Exploring the Perception, Potentials, and Barriers of AI-assisted Services in Swiss Health Insurance Companies: An Expert and Consumer Interview Study

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The healthcare sector is one of the key areas where artificial intelligence (AI) is expected to be extensively utilized. Specifically, health insurance companies anticipate benefits from implementing and offering AI-assisted services. However, from the perspective of Swiss health insurance companies (SHIC), there is a lack of understanding how such services (e.g., chatbots, voicebots, apps) are perceived and accepted by customers. We conducted two qualitative studies interviewing experts (*n*=6) and customers of SHIC (*n*=12) to address this research gap. The analyses reveal four value propositions by AI-assisted services for SHIC. In addition, six factors impacting consumers' intention to use AI-assisted services were identified. From a practical perspective, SHIC must address the concerns of their customers and ensure that AI-assisted services function correctly and reliably from the start to maintain their customers' trust.

AI-assisted services; Swiss health insurance companies; qualitative interviews

Track of paper: Consumer Behavior

1. Health Insurers' Use of AI-assisted Services and Consumer Acceptance

Artificial intelligence (AI) has become one of the most relevant topics for governments, industries as well as academia across the world (Nadikattu, 2016). The healthcare sector is one of the key areas where AI is expected to be extensively utilized for various tasks (Hummelsberger et al., 2023). Currently, the healthcare sector in Switzerland is facing several challenges, beginning with a steady increase of skill shortages (The Federal Department of Home Affairs and Federal Office of Public Health, 2023). This leads to understaffing within different healthcare institutions and thus to a work overload for doctors, nurses as well as health insurance company workers (Kaiser, Möhr, and Siegenthaler, 2023). Simultaneously, there is a steady and significant rise in health insurance premiums (8.7% in 2024 compared to the year prior). One option, how Swiss health insurance companies (SHIC) are addressing these challenges, is to implement AI-assisted services. However, there is a lack of understanding how different AI-assisted services (e.g., chatbots, voicebots, apps) are perceived and accepted by customers. A recent study shows that customers are already increasingly accepting the use of AI-assisted chatbots by SHIC (Hundertmark & Schreiber, 2022). On the other hand, Finken et al. (2023) found that SHIC customers still hesitate to rely on conversations with AI-assisted advisers because they seem to trust humans more than machines. To benefit from the promising opportunities that come with implementing AI-assisted services into the daily business of SHIC (e.g., Kasula, 2024), it is of great importance that these services are accepted by customers (Küster & Schultz, 2023).

2. Opportunities of AI-assisted Services in the Eyes of Health Insurers and Consumers

AI is a computerized system with the ability to interpret external data correctly, learn from said data, and use the gained insights to achieve specific goals and tasks through flexible adaptation (Kaplan & Haenlein, 2018). Possible applications range from chatbots and voicebots to recognizing submitted documents, checking insurance claims, and providing individual support for health-promoting preventive measures. The latter term refers to promoting a health-oriented lifestyle and thus reducing the incidence of non-communicable diseases (Benölken, 2021). Since non-communicable diseases account for 80% of all annual healthcare costs in Switzerland (Gesundheitsförderung Schweiz, 2016), these applications are highly relevant for SHIC.

As this research focuses on individual consumers accepting new technologies, the theoretical background is based on UTAUT2 (Venkatesh, Thong, and Xu, 2012). The UTAUT2 has proven to be suitable in the field of healthcare, specifically for telemedicine (Thabet et al., 2024) and for predicting the acceptance of medical apps in hospitals (Chang, Chao, Yu, and Lin, 2021). Using an online survey based on UTAUT2, Uncovska, Freitag, Meister, and Fehring (2023) investigated patients' acceptance of mobile health (mHealth) apps in Germany. They found that performance expectations and data security are particularly high for mHealth apps from health insurance companies compared to other providers. It was also shown that performance expectation, among other aspects, is a significant predictor of the willingness to use digital health applications. The relevance of performance expectation was further confirmed by Gansser and Reich (2021), who examined the UTAUT2 to predict the acceptance of AI. They found that the higher the expected health aspect of AI-assisted services is, the higher the performance expectation.

Thanks to UTAUT2, several factors have been identified as relevant predictors of the acceptance of AI-assisted services. Yet, despite the growing evidence of the predictors' importance, there is a lack of insight into how health insurers and consumers comprehend them. Thus, the main goal of our study was to investigate the value propositions being offered by AI-assisted services for SHIC and the factors affecting customers' intention to use them. Specifically, our research question was: *How do SHIC customers perceive AI-assisted services, and what factors influence their intention to use them besides the value propositions expected by SHIC*?

3. Study 1: Expert Interviews and Document Analysis

Method. In study 1, six semi-structured expert interviews were combined with a document analysis to examine the status of AI-assisted services in use or planned, and their value proposition communicated by SHIC. All interviews were conducted online and recorded, lasting approximately one hour each. The interviewees were selected based on their expertise in AI-assisted services with backgrounds in marketing and communication, information technology, and innovation from various SHIC. They were recruited directly by the research team. The interview transcripts were coded paragraph-wise and analyzed with the help of MAXQDA software. The document analysis was performed on the websites of 24

SHIC. The findings were recorded in a table and compared with the results of the expert interviews.

Results. The interview and document analyses revealed a still limited implementation of AI-assisted services. These could be categorized into four distinct value propositions (*efficiency, constant availability, price reductions, personalization*) and four concerns (*data security, desire for personal contact, black box problem, discriminatory practices*). Among the current AI-assisted services in use are those that enable users to check symptoms, identify blurry document scans, and anonymize and correct consultation protocols. The ongoing digitalization of the healthcare sector has been used as a rationale for integrating AI into the services offered by SHIC. AI-assisted services have been implemented to reduce administrative effort and automate, streamline, and accelerate the processing time for requests (*efficiency*). The *constant availability* of such services, which are not restricted by opening hours, was also emphasized as a benefit. Due to superior efficiency and lower personnel costs, AI-assisted services have the potential benefit of *price reductions*. The experts expect customers to be strongly motivated by price benefits, such as the potential for reduced fees. Furthermore, the *personalization* of services through AI and personalized prevention recommendations, e.g., in conjunction with Internet of Things-like wearables, revealed the fourth benefit.

The primary impediments to the wider adoption of AI-assisted services in the Swiss health insurance sector are the high development costs, the lack of robust data sets, and the shortage of experience in handling sensitive health data. *Data security* and handling sensitive health data requires special care and attention. Given the perceived concerns of many customers about data security, the experts emphasized ensuring maximum transparency regarding data collection and utilization. Furthermore, the legislative framework in this domain remains uncertain, slowing the deployment of AI initiatives. Another issue is the desire of many individuals to engage in *personal contact* when addressing health concerns. This is often perceived as a more pleasant and authentic form of communication. This is particularly pertinent, given that decisions made by AI-based systems are often perceived as difficult to understand due to the high complexity and lack of transparency, a phenomenon known as the *black box problem*. Additionally, there is a risk that the data basis of AI-assisted services contains *discriminatory practices*, which could influence AI-based decisions based on factors such as age, gender, or previous diagnoses.

4. Study 2: Consumers' Perception and Acceptance of AI-assisted Services

Method. In the main study, 12 semi-structured interviews with customers were conducted online. A quota sample with characteristics based on the results of Study 1 was used. An online screener was employed to identify suitable interview partners from German-speaking Switzerland. The sample consisted of 7 female and 5 male participants between 20 and 40 years, with an average age of 28 (*SD* = 4.47). Further quotas were set on the level of use of AI in general and on the experience of AI in SHIC to obtain a roughly equal distribution. The interview guidelines were developed based on the findings of Study 1 and the theoretical background of the UTAUT2 model. The UTAUT2 model's influencing factors were explored using open-ended questions. The objective was to investigate the behavioral intention of insured individuals regarding the use of AI in SHIC. Furthermore, the interviews were conducted to investigate the customers' general perceptions, acceptance, and experiences. To ensure contextualization and standardization during the interviews, 13 vignettes were used as stimulus material based on the four value propositions of *constant availability*, *efficiency*, *price reduction*, and *personalization*. All participants were asked to evaluate 3 fixed vignettes and 4 randomly assigned vignettes. The data from the 12 interviews, which lasted approximately 1.5 hours each, were recorded, transcribed, and analyzed using MAXQDA. Both inductive and deductive categories were formed, and the text passages were categorized. The interrater reliability Cohen's Kappa between the three coders was found to be .60, .66, and .57, indicating moderate to substantial agreement.

Results. The interview analysis showed that customers generally have positive experiences with SHIC. Respondents report good accessibility of customer service, quick responses, and uncomplicated processes. Digital features such as apps for uploading invoices are appreciated. However, there is occasional criticism of long phone waiting times or missing app functionalities.

Regarding existing AI-assisted services, only a few respondents have already experienced interacting with chatbots and mHealth apps such as digital symptom checker apps from SHIC. Opinions on these are mixed: On the one hand, they are perceived as beneficial for initial assessments and orientation and user-friendly. On the other hand, the responses of symptom checkers are often perceived as too generic, limiting the perceived benefit, as they frequently refer to the website instead of providing a truly helpful answer.

Regarding future applications, respondents' intention to use AI-assisted services in SHIC varies significantly and depends on various aspects and value propositions. Six factors

impacting the ITU were identified: First, ***performance expectation,*** referring to the correctness of outputs and information regarding health-related questions, is a fundamental prerequisite. Currently, respondents still see a considerable risk of incorrect answers or misdiagnoses, which can have fatal consequences. Second, AI-assisted services must be user-friendly (***effort expectation***). In addition, the ITU also strongly depends on the ***type of request***. Customers see potential in AI-assisted services primarily for simple and administrative tasks and are generally open to using them. For sensitive and more complex health-related concerns, ITU is significantly lower. Here, the lack of empathy and understanding or potential misunderstandings is often pointed out, and the desire for personal contact with a human advisor or medical professional is expressed frequently. Correspondingly, the types of ***communication channels*** impact the ITU. Respondents rated the intention to use voicebots lower than all other options. They imagine the use to be tedious and inefficient and prefer direct contact with a human. Furthermore, customers expect ***data security and transparency*** regarding the use of AI-assisted services. Users want to know when they interact with AI and desire transparency regarding the use of their data. The majority repeatedly express data security concerns and fear the misuse of sensitive data. Lastly, ***social influence*** also affects the ITU. Several respondents mentioned they would try AI-assisted services if friends or family recommended these.

The four value propositions of AI-assisted services identified in the expert interviews align with the customer perceptions. Most respondents generally see potential benefits in AI-assisted chatbots, voicebots, symptom checkers, or health prevention apps. One of the most often mentioned value propositions is the ***constant availability*** of AI-assisted services, which is perceived as very positive and helpful. This gives customers a sense of security and support, especially in situations or at times of day when they might otherwise find it difficult to reach a doctor. However, some do not see any added value in this, as they already have access to medical care around the clock, e.g., via emergency services or call centers. The increase in ***efficiency*** through AI implementation is predominantly viewed as credible and sensible, especially for quick processing of simple administrative tasks. Rapid processing is perceived as very important, saving customers time and effort. At the same time, there are concerns that the quality of consultation and processing could suffer. Related to increased efficiency, most respondents also perceive the value proposition of ***price reductions*** as credible and attractive. However, some are skeptical about whether the savings will be passed on to them. Respondents are open to incentives such as bonus programs - but do not want to be patronized or punished based on their data. There are also concerns that data analysis by AI

systems could be misused to increase premiums or deny services such as supplementary insurance. Lastly, some participants perceive the value proposition of ***personalization*** positively, as it makes the offer more individual and empathetic. They appreciate being addressed personally and having the system respond to their needs. Some even wish for health prevention suggestions to be created based on their personal data and insurance history. However, most hesitate to share this sensitive data with SHIC AI-assisted services.

5. Discussion

The primary objective of this research was to examine how customers perceive AI-assisted services of Swiss Health Insurance Companies (SHIC) and what factors influence their intention to use them besides the value propositions expected by SHIC. In addition, this investigation aimed to identify the benefits and challenges associated with implementing AI in the healthcare insurance sector. We conducted two qualitative studies, interviewing SHIC experts and SHIC customers. Our research provides three main findings:

First, the findings reveal that both SHIC experts and customers believe AI-assisted services offer four significant value propositions: enhancing operational efficiency, offering constant availability, reducing costs, and providing personalized services. The latter three aspects extend existing research on value propositions of AI applications in healthcare (e.g., Hennrich, Ritz, Hofmann, and Urbach, 2024). This suggests that AI-assisted services in SHIC should be considered specifically and that existing research on the use of AI in healthcare should be thoughtfully applied to this context.

Second, six factors were identified that impact the customers' intention to use AI-assisted services. These factors can be aligned along UTAUT2. Transparency and data security are essential for building trust in the technology. Both experts and consumers expressed concerns about data security, which is consistent with existing literature (Dieter, 2021; Prakash & Das, 2021). However, experts emphasize regulatory challenges and the need for robust data security, while customers are primarily concerned about the potential misuse of their data. This discrepancy highlights the need for SHIC to address not only technical and regulatory challenges but also the customers' deeper concerns about data security. Therefore, clear communication and maximum transparency are crucial for gaining consumer trust and increasing their willingness to use AI in SHIC.

Third, significant barriers associated with AI-assisted services in SHIC could be identified. Many respondents pointed out the lack of empathy and the potential for misunderstandings when using AI-based systems. Consistent with previous research (e.g., Hudecek et al., 2024), most respondents expressed a strong desire for personal contact with human advisors or medical professionals, particularly for sensitive and more complex health-related concerns. In addition, the potential risks of incorrect answers or misdiagnoses from AI were highlighted, which could have severe consequences for health-related questions. These findings imply that SHIC should adequately inform their customers about implementing AI-assisted services and maintain various communication channels to accommodate customers' preferences. It is also important to note that most of our respondents still see value in using AI-assisted services for initial assessments of health problems and recommendations for further action. They would be willing to try these services and potentially use them long-term if they prove beneficial. SHIC should carefully build on this openness among their customers. When developing and experimenting with AI-assisted services, SHIC must ensure that they function correctly and reliably from the start to maintain their customers' trust.

While these findings can help generate a broader understanding of AI usage for SHIC and customers, it is also important to acknowledge our study's limitations. The sample consisted mainly of young individuals who use AI daily in their personal lives. However, according to statements made during the interviews, they had little interaction with SHIC due to their generally good health and infrequent need to switch insurances. While this may be a significant target group for some health insurance companies regarding AI implementations, it does not represent the general Swiss population. The Swiss population has less prior experience with AI in general, and AI-assisted services in particular, and may have more touchpoints with their insurance providers than younger individuals. Thus, future studies should aim for a more representative sample and validate the results using a quantitative approach.

In conclusion, AI-assisted services offer promising opportunities to enhance the efficiency and personalization of SHIC's services. Four value propositions for AI-assisted services were identified using qualitative interviews with experts and consumers. In addition, six factors impacting consumers' intention to use were found. SHIC should consider these aspects when implementing AI-assisted services.

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