New Gen Health Insurance:

A Gen AI Approach for Enhancing Customer Experience

ABSTRACT

Since the introduction of ChatGPT in late 2022, generative artificial intelligence (GenAI) has elicited enormous enthusiasm and serious concerns. [Wachter, R. M et al., 2023] History has demonstrated that general-purpose technologies have been implemented and have successfully delivered their promised benefits for many years. The health insurance industry possesses several attributes that must be considered when deploying new technologies. GenAI tools, such as ChatGPT and large language models (LLMs), have processed vast amounts of data and are well-trained for various business use cases. We have explored several hypothetical use cases of GenAI applications to enhance customer experience in health insurance, including personalized policy recommendations, chatbot integration, streamlining the claims process, predictive analytics for customer engagement, leveraging health tracker data for wellness tips, and sentiment analysis of policyholders' feedback. This paper discusses the hypothetical use cases and their benefits or uses to enhance customer experiences but does not delve into the technicalities of how GenAI can be implemented.

Keywords: Health Insurance, Gen AI, ChatGPT, Customer Experience.

Introduction

The perception customers have of a company significantly impacts their trust (Murwatiningsih, 2019). Strategically, fostering a positive customer experience (CX) is key to market leadership (Pakurár et al., 2019). According to Murwatiningsih (2019), a positive CX not only meets consumer demands but also cultivates trust, leading to favorable emotional responses.

Customer experience, shaped by emotional and cognitive perceptions during direct or indirect interactions (M et al., 2020), is defined as an encounter fostering personal value and enhancing consumer interest, positively impacting business success (Rahmawati et al., 2019).

In the health insurance domain, CX is crucial to ensure satisfaction and loyalty. Several key indicators play a pivotal role in assessing customer experience. Firstly, the ease of the enrolment process and clarity of policy information are vital indicators. Customers appreciate a streamlined onboarding experience and easily accessible, transparent details about coverage and benefits.

Timely and efficient claims processing is another critical factor. Customers value a straightforward claims process with minimal paperwork and quick resolution. Accessibility and responsiveness of customer support further enhance the overall experience. A responsive and knowledgeable support team that can address queries and concerns promptly contributes significantly to customer satisfaction.

Personalization is increasingly important. Tailoring communication and offerings to individual needs and preferences creates a more engaging and positive experience. Additionally, clear communication about any policy changes, updates, or new offerings is essential for maintaining trust.

Ultimately, a positive customer experience in the health insurance domain is characterized by simplicity, transparency, efficiency, personalized interactions, and proactive communication, ensuring that policyholders feel secure and well-supported in their health insurance needs.

The research objectives are to explore the possible use cases of GenAI to enhance customer experience in the health insurance industry.

Brief overview of Customer Experience

Customer experience, often abbreviated as CX, refers to the overall experience that customers have with a company or brand. It encompasses every touchpoint or interaction between the customer and the company, starting from visiting a website or store, conducting information searches, making purchases, and post-purchase interactions. CX is the sum of the impressions and feelings that customers have. [Mufid et al. 2019] Please note that a customer's perception of a product or service can be positive or negative. A positive CX means that the customer is satisfied, happy, and enjoys the product or service, making them more likely to re-purchase and recommend the company to others. On the other hand, a negative CX leads to irritation, frustration, dissatisfaction, and the potential loss of the customer. [Maylawati et al. 2018] emphasize building trust as a strategy to attract and retain customers, as satisfied and trusting customers are more likely to reuse services.

Challenges of CX are not limited to creating a customer-first culture, identifying CX priorities that are mutually competing, ensuring consistency across communication and distribution channels within and across an organization, shifting a product-first mindset to a customer-first mindset, engaging employees in the customer-focus, understanding the customer expectation ad experience, buying in senior management acceptance, keeping up to rapid changes of technology and upgrading legacy systems within. [Batra, M. M. ,2019]

Importance and challenges of customer experience in the health insurance industry

Raising health care costs, Complex plans and terminology, limitations on coverage, administrative burden, pre-existing conditions, provider network restrictions, limited portability, regulatory changes and data security and privacy are critical challenges of customer experience in Health Insurance.

The COVID-19 pandemic has emphasized the importance of having health insurance to be ready to face any unpredicted scenarios soon. [Dr. D. Y. Patil et al., 2022]. As a result,

customers are keener on investing in health insurance policies. Due to the significant surge in demand for health insurance, companies should prioritize enhancing consumer satisfaction, building trust, and reducing complaints and disputes. It will lead to an enhanced customer experience. Thus, satisfied customers are more likely to offer positive word-of-mouth recommendations to their friends and family and are most likely to renew their policies with the same provider.

Customer experience-centric health insurance providers can adapt to changing industry trends, for example, telehealth and online consulting, which introduced new opportunities for better customer experience.

Concentrating on data-driven insights through the gathering and analysis of customer feedback can help health insurance providers understand customer needs, preferences, and problem areas, ultimately enabling the ideas for new and/or improved products and(or) service enhancements.

In the highly competitive health insurance market, companies that prioritize customer experience will gain a significant advantage over their competitors.

Brief overview of GenAI

Generative AI or GenAI the short form for Generative Artificial Intelligence, is one of the categories of artificial intelligence systems that are designed to generate new content or data that is contextually relevant and often vague from content generated by humans. These AI systems use various techniques to produce new text, images, audio, video, or other forms of data. Generative AI models are trained to understand patterns, styles, and structures in existing data and then use that knowledge to generate new content.

Text Generation: text generation models such as ChatGPT3 are capable of generating new contextually relevant text. It can be deployed in content creation, chatbots, and language translation.

Image Generation: Generative Adversarial Networks (GANs) are mostly used for generating new images. GAN works based on a generator and discriminator network, which work in tandem to generate more realistic images. It can be deployed in artwork, enhancing photos, and generating synthetic photos for academic research. For now, these tools are restricted to generating or mimicking human faces to avoid misuse of the tool.

Speech and Audio Generation: GenAI models can generate speech and audio similar to humans, they can be deployed in voice assistants, and virtual assistants, in the media industry as a news reader, and even in the music industry as a generator of music and voiceovers.

Video generation: AI tools are used in generating video content like animated videos.

GenAI Hypothetical Use Cases for Enhancing Customer Experience

1. Personalized policy recommendations

In this data age, providing personalized recommendations becomes crucial for gaining customer attention and improving customer engagement. The availability of huge data represents one of the primary challenges customers face during the search, evaluation, and selection of suitable health insurance plans.

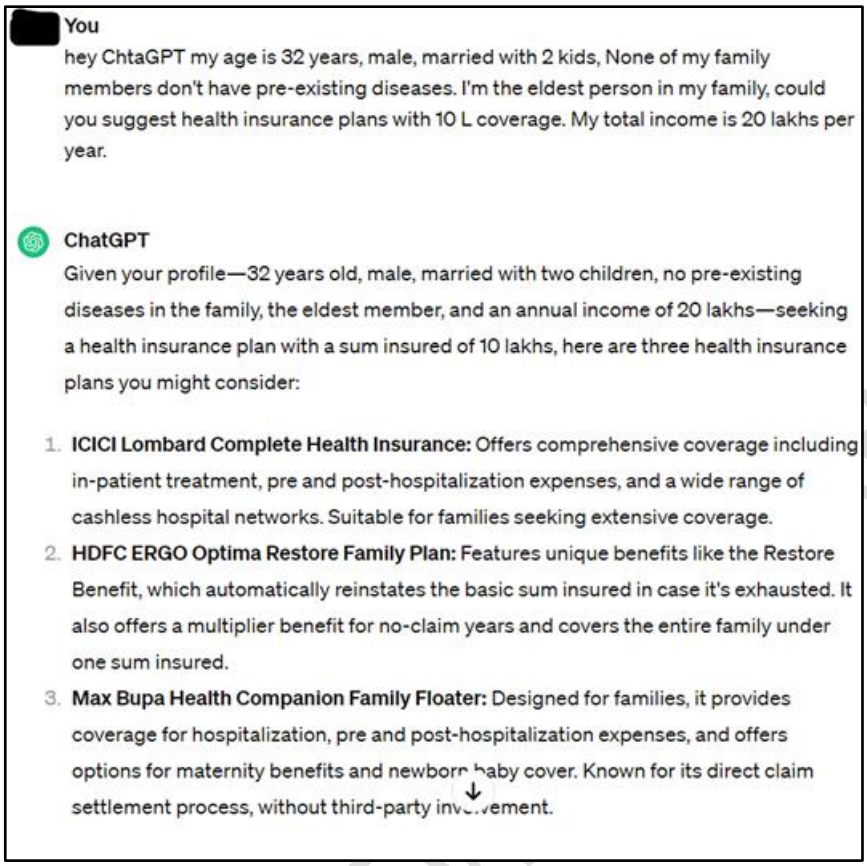

Figure-1: example of ChatGPT, suggesting health insurance policies.

Enabling GenAI-based service, which can take inputs from customers like age, marital status, no of dependents, preexisting diseases, income, and required sum insurance coverage and then provide plan suggestions with comparison would be a great relief to the customer. Here is an example of ChatGPT suggesting insurance plans.

2. AI-driven chatbots improving customer interactions

AI-driven chatbots have revolutionized customer interactions by providing instant, 24/7 support, significantly improving customer experience and operational efficiency. Leveraging advanced large language models (LLMs) of GenAI these chatbots can understand and respond to customer inquiries with high accuracy, simulating human-like conversations. This technology allows businesses to handle a large volume of queries simultaneously, reducing wait times and freeing human agents to focus on more complex issues. Furthermore, GenAI chatbots continuously learn from interactions, enhancing

their responses over time. They also provide valuable data insights into customer behavior and preferences, enabling businesses to tailor their services and products more effectively. By automating routine tasks, GenAI chatbots reduce operational costs and increase customer satisfaction, making them an indispensable tool in today's digital marketplace. Their implementation in the health insurance industry will enhance customer service operations.

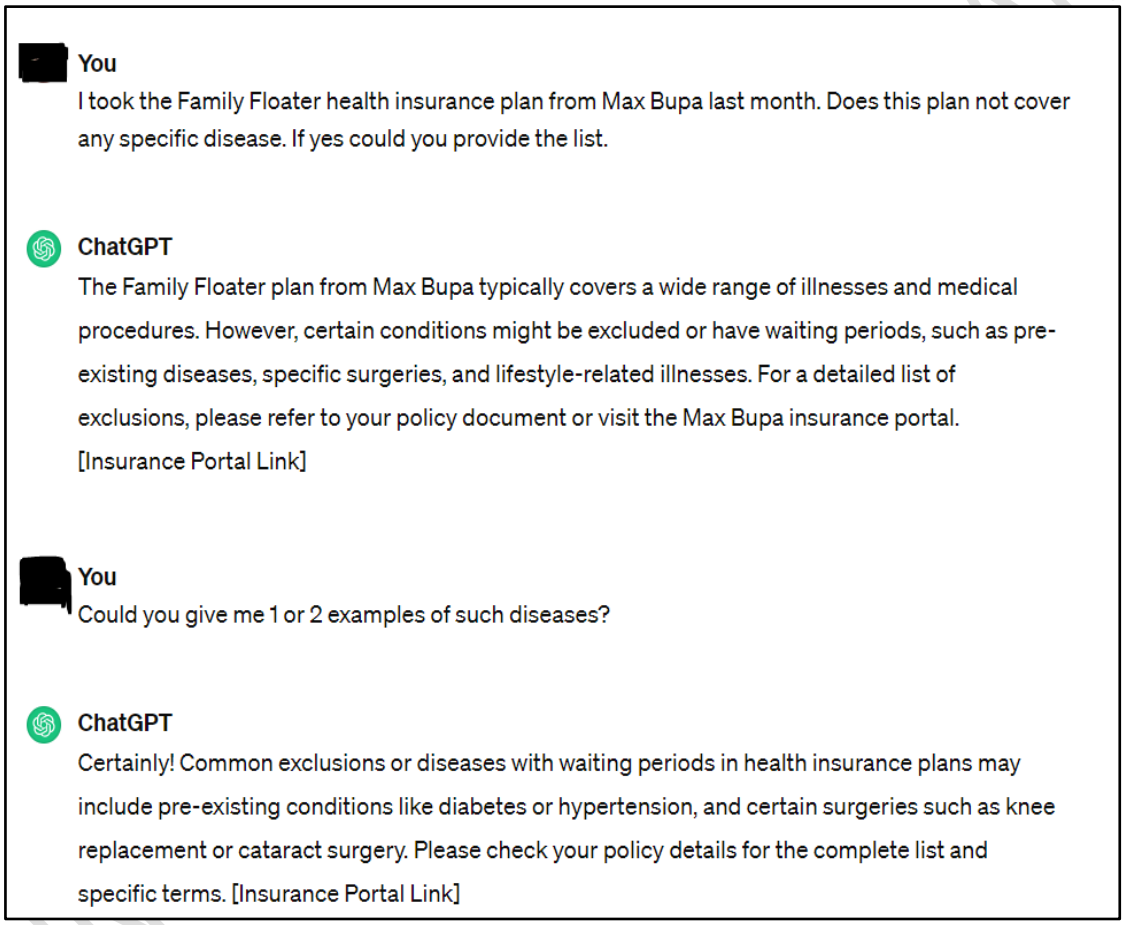

Figure 2: Exampl of ChatGPT, answering policyholders' queries.

Chatbots can answer specific questions and are even able to provide links to authentic sources of information like company portals, policy brochures, or policy documentation. These chatbots could be deployed in pre-sales customer interactions too.

human-centric perspectives in the design and evaluation of human-GenAI interactions and explainable AI methods. [Benk, M et al.,2022,] addresses unexpected user behavior among diverse stakeholder groups when interacting with AI systems.

3. Streamlining the claims process with automation

Streamlined claims processing significantly enhances customer experience in the health insurance industry, serving as a critical factor in customer satisfaction and retention. By implementing advanced technologies such as GenAI and automation, health insurers can expedite the claims process, reducing the time from submission to resolution. This efficiency not only meets the modern consumer's expectations for quick and hassle-free service but also reduces administrative costs for the insurer.

A streamlined process minimizes the need for manual intervention, decreasing the likelihood of errors and delays. Customers benefit from a transparent, straightforward claims journey, where they can easily submit documents, track the status of their claims in real time, and receive timely updates. This transparency fosters trust and confidence in the insurer, enhancing the overall customer relationship.

Rapid claims processing can significantly alleviate the financial and emotional stress on policyholders during health crises. By ensuring that claims are settled swiftly, insurers can provide much-needed support, reinforcing the value of the insurance policy to the customer. In the competitive health insurance market, the efficiency of claims processing has become a key differentiator, directly impacting customer loyalty and the insurer's reputation.

Furthermore, the implementation of GenAI and automation of the claim process can prevent health insurance-related fraud and save huge amounts of rupees to health insurance providers.

4. Predictive analytics for proactive customer engagement

Predictive analytics is transforming the health insurance industry by enabling insurers to engage with customers proactively, improving both risk management and customer satisfaction. Through the analysis of vast datasets, including historical claims data, policyholder demographics, and lifestyle information, insurers can forecast future trends, identify high-risk individuals, and tailor their health programs and communication strategies accordingly.

For example, by identifying policyholders with a higher risk of developing chronic conditions, insurers can offer personalized wellness programs, preventive care advice, and timely interventions. This not only enhances the policyholder's health and quality of life but also reduces potential future claims costs for the insurer, leading to a win-win scenario.

Moreover, predictive analytics allows health insurers to refine their underwriting processes, leading to more accurate premium pricing and policy customization. By proactively engaging customers based on their predicted needs and risks, insurers improve customer loyalty and retention, standing out in a competitive market.

In summary, the application of predictive analytics in the health insurance sector fosters a more personalized, efficient, and preventive approach to customer engagement, significantly impacting both the insurer's bottom line and the customer's health outcomes.

5. Health and wellness recommendations based on individual data

Prevention is better than cure, focus on preventive health management and risk mitigation is possible by analysing data generated from wearable devices and health apps. Insurers can provide highly personalized recommendations and alerts to policyholders by analysing the data to enhance customer engagement.

High Blood Pressure Alerts: Insurers can set up systems to receive real-time health data from policyholders' devices. If the system detects readings indicating high blood pressure,

it can automatically send alerts to the policyholder, advising them to take precautionary measures or consult a healthcare provider. This timely intervention can prevent complications associated with hypertension, reducing the risk of more severe health issues.

Predictive Risk Notifications: By analysing trends in health tracker data, insurers can identify policyholders at risk of developing certain conditions, such as diabetes or heart disease, based on predictive markers like physical inactivity or abnormal heart rates. Policyholders can receive personalized notifications about their potential health risks along with advice on preventive measures, lifestyle changes, or the need for medical screening.

Customized Insurance Plans and Wellness Programs: Insurers can use health tracker data to offer more customized insurance plans that align with the policyholder's health status and lifestyle. For example, individuals who maintain a healthy lifestyle and demonstrate it through their health data can be rewarded with lower premiums or access to exclusive wellness programs.

Emergency Assistance: In cases where the health tracker data indicates a critical situation, such as a sudden and severe drop-in heart rate, the system can automatically alert emergency services and provide them with the policyholder's location and relevant health data, facilitating immediate assistance.

These proactive engagements not only empower policyholders to manage their health more effectively but also enable insurers to operate more efficiently by focusing on prevention and early intervention, potentially lowering healthcare costs and improving customer satisfaction and loyalty.

6. Sentiment analysis of customer feedback.

Sentiment analysis of customer feedback using Generative AI (GenAI) in the health insurance industry marks a transformative approach to understanding and enhancing customer experience. GenAI, with its advanced algorithms and deep learning capabilities, outperforms traditional analysis methods not only in accuracy in identifying positive, negative, and neutral sentiments in customer feedback but also by generating insights and actionable recommendations tailored to specific customer preferences and concerns. This enables health insurers to deeply understand the emotional and qualitative aspects of customer feedback, allowing for more personalized and empathetic responses to policyholder needs. Moreover, GenAI can predict trends in customer sentiment, enabling insurers to proactively address issues and adapt their services to meet evolving expectations. To cultivate stronger relationships with policyholders, improve service quality, and ultimately enhance customer loyalty and satisfaction sentiment analysis using GenAI is a powerful tool.

Conclusion

The implementation of Generative AI in health insurance can enhance customer satisfaction, engagement, and experience. A few hypothetical use cases discussed in this article include personalized policy recommendations, chatbot integration, streamlining the claims process, predictive analytics for customer engagement, leveraging health tracker data for wellness tips, and sentiment analysis of policyholders' feedback. These examples are not exhaustive; there are many more potential applications, including the identification of fraudulent claims. Our discussion focuses on select use cases that can significantly improve customer experiences.

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