Chatbots for Customer Service: User Experience and Motivation

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ABSTRACT

Companies are increasingly using chatbots to provide customer service. Despite this trend, little in-depth research has been conducted on user experience and user motivation for this important application area of conversational interfaces. To close this research gap, we interviewed 24 users of two chatbots for customer service. Our results demonstrate the importance of such chatbots to efficiently provide adequate answers in response to simple enquiries. However, our results also show that the occasional lack of adequate answers does not necessarily produce a bad experience, as long as the chatbot offers an easy path for follow-up with human customer service representatives. In contrast to what is suggested in the existing literature on users' perceptions of conversational agents, this study's participants demonstrated realistic expectations of the chatbots' capabilities. Furthermore, we found that the human likeness of chatbots for customer service, while potentially of some relevance for user experience, is dwarfed in importance compared to such chatbots' ability to efficiently and adequately handle enquiries. As such, our findings serve to complement and extend current knowledge. On the basis of our findings, we suggest implications for theory and practice and point out avenues for future research.

KEYWORDS

Chatbot, customer service, user experience, user motivation, interview study

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1 Introduction

There is substantial interest and engagement concerning conversational user interfaces for customer service. In particular, there has been a surge in service providers exploring and implementing text-based chatbots as a first line of support for customers seeking help and information. The successful uptake of such chatbots may enable more efficient service provision [14], and it is predicted that one quarter of customer service operations world-wide will include chatbots by the year 2020 [16]. Technology providers, such as IBM and Nuance, showcase how chatbots for customer service enable companies, such as Autodesk [33] and Kaspersky Lab [29], to improve efficiency and performance in their service functions.

Given the relative importance of customer service in users' everyday lives, a broad uptake of chatbots for this purpose may be important in advancing users' overall acceptance of conversational user interfaces in general. However, attaining a broad uptake of chatbots for customer service will depend on whether customers perceive these as valuable and useful [15]. Chatbots for customer service will only enjoy sustained relevance and interest if they generate good user experience and represent value propositions that motivate users to engage in repeated interactions.

In this context, one might expect user experience to be a prioritized research topic in the literature on chatbots for customer service. However, research providing in-depth insight into user experience and user motivation for such chatbots is severely limited. This is problematic since the successful development and implementation of chatbots for customer service require such insight. Furthermore, this insight would also be valuable to the broader research field of conversational user interfaces due to the prominence of chatbots for customer service in this field.

To address this research gap, we conducted interviews with 24 users of chatbots for customer service to gain an in-depth understanding of their experience and motivation. In doing so, our study contributes to closing the aforementioned limitation in previous research and adds to the emerging body of knowledge on user experience and user motivation for conversational user interfaces in general.

This paper is structured as follows: first, we present relevant background on chatbots for customer service and related studies on user experience and motivation. On this basis, we present our

research questions, detail the study method, and provide an overview of key findings. Lastly, we discuss the findings relative to previous work, summarise key implications for research and industry, point out study limitations, and suggest future work.

2 Background

2.1 Customer Service: Definition and Trends

We define customer service as the provision of information and assistance to the users of a service provider. Customer service may be designed to strengthen users' engagement with the service provider and increase company revenue or merely to provide users required help and information [17]. The performance of customer service operations is closely associated with user experience [18]; inadequate customer service likely leads to dissatisfied users and reduced customer loyalty [10].

Service providers have long sought to reduce customer service costs through automation and self-service technologies. The trend towards cost-cutting in this domain has raised concern among researchers and practitioners, as one-sided cost-cutting initiatives potentially lead to what is referred to as a 'race to the bottom' [31], in which service levels are reduced almost to the point of dysfunction for the purpose of cost reduction.

Gorry and Westbrook [19] argued that insensitive use of automation and self-service technologies could cause users to perceive a company as opaque, while also reducing customer service representatives' abilities to empathise with users. At the same time, users do appreciate the potential benefits of automation and self-service technologies, such as reduced costs, increased efficiency and availability in the service, and service offerings that, at their best, may outperform even manual customer service, that is, customer service performed by human company representatives [27]. Thus, automation and self-service technologies may have both positive and negative effects on customers, leading to what may be seen as a paradoxical situation where the same self-service technology can be a source of both help and disorientation; a tool that both fulfils needs and creates them [23].

Surprisingly, the increased availability and sophistication of self-service technologies may not lead to a corresponding reduction in users' need for manual customer services. Dixon et al. [10], for instance, surveyed more than 75,000 customers on their most recent mediated interactions with manual customer service, finding that for more than half of such interactions, customers had first visited the service providers' online self-service options. It is also interesting to note that during the same period in which online self-service has evolved, there has been a global increase in call-centre demand [5]. This indicates that people, despite the growing availability of self-service options, still need to be assisted by customer service personnel.

2.2 Chatbots for Customer Service

For the last two decades, chatbots have been explored as a means to strengthen customer service. While such chatbots have seen substantial development throughout this period, the interest in chatbots for customer service seems to have come in two waves. The first wave, in early 2000, concerned so-called 'virtual agents' set up to respond to frequently asked questions [21, 24, 25]. The second wave, with onset circa 2016, has been driven by conversational initiatives from big tech companies, such as Microsoft, Facebook, and Google [13], and the maturing successes of Apple's Siri and Amazon's Alexa [9].

In this second wave, progress in artificial intelligence and natural language processing promises substantial improvements in chatbots' interpretational capabilities relative to those of the first wave. These technological advances suggest a renewed potential for chatbots in customer service. Consultancy and advisory companies, such as CapGemini [6], Oracle [30], and Forrester [2], have forecasted that chatbots will become an important part of customer service in the foreseeable future.

Still, the limitations of contemporary chatbots have tempered the most recent forecasts in the customer-service realm. The importance of making implementation strategies sensitive to the strengths and limitations of chatbot technology is accentuated [37]. Moreover, it is recommended to implement chatbots for customer service in ways that allow for escalation to manual customer service when needed; a so-called 'tiered' approach [22].

2.3 User Experience and Motivation for Conversational User Interfaces

Little research has been presented to provide in-depth insight into user experience and user motivation concerning chatbots for customer service. However, some survey-based industry reports exist [e.g., 4 11, 14]. Forrester [14] surveyed more than 7000 individual users of customer service and found that a larger proportion were satisfied with manual chat-based customer service (60%) than with customer service from what Forrester referred to as text-based virtual agents (50%). Forrester also identified key drivers of positive and negative user experience in interactions with such agents. Specifically, the agents' efficiency and availability were considered as positive, but their perceived inability to handle complex requests (47%) and a sense of being forced to interact with a virtual agent when this was not wanted (40%) were seen as negative. Nearly half the respondents (46%) reported that they wanted human-like virtual agents, with human-like visual presentations, for more personal experiences.

User experience in chatbots for marketing, which is related to chatbots for customer service, has been the subject of some scientific research. Chung et al. [7] studied user responses to chatbots for luxury brand marketing on messaging platforms and found satisfaction with the chatbot to be correlated with perceived accuracy and credibility. Zarouali et al. [39] found users' perceptions of a brand, following their use of a marketing chatbot, to be predicted by the perceived helpfulness and usefulness of the chatbot, as well as emotional components of the experience. It should, however, be noted that the context of use for marketing chatbots differ somewhat to that of customer service chatbots, as the former typically concern providing information on service offerings while the latter often is used to resolve users' specific problems.

There is also an emerging body of research on user experience and user motivation for conversational user interfaces in general.

User experience for virtual assistants, such as Apple's Siri and Amazon's Alexa, have been investigated in several studies. These studies have found that users often hold expectations out of step with assistants' actual capabilities [26] and struggle to interact with assistants in their everyday environment [32].

Furthermore, several studies have addressed the relation between the appearances and personalities of conversational user interfaces and user experience and preference. Murgia et al. [28] studied human–chatbot interaction on a question–answer website and found users' perceptions of the chatbot to depend on its self-presentation as human or machine. Thies et al. [36] and Smestad and Volden [34] found that users prefer socially oriented or engaging chatbot personalities to those that are more neutral or information-oriented. Araujo [1] found that anthropomorphic cues in chatbots may strengthen users' emotional connection to the company. Finally, de Visser et al. [8] showed that conversational agents which are more human-like may have higher trust resilience than less human-like agents; that is, these more human-like agents may be more trusted by users in situations characterised by deteriorating reliability in the information provided by the agent.

It should be noted, however, that all of these studies were conducted in laboratory settings where the participants did not interact with the chatbots as part of their everyday interaction with service providers. This might influence user experience and provide a less realistic perspective on how such conversational agents are perceived by users in an everyday context.

Lastly, users' motivations for using conversational user interfaces have also received some attention. In a survey study of chatbot users, Brandtzaeg and Følstad [3] found productivity to be the main motivating factor for chatbot use, while emotional and social factors were important motivators to some. Likewise, Zamora et al. [38] found that users of conversational agents mainly saw these as a means to help with administrative and simple, practical needs, such as scheduling, issuing reminders, and providing information updates. However, they also noted users' interest in such agents as a possible means to fulfil emotional or relational needs.

3 Research Question and Directions of Exploration

The presented background shows a research gap concerning in-depth insight into the user experience of chatbots for customer service and users' motivations to use such chatbots. There is a need to close this gap to better understand how such chatbots should be designed. For this purpose, we developed the following research questions:

RQ1: How do users experience chatbots for customer service?

RQ2: What are users' main motivations to use chatbots for customer service?

Existing research on conversational user interfaces suggests the importance of investigating user experience with a sensitivity towards the possible mismatch between what users expect the chatbot can do and its actual capabilities, particularly concerning its capabilities for resolving practical tasks. Furthermore, user experience should be explored with regards to the importance of chatbot self-presentation and appearance as well as the chatbot's potential for emotional engagement with the user.

User motivation will likely be oriented towards a wish for efficient and accessible assistance, but it may also be of interest to gain insight into users' expectations and desires for future extended capabilities in chatbots for customer service.

4 Method

To comply with the explorative approach suggested by the research questions, we conducted an interview study involving users of chatbots for customer service.

4.1 Participant Recruitment

It was deemed important that the study participants had recent, real-world experiences with chatbots for customer service. To allow for this, all participants were recruited during their dialogue with one of two different chatbots for customer service. This recruitment process was enabled through interaction with the chatbot owners. The chatbots could provide information about the study at the beginning of the dialogue with the user or at the end in response to the users' closing comment.

Users interested in participating clicked a designated button in the chat dialogue to learn more about the study. They were then directed to a website with more information and an option to register for the study. Upon registration, participants were contacted via text message to schedule a time slot for the interview. We then conducted the interview over the phone. The timespan between the participants' interaction with the chatbot and the interviews ranged from a few minutes to a few weeks, depending on the availability of the participant. About half the participants (46%) were interviewed the day of the interaction, 25% were interviewed the day following the interaction, and 16% the remainder of the week following the interaction. Only three participants were interviewed later than one week following the interaction. The interviews lasted 15-25 minutes. As incentives, all participants received gift cards valued at €30. The recruitment and data collection process is presented in Figure 1.

Figure 1: The recruitment and data collection process

The study was designed to comply with ethical norms for research and privacy regulation. Participation followed informed consent and all interview data were anonymised following transcription. The study was approved by the relevant institutional body following a check of its compliance with privacy regulation.

4.2 The Chatbots

We used chatbots from two service providers to recruit participants. Both chatbots provide information and assistance in response to enquiries about the service providers' offerings. Both chatbots greet the user in a similar way: by providing a brief welcome message and information about the chatbot before inviting the user to state their enquiry in free text. The enquiry is then interpreted as corresponding to one of the several thousand intents available in the chatbots, and a corresponding answer is provided. To get an answer, the user often has to respond to a series of follow-up questions by selecting between the options of a branching dialogue tree. Answers are typically provided as text with links to more information or self-service on the company website. In situations where the chatbot cannot answer the enquiry, or the user is not satisfied with the answer, the chatbot can escalate the conversation to a human customer service representative.

One of the chatbots had a human-like name, female gender, and a female avatar. The other had a robot name, no gender, and a robot avatar.

Both chatbots operated in the Norwegian consumer market, and all but two interviews were conducted in Norwegian; the other two interviews were conducted in English. The Norwegian consumer market is a highly relevant context for this study because of its high levels of internet penetration and uptake of smartphones; 92% of the population (age group 16–79) use smartphones for private purposes [35]. In addition, service providers in Norway have been relatively enthusiastic in their uptake of chatbots for customer service. Such chatbots have become commonplace in telecom, banking, insurance, travel, and the energy sector. Also, a number of Norwegian municipalities have taken up chatbots to provide information services to citizens.

4.3 Interview Guide and Analysis

The interviews were semi-structured and the interview guide addressed three main topics:

- **Details on the participant's recent interaction with the chatbot:** purpose of the interaction and details on the dialogue, and (if relevant) subsequent interaction with the service provider.
- **Experiences with the chatbot and comparison of this experience with the experience of interacting with customer service through other channels:** previous experiences with the chatbot, perceptions of the chatbots' appearance and self-presentation, and reflections on why and when the participant would use the chatbot rather than (a) the self-service options in the company website or (b) manual customer service by chat or phone.
- **Future areas of use for chatbots in the context of the service provider:** how to strengthen the current level of support, and how to extend the offerings available through the chatbot.

For all topics, participants were encouraged to report freely on their experiences, thoughts, and perceptions, while keeping to the structure of the interview guide. All interviews were audio-recorded and transcribed. Participant demographics (gender and age) were gathered in the sign-up questionnaire.

The interview transcripts were subjected to a thematic analysis [12] in which a set of codes was identified through a data-driven process. Coding was conducted by the first author of the paper. The coding was reviewed by the second author. A total of 24 participants were interviewed which is reckoned a sufficient number to reach saturation [20] in the sense that adding more participants will likely not yield substantially different findings. Following analysis, saturation was demonstrated by comparing the proportion of new codes motivated by the first 25% of the interviews (>60%) with the proportion of new codes motivated by the last 25% of the interviews (<15%).

5 Results

In the results section, we will first provide an overview of the participants and their immediate user experience with the chatbots. We will then present our findings concerning the participants' perceptions of the chatbots' capabilities, their reflections on the chatbots' appearance and self-presentation, and their motivations for using the chatbots. Finally, we provide an overview of the participants' suggestions for future developments of the chatbots.

Throughout the results presentation we provide details on the number of participants who reported or reflected on different topics. This is not intended as a quantification of our qualitative findings but to provide the reader with a sense of how prevalent the different topics were in the interviews.

5.1 The Participants and Their Immediate User Experience

The participants' ages ranged from 18–76 years (mean = 40; SD = 15). Thirteen participants identified as female and 11 as male. All had contacted the chatbot concerning a specific service enquiry except two who interacted with the chatbot merely to try it out. One of these latter participants did not have an established relationship with the service provider, whereas the other tested the chatbot while logged onto the self-service section of the company website. Most of the participants (20) had their first encounter with the chatbot when they were invited to the study. However, more than half (13) had previously used chatbots for customer service.

5.1.1 The Participant Enquiries. The participants reported on a range of different enquiries to the chatbot. The majority of enquiries (16) were simple requests for assistance or information relative to a task the user was trying to solve, such as support concerning login, help regarding aspects of a specific service or offering, or help finding a self-service option or specific piece of information on the company website. This is exemplified in the following user quote:

> [I contacted the chatbot] as there was a new layout in the customer service website, and I could not find [the specific service I was looking for] (P1).

Six of the participants made enquiries concerning orders or potential purchases. These were typically more complex and involved more deliberation on the part of the user, for example when deciding which offering best matched the users' needs. Two of these participants had enquiries concerning the placement of an order. The remaining four sought information and advice regarding service offers they were contemplating or had already ordered. The last two were testing the chatbot and their enquiries are thus not relevant in this context.

5.1.2 Successful Enquiries? The participants reported they were reasonably successful in their enquiries. Nine had their enquiries resolved through the information provided in the chatbots' dialogue, and five had their enquiries resolved by following links to the required self-service option on the company website. Eight were unsuccessful, and five of these contacted manual customer service upon the chatbots' suggestion; their enquiries were resolved at that stage. Lack of success was due either to the participants not understanding the information or advice provided by the chatbot (2) or to the chatbot not having the features needed for handling the specific enquiry (6); the latter typically due to the complexity involved in handling these requests. Unsuccessful interactions with the chatbot were not necessarily reported as unsatisfactory by the participants, provided they were able to pursue their enquiry with a human customer service representative. This point is exemplified in the following quote:

> When I had asked the same question two different times [...] without getting help, [the chatbot] suggested I contact a customer service representative. I did, and everything worked out. (P8)

5.1.3 Positive and Negative Perceptions of the Chatbot. When reporting on their experience with the chatbot, the participants typically described it as fast or efficient (15) and that it provided simple help in an easily understandable manner (15). The participants also reported an appreciation for how the chatbot complemented its textual answers in the chat with links to more information or to specific self-service options on the company website (11). This is exemplified in the following quote:

> I find it useful that when you ask, you do not get just an answer, but [the chatbot] actually also gives you a link [...] which I can click to get taken directly where I should go. (P13)

The participants also reported on problems or negative aspects of the chatbot, though to a lesser degree than they reported on positive aspects. Six of the participants noted that they would prefer interacting with a human rather than a chatbot. This preference was related to factors such as wanting to have the option of contacting manual customer service directly or to get a higher degree of personalisation in the service provided. Four were concerned about security aspects regarding a chatbot for customer service. The following quote exemplifies participants' perceptions of possible risks when using chatbots for tasks that require sensitive information:

> [...] you have to give your social security number, and some might be very good at hacking and manages to get into the system. Then you might be in big trouble. (P8)

Two participants reported on difficulties in being understood by the chatbot, two were not satisfied with being led to further information on the self-service options on the company website because they wanted an answer immediately and without having to look further themselves, and two did not see chatbots as providing any value apart from what's offered on a company website or from contacting manual customer service.

5.2 User Perceptions of Chatbot Capabilities

To our surprise, the participants' understanding of the chatbots' capabilities was very much in line with the chatbots' actual capabilities. Nearly all (19) considered the chatbot with which they had interacted, capable of handling simple requests and did not expect it to have capabilities resembling that of a human customer service representative. The participants typically noted that the chatbot was meant for enquiries that can be answered in a straightforward manner, and for questions which users are able to precisely formulate.

The participants noted that the chatbot was not likely to perform satisfactorily in cases where answers require expert deliberation or when users do not have a precise question due to limited domain knowledge. For such complex enquiries, it was expected that a human customer service representative would be required, as exemplified in the following quote:

> If I am not certain what to ask, I need to chat with a person [...] When asking [the chatbot], it should be something simple and clear. (P8)

The participants did view the chatbot as a potential substitute for human customer service representatives, but only for enquiries that are simple and straightforward. For such enquiries, most participants said they would consider using chatbots before contacting manual customer service, as exemplified by the following quote:

> If I run into problems, I try [the chatbot] before calling support. (P2)

This ability to adequately acknowledge the chatbot's capabilities also extended to some of the participants who had issued more complex enquiries to the chatbot. These participants reported to be aware that they were pushing the boundaries of the chatbot's capabilities when presenting a complex request but nevertheless did this because the required effort involved in using the chatbot was seen as low.

5.3 User Reflections on Chatbot Appearance and Self-presentation

The participants were asked to reflect on the chatbot's appearance and self-presentation. Interestingly, the participants mainly reflected on how the chatbot appeared and presented itself through dialogue, rather than the chatbot's visual appearance and persona. In particular, the participants noted that the chatbot provided simple and easy to understand information and explanations (15); the participants also said they considered the chatbot's conversational style to be friendly and polite (11).

It was clear to most participants that they were interacting with a chatbot and not a human customer service representative. Half (12) reported to immediately recognize the chatbot as a machine, as illustrated by the following quote:

> It has a human likeness to it [...], but you do get it, that it is a machine. (P2)

Other participants (7) reported that they rapidly, but not immediately, understood that the chatbot was a machine. The recognition of the chatbot's machine identity was attributed to factors such as fast responses, lack of personalisation, and repetitious responses to greetings. Two of the participants, however, did not notice the chatbot being a machine prior to their interview with us. One of them described his experience as follows:

> I just assumed that it was a face behind this thing [...]. In my opinion it had to be a person that was writing. Machines now-a-days are quite advanced, so it is not impossible that it was a machine [...], but I did think I was talking to a human. (P7)

While both chatbots had avatar images (one a human-like figure, the other a robot-like figure), these visual representations were seldom made the subject of participants' reflections. Only a few participants (3) reported that they found the visual representations to be important to their overall experience. Others pointed out that they had noticed the visual representations but did not consider them important (3). The remainder (18) seemed indifferent to the visual representations.

Two of the participants that found the visual representations to be important, had interacted with the chatbot with a human-like avatar. One of these questioned the gendering of the chatbot avatar ('Why is it a woman?'), the other was concerned that a human-like representation could mislead users into thinking the chatbot had capabilities more advanced than it actually did. One of the participants that found the visuals to be important, had interacted with the chatbot with a robot-like avatar, and noted that this avatar could be useful as it signified the chatbot's machine-like nature.

This is not to say that participants did not appreciate the human-likeness of the chatbots – whether these had a human-like or a robot-like avatar. Many (13) reported that they found the chatbot to have a human-like appearance, and some (7) also reported this human-likeness to strengthen their user experience by adding an appealing touch to a robot assistant. The human-likeness of the chatbot was, however, discussed more in the context of the chatbot dialogue rather than its visual appearance.

> I find that when it is human-like, it is somehow more familiar. You understand it is clearly a machine, and I do not have a strong opinion on this. But clearly, it is easier to relate to something that uses the same language as yourself. (P9)

5.4 User Motivations for Chatbot Use

The participants were asked about their motivation for using the chatbot, and to reflect on when they would use a chatbot for customer service, as opposed to using self-service options on a website or contacting manual customer service. The participants reported the promise of efficient and accessible support as their main motivation (23) and accentuated the importance of the chatbot's immediate visibility on the company website (13), as exemplified by the following quote:

> [I used the chatbot] as this appeared as the first alternative. And I, to be honest, did not see an option to chat with a human. It was the chatbot that appeared as the primary and most efficient alternative. (P19)

When asked to compare the use of a chatbot to the use of the company website or to contacting manual customer service, the participants typically viewed the chatbot as an alternative to engaging with manual customer service (17). Specifically, the participants considered chatbots as an alternative to customer service for simple enquiries for which they expected a straightforward answer. In such cases, some participants reported that it is irrelevant whether they are served by a human or by a chatbot as long as they get the help they need (7). This was exemplified in the following quote:

> Whether the chat function is a human or a machine, this does not really matter to me. (P17)

The participants reported that they either did not like to use online self-service solutions (5) or that they wanted to spend as little time as possible seeking a solution on a company website (15). Apart from the two participants who were testing the chatbot, hardly any of the participants seemed to use the chatbot out of curiosity or out of a desire to try out new technology. Rather the majority of participants gave the impression of not being particularly interested in technology, or in spending much time using self-service systems if they could instead get help from customer service. This was exemplified in the following quote:

> I somehow believe in looking myself first. But I don't think, I did not look for very long before using the chatbot. We are talking seconds. (P6)

5.5 User Suggestions for Future Developments

While the participants' suggestions for future developments mainly concerned maintaining or improving the chatbot as a means for efficient assistance regarding simple questions and requests, some made interesting suggestions for future developments that represent new directions. Ten discussed the opportunity to engage in more complex advisory processes on service offerings. For example, the chatbot could recommend offers based on knowledge of the user or help deliberate which

offer is the best fit for a user's needs. This was exemplified in the following quote:

> Yes, it would be nice if [the chatbot] was extended so that it can help with more important things, [such as updating my current service agreement]. (P14)

Five discussed the option that the chatbot may support specific transactions rather than just relaying information. Specifically, these participants were interested in a functionality that resembles the integration of ecommerce options in a chatbot for customer service. This was exemplified in the following quote:

> Possibly [the chatbot] could help with changing the things [in your current services] that you want changed. (P13)

Others (2) reflected on the chatbot as a potential conveyor of tips and helpful content in addition to their role in responding to customer enquiries. Such content could, for example, be used to provide personalised information about new services or options.

6 Discussion

6.1 User Experience of Chatbots for Customer Service

Chatbots for customer service are used for a broad range of enquiries, typically simple enquiries that only require a straightforward answer, but also more complex enquiries that may involve deliberation and understanding of the users' context. Unsurprisingly, a chatbot's ability to efficiently answer simple enquiries was found to generate good user experiences. However, chatbots unable to provide adequate answers were not necessarily detrimental to user experience as long as they offered an easy path for following up the enquiry with human customer service representatives. This accentuates the benefit of so-called 'tiered' approaches to chatbots for customer service, in which the chatbot serves as a first line of support relaying unresolved enquiries to human personnel [22, 37].

The participants' appreciation of fast answers and easily digestible information in chatbot replies corresponds to findings in existing industry reports [11, 14]. However, the participants' appreciation for the links and references to online resources is an interesting addition to existing knowledge. Rather than devaluating chatbots for only providing content that is already available online, a substantial proportion of the participants reported an appreciation for a chatbot providing links to online resources, as this was seen as saving the user the time required to locate the information without such assistance.

While the existing literature suggests that users are often poor at assessing the capabilities of virtual agents [26, 38], our findings suggest that users of chatbots for customer service hold reasonably realistic expectations regarding the capabilities of such chatbots. The participants readily noted the chatbot as something different to human customer service representatives and typically saw the chatbot's capabilities as limited to simple enquiries requiring straightforward answers. A chatbot that can support complex deliberation was seen as something desirable for the future, not something available in the present. This realistic understanding of chatbot capabilities may be due to the fact that the studied chatbots pointed out that they could only help with simple enquiries at the moment of their initial self-presentation. Also, users' understandings may be supported by the immediacy with which they can assess the chatbot answer as adequate or not.

The importance of chatbot persona and visual appearance is often highlighted in the literature [1, 34, 36], in particular their human-like qualities and ability to engage users in a social and empathic manner. To our surprise, the chatbots' appearances were not a subject of much reflection among our study participants. Indeed, about half noted the human-likeness of the chatbots and their pleasant and polite tone of voice, but this was not considered important by the vast majority. In particular, there was a lack of consideration for the visual appearances of the chatbots. Rather, what was reported as important was whether users got help with their enquiries.

As this study is based on interview data, it cannot rule out that chatbot appearance may affect user experience in ways the participants fail to recall or acknowledge. Nevertheless, the findings clearly suggest that when providing chatbots for customer service, the main priority should be that the chatbot gives adequate assistance in response to users' enquiries. The design of the chatbot appearance surely may have some impact on user experience, but this impact is likely dwarfed in importance compared to the impact of the level of quality in the provided help and information. Concerning chatbot appearance, it seems more important to prioritise the provision of well-crafted informational content than the visual appearance of the chatbot.

6.2 User Motivations for Engaging with Chatbots for Customer Service

The participants' motivations for engaging with the chatbots were very much in line with the existing literature on motivations for using conversational agents. In particular, the participants' reported motivations concerning efficiency and availability of chatbots corresponded well with both previous research [3, 38] and industry reports [11, 14]. Getting answers that are easy to understand and assistance in finding online self-service resources, instead of having to wait in line or wait for customer service to open, were reported as key attractors to using chatbots for customer service. At the same time, the social or emotional motivators for use of chatbots and virtual assistants suggested in previous research [3, 38] were not found in this study. Apparently, the importance of social and emotional motivators is relatively low in the current context of automated customer service.

Possibly, the participants' motivations for engaging with chatbots in a customer service context provide a hint as to which user group is more likely to use this technology. The vast majority of the participants reported having little patience in looking for answers in the self-service section of a company website. A substantial proportion also reported to dislike reading up on online content. Hence, it may be speculated that the users

of chatbots for customer service are not necessarily early adopters of information technology or self-service solutions in general. Rather, users of chatbots for customer service seem to have a relatively low threshold for contacting manual customer service, and also to have a relatively low interest in online self-service options. If this is correct, chatbots for customer service, and the content they provide, need to be designed not with tech-savvy users in mind. Rather, it may be beneficial to design chatbots for customer service with a sensitivity towards users who have relatively little interest in advanced technology but instead desire efficient and readily available solutions to their problems.

6.3 Implications

We consider the main contribution of this study to be the findings already presented and discussed. On the basis of this contribution, we point out possible implications for theory and practice.

6.3.1 Implications for Theory. This study's contribution suggests several implications for theory which in turn may motivate future research. We see the most interesting implications as the following:

- **Users may hold realistic expectations regarding chatbots for customer service.** Contrary to previous work on voice-based conversational agents, users may hold fairly accurate expectations concerning the capabilities of chatbots for customer service. They expect such chatbots to handle simple enquiries, but they also understand that a human representative may be needed to resolve or explain complex issues.
- **The relative importance of a chatbot's persona in the customer service context.** While a chatbot's persona as expressed through textual content may be important to the user experience, our findings suggest that the relative importance of the persona in chatbots for customer service is less than suggested in previous work. Possibly, this may be due to previous work on chatbot personas being conducted in laboratory settings rather than in real-world contexts where users interact with the chatbot to resolve enquiries that matter to them.
- **A novel perspective on the users of chatbots for customer service.** Whereas users of conversational agents may be seen as early adopters of technology, users of chatbots for customer service seem to be motivated by an inclination to seek human help instead of engaging deeply in online self-service. This finding suggests a need for future research on the characteristics of users of chatbots for customer service.

6.3.2 Implications for Practice. This study's contribution also holds implications for the practical design and development of chatbots for customer service. We consider the following to be of particular relevance:

- **Encourage a 'tiered' approach to chatbots for customer service.** The failure of a chatbot for customer service to adequately respond to a user's enquiry may not be detrimental to user experience if the user is provided an easily available option to escalate the enquiry to a human customer service representative. This finding strongly suggests the importance of providing a 'tiered' approach in which chatbots serve only as a first line of support.
- **Efficient resolving of enquiries as top priority.** While current textbooks on chatbots accentuate the importance of designing the chatbot persona and appearance, the importance of such work is dwarfed by the importance of making the chatbot able to robustly handle user enquiries.
- **Appearance as communicated through textual content is more important to user experience than visual appearance.** When designing a chatbot's persona and appearance, the textual content seems to be more important to users than the visual appearance. The development of textual content is therefore a key design activity.

6.4 Study Limitations and Future Research

Important limitations to the current study include its context and our inability to systematically manipulate the chatbots we used. The study context was limited to users in a particular market (Norway) using one of two chatbots for customer service. While we are confident that we involved enough users to reach saturation, it is possible that our findings were affected by the study context. Future research is needed to replicate and complement the study findings across different markets using different chatbots for customer service.

While we see it as a strength that our study concerns user experience and user motivation in the context of real-life chatbot use, the study is limited in that we did not have the opportunity to systematically manipulate the participants' experience as one would be able to in a classical experiment. Hence, this study provides only limited insight into causal relations. Future research testing causal hypotheses based on our findings in classical experiments would be an interesting continuation of the present study.

We also foresee future research that takes as its starting point the three implications for theory suggested above, as we see these as potential hypotheses in need of further exploration and validation. As such, we see the presented study as representing a first step on the path to establishing the needed knowledge on user experience and user motivation regarding chatbots for customer service.

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