placed on it [53, 55].

The permanent availability by ICTs can lead to the employee being over-worked or stressed, which harms his or her ability to concentrate. In addition, if an employee is intensively involved in a program and spends a lot of actual working time with it, productivity can suffer as well [56, 82].

Discrimination or social isolation are additional factors that result adversely from the implementation of eHealth in OHM. Social isolation occurs especially when employees are unable to participate in the health programs due to physical impairments [9, 41] or if there is a fear that personal data will be collected by the employer [60]. In addition, to avoid discrimination by others, employees may participate in such programs due to peer pressure, even if they would not participate out of their ambition [51, 71, 73, 79].

A blurring of the boundary between work and private time can cause additional stress for the employee. This happens especially when the devices for health programs are also worn at home and thus affect the work-life balance of employees [39, 40, 43, 68, 73]. Many of the factors above can contribute to a stressful work environment [40, 73, 75, 82]. Reduced job satisfaction and increased absenteeism can be the consequences in the long term [75]. In addition, the factors such as overwork, too much or too little physical activity, stress, or social factors like discrimination or group pressure may negatively impact the overall health and subjective well-being of employees. Reduced subjective well-being can in turn harm physical, mental, and social health [40, 50, 56, 73, 75, 82].

The costs of implementing eHealth in OHM on the part of employers and the negative consequences of implementation on employees should also be considered [34, 41, 49, 80].

6. Further directions, limitations, and conclusion

With our study, we identified implications for researchers and practitioners. Since research into eHealth application in OHM is spread across various facets, we have compiled key characteristics via a structured approach. We, therefore, characterize our research as the groundwork for deriving concrete OHM practices based on the literature. Further, we condensed the topic diversity and formalized it into research streams. This approach discloses that certain areas in our investigated context, such as gamification, social well-being, and an aging workforce, are under-researched and should be focused on in the future. However, it should be noted that while we have been systematic in our literature search, we have limited ourselves to a few databases. Nevertheless, by searching forward and backward in highly relevant articles, we covered the most important literature. Furthermore, since search strings dictated our keyword search, we continued to formulate the search string as broadly as possible to obtain a global literature review.

Regarding practical implications, we provide a broad overview of existing forms of eHealth technologies applied in OHM, which helps practitioners gain a holistic understanding of which technology is used in which context and purpose. Further, we identified various key characteristics that influence the implementation and use of such technologies and should be further considered by practitioners. By identifying the risks and potentials of eHealth technologies, we finally conclude that eHealth implementation is a cost-benefit trade-off between them. By comparing different research directions and approaches, we pave the way for a new practical guide to help in the successful evaluation and implementation of eHealth technologies in the occupational context.

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