

How Can a Chatbot Support Human Resource Management? Exploring the Operational Interplay

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Abstract. Chatbots are increasingly taken up to support organizational functions and processes, particularly in support of the Human Resource Management (HRM) function. However, there is a lack of knowledge on the organizational implications of this support – in particular the operational interplay between the chatbot, the HRM function, and the organization at large. In this study, we contribute knowledge to the fields of chatbot research and digital HRM support through interviews with 13 HRM practitioners in organizations that had implemented chatbots to support their function. The findings show that a chatbot may support the HRM function through handling of repetitive inquiries and tailoring of HRM support in response to insights from analysis of chatbot use. At the same time, the chatbot impacts the HRM function in terms of new tasks and competence requirements. The findings also provide insight into characteristics of the organization and the chatbot which may impact uptake and effective use. Based on the findings, we suggest implications for theory and practice and point out future research needs.

Keywords: Chatbot, Human Resource Management, Work support.

1 Introduction

In recent years there has been an emerging interest in chatbots as support of functions and processes internal to organizations, such as Human Resource Management (HRM) [23]. Specifically, chatbots are thought to support the HRM function in areas such as recruitment and selection, onboarding and training, automation of routine processes and answering employees' frequently asked questions [31].

Authors note an increased focus on employee experience and the use of consumer-oriented technologies, such as chatbots, to raise employee engagement and increase task efficiency in daily work [9,10,32]. To illustrate this trend, Gartner [17] predicted that in the near future, it will be common among white-collar workers to interact with conversational platforms on a daily basis, and organizations such as IBM have successfully applied chatbots for purposes internal to the organization [19,21].

However, as the application of chatbots for organizational purposes is relatively new, there is a knowledge gap concerning the way in which the chatbot currently supports internal functions such as HRM [26]. Furthermore, there is a lack of research on chatbot implementation from an organizational perspective [29]. This knowledge gap is problematic, as a successful continued uptake of chatbots for organizational purposes depends on insight into how this technology may support and impact existing internal functions. Furthermore, there is a need to understand the resulting operational interplay between the technology and the functions it is intended to support, that is, their resulting distribution of tasks and responsibilities.

In response to this gap in current knowledge, we conducted a qualitative exploratory study, involving 13 HRM practitioners from 10 different organizations which all had implemented chatbots for HRM purposes. The study was conducted by semi-structured interviews allowing for needed exploration of the HRM perspective on chatbot implementation.

The study contributes to the existing state of the art in two main ways. First, by empirically exploring chatbot implementation and use from an organizational perspective, this study provides insight into a viable chatbot use area as well as factors that may prove to have significant impact on successful implementation and use. Second, taking a starting point in the assumption that chatbots are expected to support the HRM function in various ways, this study contributes insight into chatbots as a specific and relatively new HRM technology and empirically explores what characterizes the interplay between the HRM function and such chatbots. By empirically investigating the lived experiences of HRM personnel managing and working with the chatbot, this study sheds light on how HRM personnel experience the implementation of an internal chatbot, how this affects HRM work tasks and roles, as well as how this new interplay is perceived by HRM practitioners and the organization at large.

The remainder of the paper is structured as follows. First, we provide an overview of relevant background before detailing the research questions and methods. We then present study findings and discuss these relative to the current state of the art, addressing implications for theory and practice.

2 Background

2.1 Human Resource Management

HRM concerns organizational activities related to the management of people at work [30,34]. This includes external activities such as recruitment and selection, and internal practices related to training and development, motivation, employee wellbeing, and design of work. The HRM department can also be a part of strategic and operational managerial activities such as change management and employee branding [28,34].

One of the main concerns of the HRM function is to deliver value to key stakeholders, including employees, line managers, external customers and investors [30]. Due to the demands of both strategic contributions and cost-effectiveness, the HRM department is now seeking to reduce time spent on administrative tasks and strengthen the role as strategic business partner and change agent [34].

To support transition towards strategic HRM, routine HRM tasks are increasingly supported by digital solutions and automation [24,34]. Digital HRM solutions are also held to potentially improve HRM service provision [4]. However, there may also be challenges in implementing digital HRM solutions; such solutions do not necessarily lead to a positive change for HRM [24] and HRM departments may experience difficulties in adopting new technologies [4]. Hence explorations of chatbots in support of the HRM function will need to consider both potential benefits and challenges.

2.2 Chatbots for Organizational Purposes

Chatbots have been described as the artificial intelligence (AI) application with the broadest set of potential uses for HRM [19].

There are several reasons why chatbots are seen as an interesting to organizations. Chatbot may be convenient and efficient interfaces to information and services [6] and have also been marketed as “inexpensive to design, and quick to train” [19]. Due to the increasing volume of information, communication channels and applications, an essential advantage of chatbots for internal purposes, is the improvement of information management along with the automation of administrative and routine tasks [26,32].

Furthermore, the conversational interface may be seen as aligned with employee expectations of user experience and contribute positively to collaboration in the workplace [17]. Self-service through chatbots internal to the organization is also suggested to contribute to higher employee engagement [11,14,23], and is seen in relation to organizational reputation and employee branding where investment in modern technology is key to attracting the right knowledge and sustain employee engagement [1,23].

Although practitioners point to potential benefits of chatbots for organizational purposes, others note that the technology is still in an early stage and that uptake of chatbots for internal purposes is not yet widespread in organizational settings [1,5,26]. For example, some note that such chatbots need continuous training and human supervision, and output is limited to available content [1]. Furthermore, implementing a new technology is not only dependent on the system or tool itself; 'people factors' such as organizational culture, habits and attitudes are shown to have significant impact on the adoption of technologies [4]. Similarly, it has been argued that chatbots possess specific and special characteristics and that therefore it is important to gain understanding of their acceptance in the organizational context, as well as an understanding of the employee needs and expectations [5].

2.3 An Organizational Perspective on Chatbots?

Chatbots have been studied extensively from the perspective of user needs, behaviour and experiences [e.g. 15,22], from the perspectives of design and implementation [e.g. 2,18], and with regard to technology underpinnings such as dialogues systems and natural language processing [25]. However, while an important aspect of successful chatbot uptake is their organizational implementation and maintenance [20,35], there is a surprising lack of research on the organizational aspects of chatbot.

Syvänen and Valentini [29] accentuated this point in their state-of-the-art analysis covering more than 60 articles on chatbot research. They found studies on implementational, marketing-oriented, and interactional aspects of chatbots to be dominating, and studies of organizational aspects of chatbot implementation to be remarkably absent.

Meyer von Wolff et al. [26] made a complementary observation in their literature review of chatbots in support of the digital workplace. Emerging research on work-oriented use of chatbots was found mainly to concern information acquisition, self-service, and the use of chatbots for education and training tasks. The authors pointed out as important future research challenges the need to understand the application areas viable for chatbots at the digital workplace, the need to understand prerequisites for such application areas, and factors supporting and inhibiting workplace use of chatbots.

Drawing on the field of digital HRM support, an organizational perspective on new technologies to support digital work may enable insight into the consequences of the technology. Research indicates that operational (cost savings and efficiencies) and relational (HRM service quality) consequences of digital HRM support is more steadily obtained [3,13,27], while several authors point to a lack of evidence concerning transformational consequences [4,13]. Research addressing the organizational perspective of chatbots may benefit from addressing consequences at all three levels.

3 Research Questions

In order for chatbots to provide support and create value for the HRM function as well as the organization as a whole, it is important to study the interplay between the chatbot and the HRM personnel and gain empirical insights into central factors in this organizational change initiative. In response to the identified gap in the literature concerning organizational use of chatbots in general, and chatbots supporting the HRM function in particular, the following research questions were formulated:

1. How can a chatbot support the HRM function?
2. How does the implementation of a chatbot affect the HRM function?
3. How does organizational characteristics impact the implementation and use of the chatbot to support the HRM function?

Given the limited research available on chatbots as HRM technology, the research questions were set up so as to encourage an exploratory investigation.

4 Method

4.1 Research Design

While previous work has suggested potential benefits of chatbots to the HRM function, there is a lack of empirical knowledge on how chatbots actually support and affect this function, and the resulting interplay between the technology and the HRM practitioners. In consequence, the study applied a qualitative exploratory approach. The data-driven

investigation afforded by this approach is valuable to investigate new areas of interest where there exists little prior knowledge.

Data collection was conducted through semi-structured interviews with HRM practitioners who held a role connected to an HRM chatbot. Semi-structured interviews are particularly suitable when the research focus concerns experiences connected to the phenomenon under study [33]. To gather the needed insights, data was collected from organizations that had already implemented a chatbot to support the HRM function.

4.2 Participants and Recruitment

Ten organizations that had implemented a chatbot for internal purposes were onboarded for the study through two collaborating chatbot providers. The organizations were all Norwegian, which is beneficial as Norway has relatively high levels of digitalization and findings here may also be relevant for other digitally advanced markets [12]. Nevertheless, the organizations represented a broad spectrum of enterprises across several market sectors and with varying size – from a few hundred to several thousand employees. The criteria for onboarding were that (1) the organization had already implemented or in the process of implementing a chatbot and (2) the chatbot was implemented for internal purposes and mainly belonged to the HRM function.

From the participating organizations, 13 participants were sampled through email with an invitation to participate in the project, based on their role in the organization and their role connected to the chatbot. The participants represented a broad range of experiences with the HRM chatbot, which was regarded as beneficial for data saturation considering the general exploratory approach of the study.

Ten of the participants worked directly with the chatbot at the time of the interview, three of them had worked with it previously. Seven of the participants reported that they had been involved with the chatbot project from the beginning, and some had held the role of project leader or driver of the chatbot initiative. The remaining six participants had not been involved in the early implementation phase and had only received chatbot responsibilities at a later point in time.

The participants represented organizations with different maturity in their chatbot implementation. For most, the chatbot had been implemented for one year or more – for a few, the chatbot had been implemented only months prior to the interview.

4.3 The HRM Chatbots

The chatbots in the participating organizations were retrieval-based, able to identify and respond to several hundred user intents on topics such as employment policies and regulations, aspects of the organization, and – in some – also facility management. By AI-based natural language processing, the chatbots predicted user intents from users' free text messages. Chatbot conversations could involve one or more user messages and chatbot answers could typically be refined through buttons with response alternatives.

In terms of chatbot implementation, the participating organizations had taken one of two different approaches. Although based on the same conversational platform, one approach was bespoke development of chatbot content, training, and integrations within

the organization, the other approach was to get the chatbot provided as a service from a third-party vendor. The first approach will be referred to as *inhouse chatbot*, the second to *chatbot as a service* respectively. It is worth noting that these different types of chatbots account for parts of the variations observed in the participants' reports.

4.4 Interview Guide and Process

The interviews were conducted by the first author by way of video meetings. All interviews were recorded and transcribed prior to analysis. Participation in interviews followed only after informed consent, data were treated confidentially and anonymized following analysis, and the study was cleared by the relevant privacy regulatory body.

The interview guide consisted of four main topics with more detailed follow-up questions belonging to each of these.

- *Topic 1: The participant's role and experiences connected to the chatbot.* The purpose of this topic was to make the participant confident in the interview setting and share openly and generally about chatbot experiences.
- *Topic 2: The operational interplay between the HRM function and the chatbot.* These questions sought to explore the interplay between the HRM practitioner and the chatbot in greater detail. This included past and current experiences, as well as perceived possibilities and limitations.
- *Topic 3: How the implementation of an HRM chatbot affects the HRM function.* The purpose of this topic was to explore how the chatbot affects the HRM function. This included ways in which the chatbot has altered HRM work and how the chatbot is perceived by users in the organization, along with expectations regarding future chatbot impact.
- *Topic 4: Organizational conditions that can promote or inhibit successful implementation.* This topic addressed what the participants perceived to be relevant or impactful organizational aspects for a successful implementation of the chatbot.

4.5 Analysis

The qualitative data were made subject to a reflexive thematic analysis [7,8]. In this approach to thematic analysis, the researcher's subjectivity is an important analytical resource, as is reflexive engagement with theory, data and interpretation. Coding is open and organic, and themes are developed iteratively throughout the process [8].

The analysis was conducted by using the analysis software Nvivo12 and was completed in a six-phase process detailed in Table 1.

Table 1. Phases of the thematic analysis employed, including details and selected examples

Phase	Details	Examples
1. Familiarizing with the data.	Transcription and initial review. Ideas for themes	An early theme idea concerned the allocation of tasks between HRM and information technology (IT) personnel.

2. Generate initial codes	Initial coding. Revision of codes in several iterations.	An initial code concerned experiences with the chatbot, and was split into several more detailed codes.
3. Search for themes	Codes systematized in themes.	Codes concerning tasks associated with chatbot implementation grouped in overarching theme.
4. Review themes	Review and reworking theme conceptualizations.	A theme concerning tailoring information support was reconceptualized as concerning chatbot support, rather than experience.
5. Define and name themes	Labelling of themes to reflect data-driven conceptualization	Theme labels changed from concerning chatbot characteristics to concern impact of characteristics.
6. Produce the report	Rich description of the themes and findings provided	Themes and findings provided in report and condensed in this paper.

5 Results

In the results section, we first provide an overview of findings concerning organizations' motivation for HRM chatbot implementation, before detailing findings related to the three research questions.

While the study is purely qualitative, it may be useful to the reader to get an indication of the prevalence of the different themes within the participant sample. To facilitate this, the following phrases are used when reporting the findings: a few (reported by 2-3), some (reported by 4-5), many (reported by 6-8), most (reported by 9-12).

5.1 Organization's Motivations for Taking Up a Chatbot for the HRM Function

The organization's motivations for taking up an HRM chatbot were reported to concern both strategic and operational aspects.

Key strategic motivations concerned the internal users and their experiences when approaching HRM information services. Many of the participants noted that the user perspective was central when considering how the HRM function supports the organization and the employees, and that information regarding employment conditions and relationships should be easily accessible and available. Furthermore, many of the participants expressed that the implementation of a chatbot can contribute to HRM being perceived as technologically advanced, which ultimately may establish an experience of the HRM function as modern and user-oriented. Many of the participants also noted that by reducing the amount of routine and administrative tasks for HRM personnel, they may contribute more to developmental activities and other strategic initiatives.

Key operational motivations concerned administrative efficiency and automation to free up time for value-adding tasks for HRM personnel as well as employees and leaders. Many participants reported to see the chatbot as a tool to relieve the HRM function of high volumes of inquiries and increase self-service in the organization.

5.2 How the Chatbot Supports the HRM Function

Throughout the interviews, the participants reported on how the chatbot supports the HRM function in their daily tasks and routines, by relieving HRM workload and enabling HRM to provide better service to the organization.

Relieving the HRM Function. All participants reported relieving HRM workload to be a key benefit of the chatbot, and the most important way in which the chatbot support the HRM function. Such relief may manifest in reduced volume of inquiries and more time for HRM personnel to focus on more complex, human matters.

Most of the participants noted that the chatbot has a visible effect on the volume of common requests received by HRM personnel. The participants pointed out that all questions and queries answered by the chatbot represent a phone call, email or knock on the door that the HRM function do not have to engage with or get interrupted by.

“[the chatbot] answers questions [...] that have a concrete answer. For example vacation, salary, so things that are regulated. That’s a big area that he can answer. And then those routine questions, right. Overtime and flexible working time and home office, for example” (P10).

Some made a particular note that the chatbot allows the HRM function to formulate a good answer to a question once, instead of repeatedly answering the same question.

“[...] I also feel that it saves a lot of time for us in HRM, because we get a lot of inquiries. That we instead of spending a lot of time on formulating an answer, we can just refer to the chatbot. Or you can find the answer there” (P9).

The participants also found the chatbot to be a potential support tool for them. Some reported that they frequently use the chatbot to quickly find needed information. A few also noted that the chatbot’s assistance during the first period as an employee in HRM had been helpful for learning about the organization and finding needed information.

“Yes, I use chatbot a lot myself. If I want some simple information that I’ve forgotten, whether it’s a post address or organization number [...]. These standard things that you don’t have written down anywhere” (P7).

Enabling the HRM Function to Provide Better Service. Although much emphasis was put on how the chatbot may relieve HRM work, it was also evident that the chatbot may support the HRM function by strengthening their service offering to employees.

Participants reported the chatbot to enable them to better tailor information to employees, as users' interactions with the chatbot provides rich insight into questions the employees have and how these are phrased. Some specifically noted that the chatbot logs offer insights into employees’ actual needs for information and support.

“And we go in and analyze what people actually ask about. Because we thought that everybody asked very generally. But people ask very concretely. [...] Ask about different things than we thought that they ask about” (P6).

A few participants reported on how the chatbot can be used in a proactive manner. For example, based on insights from previous seasonal questions in the chatbot, HRM can prepare answers for the coming season in advance.

The chatbot may also enable the HRM function to have increased focus on value-adding services. Specifically, participants reported that the chatbot makes it possible to do more of the core HRM work, including employee follow-up and increased attention to those in need of more in-depth assistance.

“[...] we can deliver better quality on the services to those who really need our help. Because those who really just wondered about something simple, they can get help from the chatbot” (P10).

Such core HRM work was sometimes referred to as a reason why a chatbot can never fully replace HRM personnel. The participant's considered the professional guidance and support that may be provided by the HRM function to be too complex to be provided by chatbot technology alone.

5.3 How the Chatbot Affects the HRM Function

Throughout the interviews, the participants described various ways in which the chatbot affects the HRM function. This concerned development of competences and skills, novel tasks, and the operational interplay between the HRM personnel and the chatbot.

Implications for Needed HRM Competences. The participants reported that the chatbot requires HRM personnel to acquire knowledge and different technological competences to be able to implement and manage the chatbot.

Specifically, the participants noted a need to learn the basics of the chatbot technology. That is, to acquire sufficient understanding and knowledge of how the chatbot learns to understand the user's intentions, as well as how to train and test the chatbot. In addition, some participants had undertaken courses to become ‘AI trainers’ – to take on the role of maintaining the chatbot content and prediction capabilities.

“[...] one took all the courses that were needed to both be a content designer and also really train the chatbot, because HR decided that we would do everything ourselves” (P4).

The degree to which the chatbot required HRM personnel to develop new technological competences varied between the participants. Some of the participants who work with an *inhouse chatbot* reported the acquisition of new knowledge and skills through courses as an essential part of the chatbot project. Conversely, some of the participants who work with a *chatbot as a service* reported the need to have an initial understanding of how the chatbot technology works to be able to test the chatbot and update the replies. As such, the different ways of implementing a chatbot may pose different requirements with regards to the skills and competences needed.

Implications for HRM Work Tasks. Key tasks associated with implementing a chatbot involved preparations for the implementation, training and testing of the chatbot, along with continuous updating and improvements of the content and answers. For example, all participants reported that the chatbot implementation implied some level of involvement in building or training and testing the chatbot. Some of the participants who work with a *chatbot as a service* reported most of the needed intents already to be pre-trained by the vendor and described their involvement in the training of the chatbot

as mainly limited to the implementation phase, as well as when the vendor creates new intents that need to be trained. Conversely, some of the participants who work with an *inhouse chatbot* reported training as a continuous task requiring substantial effort.

“[...] And not only are you supposed to train the chatbot, but it also needs to be maintained. [...] So that people don’t get the wrong answer” (P1).

Many of the participants noted that the chatbot needs to correspond with personnel handbooks or other forms of documents and web pages. Because of this, it is necessary to update chatbot answers whenever there are changes in organizational regulations, systems or handbook content.

“[...] it is a bit of extra work in terms of that I have to, if we are to update the personnel handbook, we also have to in parallel update his answer. [...] So that is something that I had to start doing. [...]” (P12).

Another new task associated with the chatbot implementation is the promoting of chatbot use. Most of the participants reported that a central part of working with the chatbot concerns the organization-internal communication about the chatbot and its content. This was also expressed as an essential success factor. Continuous promotion regarding the chatbot and the types of inquiries that it can fulfil were noted as crucial to change employees’ habits and to realize the full potential value of the chatbot.

“It is often nice and great if you implement it and then there is a ‘oh, how fun to use’, and then it’s maybe especially HR’s responsibility to make sure that people keep using him. [...]” (P13).

The Operational Interplay Between the Chatbot and the HRM Function.

Through the interviews, notions emerged regarding the participants' perceptions of a desired and functional distribution of tasks and roles between the HRM function and the chatbot.

Some of the participants noted that the chatbot typically answers easy, rule-based inquiries and, hence, serves as complementary support for employees to find information or complete specific routine tasks. Some described this as a service architecture with the chatbot as first line of support and where humans may provide support for more complex matters as second line.

“the chatbot becomes some kind of first line, and then HRM can become more of a second line [...] that answers more thoroughly regarding regulations and how we do things here then, maybe” (P8).

Building on this, some of the participants emphasized that the chatbot is intended as a supplement and not as a replacement of the HRM function. The still maturing chatbot technology and the human aspect of employee relations were noted as reasons for this. As such, the participants differentiated between answering routine questions, which the chatbot can do, and providing nuanced and tailored guidance to leaders and employees, for which human personnel is needed.

“There is always a need for someone who can give advice [...] the chatbot can present the alternatives, but we can give the advice, what is smart” (P10).

Some of the participants expressed this interplay in terms of future-oriented states, or what they wish to achieve with a full integration of the chatbot within the organization. The suggestive formulations may reflect an early stage of chatbot adoption, and the fact that such an interplay may take some time to establish.

"[...] I'm sure there is a lot that he can contribute with. And then I also think that you will never be able to replace the one-to-one dialogue with the employees, with a human. But I think that there are no limitations regarding different work tasks, it's just a matter of where you are in the development" (P7).

5.4 The HRM Chatbot in the Wider Organizational Context

The participants were also asked to report on their experiences regarding chatbot uptake, experiences of positive impact of the chatbot, along with perceived challenges.

Chatbot Uptake and Emerging Patterns of Use. Most of the participants reported a general positive reception when deploying the chatbot in the wider organization and experiencing how the internal users responded to the new tool. However, some participants noted a form of reluctance or resistance among some employees.

"[...] I experience it to be a bit divided. That many are satisfied and think that the chatbot is a resource, and some are a bit frustrated because they have higher expectations (to the chatbot)" (P9)

In terms of emerging patterns of chatbot use, the participants in particular reported on use for information on organizational policy and conditions of employment. This could include both general employee regulations as well as agreements and policies specific to the organization. The participants also reported on use for questions regarding holidays and vacations, different types of leave, work time, compensation, and company internal practices like insurances and pension – all considered typical high-volume HRM inquiries. Most of the participants also reported the chatbot to receive a high volume of questions regarding facility management (i.e., parking spaces, canteen, meeting rooms, etc.), other practical details connected to employment conditions (computers, access details, credit cards, etc.), IT, as well as where to find certain information.

"[...] topics connected to facility management, the facilities, premises, there are often a lot of questions from employees in a company there. How do I apply for a parking space? Questions about locker rooms [...] and access cards and canteen information, everything like that. [...]" (P2).

Some noted that employees often ask concrete questions about personal details like salary, a reported case in the case management system, or how many vacation days they have left. These typically are questions that the chatbot currently cannot answer.

Experiences of Positive Impact of the HRM Chatbot. Most of the participants reported that the chatbot contributes to HRM and other personnel related information being perceived as more available and easily accessible, as the chatbot is available day and night. The participants pointed out that this had a positive impact on the employees' experiences with HRM in terms of lessening frustrations associated with HRM personnel being in meetings or out of office.

“[...] And what is so good about the chatbot, is that [...] it is available twenty-four hours, not all people are. We have different countries, right, that people ask from, right. So when we’re off, somebody else goes to work. [...]” (P4).

The chatbot was also seen as motivating fair and just treatment of employees. Specifically, many participants noted that the chatbot functionality promotes a consistent and identical answer to every employee. The participants considered this to facilitate a consistent practice and an experience of the HRM function as modern and professional.

“[...] All employees in the whole organization get the same answer. And that this is, in a way, perceived as a unified practice. [...] So that is important. That there are no different answers to questions [...]” (P8).

Perceived Challenges During Chatbot Deployment. The participants also expressed challenges concerning the interaction between the chatbot and the internal users.

Most participants reported that different expectations of the chatbot and understandings of the chatbot technology could impact chatbot use in the organization. Such expectations concerned three different aspects. First, many noted employees to experience limitations in the chatbot scope, that is, to make inquiries the chatbot cannot answer. For example, that employees might ask questions concerning highly individual matters, suggesting their expectations may not fully be in line with the chatbot capabilities.

“The downside is that people expect him to be able to answer personal things. [...] This he won’t be able to do. So we’ve received some feedback on that now after the launch, that ‘but he couldn’t answer for example how many vacation days I have’.” (P11).

Furthermore, many participants pointed to differences between employee groups, and how different groups may hold preferences or habits that impact the use of the chatbot. For example, the participants noted that they to a certain degree perceive older employees to prefer interacting directly with HRM personnel, and that this employee group may be less accustomed to chatting as a way of acquiring information.

“We have a pretty high average age. So I think there are very many employees who might not use chat functions as much as maybe the younger part does.” (P1).

Finally, some participants expressed that the high frequency of changes in both systems and ways of working and communicating, can act as fatiguing factors that contribute to some employees being more hesitant about using the chatbot.

“It’s tiring for employees that there are new computer systems arriving all the time. [...] people can get kind of digitalization fatigue” (P10).

6 Discussion

This study aimed to explore the operational interplay between the HRM function and a chatbot implemented for internal purposes. In the following we first discuss key findings relative to previous research, structured according to our three research questions, before detailing implications for theory and practice. Finally, we discuss limitations and avenues for future research.

6.1 The Operational Interplay Between the Chatbot and the HRM Function

How Can a Chatbot Support the HRM Function? (RQ1). Our findings suggest several ways in which the chatbot is perceived to currently support the HRM function, in particular concerning accessible support for repeated inquiries. This corresponds to assumptions from the literature on digital HRM support, where operational outcomes of such support is typically reported [3,4]. However, the HRM chatbots were also found to provide relational outcomes, as the chatbot could enable the HRM function to provide better services for the organization. Additionally, factors such as the placement of the chatbot, the 24/7 availability of the chatbot, updated and right answers based on statistical insights, as well as equal treatment through standardized answers, were noted to contribute to improved communication and perception of HRM information and services. This corresponds to the general notion that digital HRM support should provide simplification of processes, provision of accurate data, and enhance the perceptions of the organization in order to positively impact HRM service quality (3,13).

How Does the Implementation of a Chatbot Affect the HRM Function? (RQ2). The findings show how the chatbot requires the building of internal competences, skills, and knowledge regarding the chatbot technology. This echoes literature on adoption of AI technology, where it is noted that development and upskilling of employees are essential to work successfully with AI [9,31].

The findings of the current study indicate that a potential interplay between the HRM function and the chatbot can be characterized by the chatbot managing routine employee inquiries, and HRM professionals keeping the chatbot relevant and valuable as well as counselling employees and leaders in non-routine and complex cases.

It is also interesting to note the need for HRM personnel to serve as internal marketers of the chatbot. In the literature, internal marketing in terms of system functionality, positive word of mouth and a system advocate that maintains enthusiasm for the new implementation is seen as critical for implementation success [4].

How Does Organizational Characteristics Impact the Implementation and Use of the Chatbot to Support the HRM Function? (RQ3). The organizational characteristics may impact how a chatbot supporting the HRM function is received. One example of this from the findings is the reported variation between employee groups in terms of enthusiasm for the chatbot. Another, the concern for fatigue when having too many digital change projects internally. Managing 'people factors' was considered essential for successful digital HRM support [4]. The findings also resonate with the chatbot literature, as user acceptance and managing user expectations are considered fundamental to effective (?) chatbot use [16,22]. Furthermore, Bondarouk et al. [4] proposed that length of employment can impact willingness to take up new technology. Similarly, different demographic groups have been found to perceive chatbot user experience differently [15].

6.2 Implications

Several implications may be drawn from the findings. We consider the following key.

Implications for Theory. The findings contribute to reducing the knowledge gap concerning chatbots in the enterprise context, specifically concerning the operational interplay between chatbots and the HRM function. Furthermore, chatbots have been reported to have various potential areas of use within the HRM function, and this study expands the literature by providing empirical insights regarding experienced chatbot support, challenges, and opportunities from the perspective of the HRM function. Lastly, the findings of this study also contribute insight into the importance of people factors in chatbot implementation and use.

Implications for Practice. The insights provided by this study may contribute to a better understanding of the factors that need consideration when an organization or HRM function seeks to adopt a chatbot. The findings may inform project planning and adoption of future chatbot implementation, as the study gives an overview of what it requires in terms of time, resources, as well as the scope of the chatbot content. This includes concrete tasks associated with the chatbot, where key takeaways concern the importance of internal marketing and sensitivity to user demographics. Other useful findings relate to how the chatbot is being used, and how many employees seek to use the chatbot in a way that is not yet realized (e.g. for concrete and personal inquiries).

6.3 Limitations and Future Work

A key limitation in the study is that it is conducted within one country, Norway, and mainly with organizations already having substantial experience with chatbots at the time of the study. The benefit of this study context is that there is a relatively high acceptance of new technology, and the participating organizations were mostly well-established users of HRM chatbots. However, findings in this study context may not be transferred directly to contexts that are highly different, for example in terms of technology uptake and use. Future research could therefore explore HRM chatbots in other contexts and types of organizations.

Furthermore, the study is based on interviews with HRM personnel only. Hence, it does not provide direct access to the perspectives of other users and stakeholders, something that limits the findings on the organizations' motivations for taking up a chatbot and on its wider organizational reception. Future research may benefit from including other users and stakeholders to gain a more comprehensive understanding of different factors affecting the implementation of the chatbot, and further explore how the chatbot can support the HRM function. Such studies could benefit from including data both on actual chatbot conversations, as well as data from users and stakeholders through interviews or questionnaire surveys.

Finally, this study only represents a single point in time for each of the participating organizations. Because of this, there is limited insight into any long-term developments of relevance for chatbot impact and use. Therefore, we foresee future research to include longitudinal studies investigating how the operational interplay between the chatbot and the HRM function develops over time.

Our study contributes an initial exploration of an important topic. We hope the findings encourage future work in this increasingly important area of chatbot research.

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