

INVESTIGATING THE IMPLICATION FOR BUSINESS INNOVATION
OF CUSTOMER ENCOUNTERS WITH AI-BASED CHATBOTS

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Executive Summary

Businesses are always looking forward to providing better customer experiences. Encounters with customers through various channels may help a company learn about customers' needs and expectations, leading to innovation. However, the advancement in Artificial Intelligence (AI) and overall Information Communication Technologies (ICT) have changed how these encounters occur with conversational agents. One such conversational agent that businesses have adapted over the years is chatbots. These AI chatbots allow businesses to provide automated information to customers and interact with them in the most human-like manner for a better customer experience. However, it is essential to ponder whether these AI chatbots give businesses room to come with novel concepts such as new ways of marketing products or providing the most personalized content, or just handling automated data saving cost and time only?

This research investigates the implication on business innovation when AI-based chatbots are used for customer encounters via a qualitative approach. An analytical model was created with the variables, AI chatbots-based service encounters, co-creation, and innovation derived from various literature. As the research topic is relatively new, a systematic review of blog articles is done to investigate the issue further, followed by semi-structured interviews with businesses.

The research concludes with the notion that service encounters taking place through AI-powered chatbots have a very minimal impact on business innovation. The advancement in AI might fuel the success of these chatbots to be a part of innovation in the near future, but not in the present. It is noted that AI chatbots are limited to communicating as human agents while not actually understanding, interpreting, and delivering solutions as human agents. This is primarily in the case when these bots receive complex queries. However, AI chatbots have been seen as a successful marketing tool and aid the innovation process in the marketing field to some extent. The study further presents factors to be considered when researching the field of AI chatbots-based service encounters and their implication on business innovation.

KEYWORDS: chatbots, AI, service encounters, customer encounters, innovation

1. Introduction

For many decades, the study of Artificial Intelligence (AI) and the communication process has dominated technology debates. The research regarding AI previously focused on how to reproduce aspects of human intelligence within the machine (Frankish & Ramsey, 2014). There was, however, a gap between AI and the communication process. Nonetheless, this gap has been bridged as AI is now designed to function as human communicators which have led to the advancement and integration of AI across human life (Campolo et al., 2017). Human-AI interactions are expected to grow and be incorporated into all aspects of life. Yet, AI-human interactions do not fit into the previous communication paradigms of how people communicate with each other (Gunkel, 2012). Scholars like Guzman (2018) advocated for the creation of meaning among humans and machine communication through a deeper look at increasing human-like communication through AI, people's interactions with them, and their implications.

Businesses are taking a step further in employing AI in communication by using it as a conversational agent. Many times you are interacting with a machine to solve your problems and not a human employee from the agent side (Radziwill & Benton, 2017). AI combines natural language processing (NLP) with traditional software like chatbots and voice assistants for customer interaction through spoken or typed interfaces. They are providing customers with better experiences through the use of AI for service purposes as these machines sense, learn, make decisions, and take actions without human assistance (Bock, Wolter, Ferell, 2020). These intelligent technologies are embedded in AI chatbots, one of the noted and successful conversational agents, and it progressively teaches itself through reinforcement learning. AI chatbots are a dialogue box embedded in web and mobile applications and messaging platforms through which encounters between customers and services take place (Papageorgiou, 2018).

Customer encounters are one of the major factors that directly affect customer satisfaction and ultimately the profit of a company (Durvasula, Lysonski, & Mehta, 2005). It is the time when customers directly interact with services (Shostack, 1985). Conversational AI has revolutionized customer encounters by being more customer-centric for providing rapid responses, probing of customers, and guiding the clients (Yan, 2018; McTear, 2020). AI chatbots have come a long way from solving only pre-defined tasks to comprehending new tasks or input styles (Radziwill & Benton, 2017).

A structured, systematic innovation management process is necessary to provide an environment where creativity and structure can come together (Johansen, Schaller & Klus, 2020). Innovation can be defined as delivering a new idea, product, or service which might be a unique original concept or improve the way things are done (Rogers, 1998). The interaction between humans and AI over the years has greatly impacted innovation as AI chatbots are introduced to elicit the information required for documenting users' ideas in a structured manner. They are also used in encounter-based innovation as they support the user in creating ideas (Bitner et al., 2000). The creating of novel ideas by businesses by coming together with customers is termed co-creation. Payne et al. (2008) imply that co-creation works two ways; where customers and businesses both help each other. Here, customers provide feedback and become a part of a product development process while businesses develop a product to offer it to the customers. In encounter-based innovation, co-creation is essential as it deciphers innovation from encounters between employees and customers (Prahalad & Ramaswamy, 2004). Moreover, it is AI chatbots that are being used for customer encounters to support the company's communication with customers while also making them a part of the innovation process.

This paper further is structured as below. First, it gives a background on why this research is being done and what problem it is solving. Next, it gives the state of AI chatbots in the present context followed by the analytical model under theoretical review. The chapter discusses all the elements and their relation to each other on which the analytical model is based from the past research works. Then the methodology chapter outlines how the overall research was done with findings from systematic review and interviews following it. Lastly, the results are synthesized to answer the research question under the discussion chapter.

2. Research Background

The shift in technology has been seen in the use of chatbots due to the growing practice of communicating through social networks and messaging applications (Grudin & Jacques, 2019). This trend of conversation let a way for businesses to provide much efficient service through digital platforms to customers indicating higher customer engagement (Huang & Bryan, 2018).

As conversational marketing is being a trend and will continue to do so in the near future, the finding of this research will provide insights and understanding to developers of chatbots, researchers, and organizations on data collection through chatbots through the perspective of business owners. Although the research in automating conversations and overall chatbots was not extensive until 2016, Facebook introduced messaging platforms powered by artificial intelligence (AI) to better the relations with the customer through higher engagement. Through these chatbots, customers now received the attention they seek. Chatbots are programmed to have a conversation with humans in natural language, giving an essence of having a conversation with a fellow human employee, unlike receiving prepared answers from a machine (Grudin & Jacques, 2019).

We live in an era where humans and computers work as partners, where chatbots play a role of a technical assistant to human employees (Zumstein & Hundertmark, 2017). Insider Intelligence predicted three prominent sectors with high customer interaction, health, bank, and retail, can save up to USD11 billion by 2023 if they integrate AI chatbots (Insider, 2021). Moreover, the global pandemic started in 2019, which soared these predictions to be accurate for digital conversations as businesses strived to get digital transformation and be present where the customers are (BRN.AI Code for Equity, 2021).

Chatbots are here to stay, but besides saving the day to resources like time and money, what more role do chatbots play in the organization? Chatbots are there for customers, but most failures in relation to chatbots take place when businesses fail to introduce a chatbot created with inputs from customers (Grudin & Jacques, 2019). The survey done by Accenture in 2018 confirmed that companies do agree that conversational bots are tied with a higher return of investment. This involves experiences on both sides; businesses and customers. With the integration of automated technology for customer engagement, companies strive to deliver prompt and accurate information (Srinivasan et al., 2018).

Chatbots were here for decades, but the interest and research on it spiked up from 2016 with the release of the millennial chatbot named Tay by Microsoft. Association of Computer Machinery, a repository of international scientific papers, saw the rise of triple the research happening and articles published in chatbots from 2016 to 2018. These papers addressed user-related studies and design research. According to Scopus, an international base of scientific papers of interdisciplinary nature, the number of papers on chatbots rocketed to 629 in 2019 from 36 in 2016.

3. Problem Definition

The digital involvement of the consumers has amassed businesses to be present in the digital world. This engagement is a crucial aspect for companies where they can be in direct contact with their customers. Customers now seek digital experiences when looking for what they need while contemplating whether or not to purchase the product and, of course, after purchasing the product. In addition, customers seek personalized attention, which many businesses fail to give due to their instant unavailability and a quick calculation of customers' desired products.

The empirical literature on AI-based chatbots in customer encounters is scarce as this field of study has only recently garnered much attention. Zhang et al. (2020) further advocate for more research in this area. This will help create a pool of knowledge and come up with innovations to improve the current AI chatbots. This study, therefore, seeks to investigate the implications of customer encounter with AI-based chatbots in business innovation. Io and Lee (2017) identified research gaps for the future research agenda in chatbots through four methods, publication overview in literature databases, clustering by keywords in CiteSpace, representation sentences in CiteSpace, and keyword co-occurrences in Bibliometrics. The findings from this bibliometric analysis of 583 academic literature under chatbots indicated the lack of academic research, especially in business. The focus is majorly on computer science and engineering with the application of chatbots in education, psychology, and linguistics. The study also showed low to almost no dependency on different topics under chatbots.

Further, it is also suggested that researchers should shift their research focus to human and business points of view and not just the technical perspectives. Whilst businesses should also tap into this technology for innovation (Io & Lee, 2017).

4. Research Delimitations

This research solely focuses on the innovative impact of AI-based chatbots when used as customer encounter services in businesses. Many aspects concerning chatbots and businesses will not be discussed in this research.

In conducting the study, the research will also not contribute to present technical aspects of chatbots such as architecture and framework of chatbots and process of integration of chatbots. While the paper's primary theme is focused on the use of AI-chatbots customer encounters, the literature review and methodology will not discuss AI-chatbots from customers' perspectives. The paper will outline general issues of chatbots with regard to the benefits of using AI-based chatbots but only briefly touch upon limitations and privacy issues of the use of these chatbots. The major exposition will be covered only for areas of the innovation process within the business and not for non-profits and state offices. However, the research will not discuss the use of chatbots for internal purposes in an organization.

5. Research Question

This paper discusses how AI chatbots have become an essential tool of conversation regarding customer encounters. These days, customers want their problems to be solved in a go, and AI-chatbots have just been aiding it with their feature of 24/7 availability. The research aims to discover the direct and indirect impacts AI-chatbots implemented to hold conversations with customers have on the innovation process of a business. The study will embark upon the notion of chatbots on companies and whether they take chatbots as a catalyst for innovative solutions. With all these factors and to fulfill the research purpose, this paper has drawn the following research question.

What can be the implications for business innovation when customer encounters are based on AI chatbots?

A short systematic review of fifty blogs and articles across the web has been done to investigate the research topic. The findings are parted into different implications of AI chatbots in businesses. Further, to validate the results accumulated from the systematic review, semi-structured interviews with companies that have implemented AI chatbots for customer service purposes were conducted. Semi-structured interviews were done with two companies. As conversational marketing is being a trend and will continue to do so in the near future, the finding of this research will provide insights and understanding to developers of chatbots, researchers, and organizations on AI chatbots and their relation to innovation through the perspective of business owners.

6. State of the Art

6.1. About AI-chatbots

Chatbots can be defined as a small dialogue box in web and mobile applications and also messaging platforms, which interacts with customers on behalf of the service industry through text or voice (Papageorgiou, 2018). This is widely used in businesses (for example, when providing customer services), healthcare, and education. The input for these chatbots is usually the natural language mainly received physically, such as typing requests by the user or using speech recognition systems. Then, in an outcome-oriented manner, one or more instructions are executed. These chatbots aim to be intelligent, autonomous, social, and proactive in nature. The other is the chatbots that mimic human interaction in texts or email (Radziwill & Benton, 2017).

AI chatbots are programs within web or mobile applications that allow users to interact with computers using natural language processing (NLP). They work independently from the human operator and mainly deal with repetitive or frequently asked questions and also in helping customers go through the app or the website. A distinctive aspect of using AI chatbots in customer service from other conversational tools is their ability to understand the intent behind a request, responding to questions in a human-like and intelligent manner while being a backup

for storing all conversations (Khanna et al., 2015). Solutions to the problems entered by the customers are delivered by digging into the set of solutions stored in the system. It also holds conversations with customers and provides a direct solution, alternative solutions, and new suggestions based on keywords and expressions metadata contained in them. This information is also packaged for individual customers in real-time and also saved for future use (Stojanov, 2019).

Chatbots are increasingly becoming popular due to the consumer's demand for round-the-clock assistance in all areas. Many of these chatbots are used in platforms such as Facebook Messenger, WhatsApp, WeChat, Slack, etc. the expansions of Facebook messenger have been giving businesses the opportunity to reach their target audience better. Good chatbots have to be effective, human-like, and, above all, understand more than one human language. The adoption of chatbots by many businesses can be attributed to their cost-effectiveness, efficiency, full-time work, and handling many customers at once (Khanna et al., 2015). We see many businesses incorporating these chatbots and creating value providing the best of the customer experiences. Sephora, a French beauty company, introduced chatbots messaging app in 2017 with the aim to deliver an immersive retail experience that allowed shoppers to interact with the brand (Lee, 2020). Dominos, a pizzeria business, incorporated a messenger bot that not only enables customers to track their orders but also provides suggestions based on their previous orders (Dominos, 2018). eBay, one of the largest online marketplace, is well advanced when it comes to AI chatbots. eBay's shopbot has advanced enough to provide shoppers the best deals not just through texts and voice but also through snapshots of products they are looking for (Pittman, 2016).

However, AI chatbots are also marred with a lot of negative aspects as they are limited in scope and become a challenge while handling complex customer needs that require emotional or higher-level analytical skills (Nokes, 2018). For instance, Tay, a bot of Microsoft, received many backlashes in 2016 for racist and sexist tweets leading to termination in just sixteen hours of going live (The Guardian, 2016). Many customers also feel that AI chatbots lack the human feel of customer experience and interactions, whereas for business acquiring, programming, and maintaining AI is very expensive. Nevertheless, despite all the challenges, AI is an inevitable and adaptive tool for any business that seeks to remain competitive and relevant in this evolving market (Nokes, 2018).

In the world facing covid-19 pandemic, using AI chatbots, customer encounters have been an excellent tool as traditional customer encounter methods have proved difficult given the state where a physical meeting is impossible. The companies using AI chatbots as a means of interaction and marketing have gained a competitive edge in that they can introduce new products and services, conduct market surveys, and keep in touch with their existing and potential customers. With the growing need for more advanced customer encounter services, business innovation is inevitable. Many businesses are striving towards programming their chatbots to be more satisfactory and acceptable to customers. A good example is an autoresponder that creates an automatic message on WhatsApp to reach more customers. (Mufadhhol, Wilbow, & Santoso, 2020).

6.2. Motivation for using AI-chatbots

Chatbots ease human jobs, which humans find mundane and hate doing through automation. They are developed and advanced to do their tasks more efficiently and effectively make people feel comfortable (Cancel, Gerhardt, and Devaney, 2019). Customers of AI-chatbot want their queries to be solved efficiently, be it a human or a machine, as long as their problems are addressed promptly, understood, and solved while the process is flowing seamlessly. Thus, businesses employ chatbots to support customers and help them accomplish simple jobs without the assistance of a human agent. The constant access of chatbots across the network within the organization and knowledge instilled within minimize errors often made by humans such as providing inaccurate information help increase customer engagement, as productivity is what customers are looking for when interacting with businesses (Stojanov, 2019; Følstad & Brandtzaeg, 2017). The digitalizing of business being the foremost reason for using chatbots, here is a look at three motivations for companies to use chatbots for customer service penned by Zhang (2020).

Address high-volume repetitive questions

Automation of mundane tasks has rule-based answers and needs high accuracy of the information can address a high volume of such queries simultaneously. This automation process expedites customer encounter-related activities, giving businesses unlimited capacity to simultaneously handle countless inquiries of different variations (Stojanov, 2019).

But chatbots have the window open where customers can have a conversation with human personnel. These can arise when there is no information on the said issue with the chatbot, when the said problem can be solved only with human expertise, or the customer demands to interact with the employee (Stojanov, 2019).

Improve customer service experience

Customers should feel valued and important. The customer service is in operation 24/7 all year round with chatbots; as a result, there is no waiting time for customers regardless of the time zone they live in (Zumstein & Hundertmark, 2017). Unlike human personnel with limited expertise in various languages, the multi-linguists chatbots take customer service to another level with real-time conversation in which the customers are comfortable (Stojanov, 2019).

User satisfaction is one of the primary criteria to measure the success rate of implementation of chatbots in businesses (Zhang, 2020). The more the chatbot has a conversation with your prospects, the more data it gains about their needs and preferences. Additionally, the prospects majorly come to your business via logging through their social media pages, giving access to more data helping companies better tailor their offers and messages (Zumstein & Hundertmark, 2017). The AI chatbots are especially helpful to businesses that could not afford to deliver on-time and accurate customer service and were left with bad reviews for late responses.

Chatbots not only collect data it also has self-learning ability which aids in discovering hidden customer behavior patterns. Chatbots bring together data collected in both ways; direct input by the customers and through the use of artificial intelligence algorithms studying the online behavior pattern of the customers. Novel marketing opportunities can be determined with the information collated through it to improve the overall customer experience (Stojanov, 2019).

Reduce cost and resource requirements

Chatbots can be a solution for novice customers who are not well-educated on search systems and those customers who want to save time and resources by receiving direct answers to their queries than do a futile search on the website looking for answers (Stojanov, 2019).

Chatbots have various advantages for both companies and users, especially mobile users. They explore novel ways of providing the best experience to the users as well as help reduce service, sales, support, and marketing costs for business. It also opens ways to different data collection

studies and techniques. Using chatbots, smartphone users can reach a company anytime and anywhere. The questioned users of an investigated prototype are remarkably open to new mobile services, and they quickly adapt to this technology (Zumstein & Hundertmark, 2017). Zhang (2020) states that a successful implementation of chatbots in any business is derived through customer satisfaction, decreased customer service traffic, and increased customer handling brought by mundane queries and feedback from customers and third parties. Either two of these pointers or all three should be included to call a chatbot implementation a success. Adding more human-like attributes in the chatbots does not necessarily mean it will lead to better perception. Ultimately the goal of using chatbots in businesses is that the problem at hand should be solved before anything else (Stan, 2020).

7. Theoretical Review

The theoretical review provides a skeleton through a review of different literature and empirical studies done by other researchers. This paper provides a basic understanding of how AI chatbots are used in service encounters and how these encounters aid co-creation leading to innovation. The themes of this theoretical review follow the framework developed by Henten (2012), where he discusses three different types of service encounters.

i. Face-to-face service encounters with ICT-based customers/employees interaction

In this type, the customer uses both ICT-based tools such as telephone and social media and some face-to-face aspects. Only the circumstantial services are ICT-based. Henten gives an example of a plumbing company where the customer books an appointment via the phone or internet, and then their negotiations are face-to-face. This mode is not an effective way of service encounter in the modern days.

ii. ICT-based service encounters with ICT-based customers or employees interaction

This type of service encounter is used in services that consist of data, information, and knowledge that can be entered into digital media and transported to a communication network. Most of the interactions are ICT-based, and it's currently evolving to eliminate

the physical point of interaction. A good example is Amazon, which moved away from selling hardcopy books to providing e-books where all engagements start and end online.

iii. ICT-based service encounters where the customers are part of creating the service itself

Here the users themselves are part of creating service. Users are also the platform providers, or the firm provides a platform for user production while the users provide the content either partially or in totality. The platforms are professionally developed and continuously developed, but the content remains the domain of the user. A good example is YouTube, where the users produce part of the content IDs. In this type of service encounter, we experience the best case of user-driven innovation where the user-provided content constitutes the core service.

ICT-based service encounters currently are a trend where employees and customers can now interact through ICT medium or devices regardless of their geographical presence. Some arguments are that when all interactions are internet-based, there is less flexibility and more structure. To counter this issue, businesses are introducing things like live chats and voice elements. This study looks at how through these ICT-based encounters, customers are also a part of creating the service itself and how AI chatbots can enroll customers for co-creation. Co-creation can be experienced when the customer's input is more easily built into the overall service as the core service itself is a digital service. As businesses incorporating ICT-based service encounters look forward to user-driven innovation, AI chatbots can play a crucial role (Henten, 2012).

Following the concept of how ICT-based service encounters can be a place where customers are part of creating the service itself, the theoretical review has been segregated into different subtopics to understand each concept behind the elements involved in the research to answer the research question. First, it looks at service encounters related to customer satisfaction and ICT-based encounters to provide supporting arguments and insights on how other scholars have defined it. Then AI-based service encounters are researched upon, which are our main discussion and contribution to innovation and business growth. Then the introduction to co-creation in line with co-creation theory and innovation has been made as the paper examines innovation accrued from service encounters with AI chatbots. Finally, a conceptual model is created on the basis of

how all the elements, as mentioned earlier, come together to create value for business and customers. Henceforth, the model helped the researcher narrow down the variables required to answer the research question and contribute to the collection of empirical evidence.

7.1. Service Encounters

Service encounters have dominated many academic debates for an extended period. Service encounter was first introduced in the late nineties as a face-to-face interaction between service providers and customers while using the service (Solomon et al., 1985). Shostack (1985) broadened this view by describing it as “a period during which a consumer interacts with a service. Voorhees et al. (2017) further improve on this definition by defining it as a “discrete interaction between the customer and the service provider relevant to a core service delivery.” It is the core of any business as it impacts quality, service delivery, and customer satisfaction (Dolen et al., 2002).

Traditional service encounters have a high degree of human-to-human interaction. Bitner, Brown, and Meuter (2000) argue that traditional service encounters have been facilitated by interpersonal contact as human employees delivered services to customers. Traditional service encounters had only three components: the service firm that sets policies and guidelines, the employees who enact the firm's policies, and the customer who seeks to satisfy different needs (Sparks & Weber, 2008). Recently, researchers emphasize moving away from the narrowed view of traditional service encounters by looking at a more inclusive view of the concept.

7.1.1. Service Encounters and Customer Satisfaction

Service encounters and customer satisfaction cannot be separated and have been discussed since the 80s and 90s. The two concepts are intertwined. Customer satisfaction can be defined as consumers' response to the evaluations of the perceived discrepancy between prior expectations and actual product or service performance after consumption (Lemon, White & Winer, 2002). Service encounters influence customer satisfaction. These two factors are correlated in that service encounter is measured on the basis of customer satisfaction which then acts as the basis of firm service quality improvement.

The relationship between customer satisfaction and customer encounters has been well documented since the late nineties. Satisfaction is the outcome of a customer's reaction to overall service encounters and the interaction with service personnel (Crosby & Stevens, 1987). More recent studies argue that relationships are built from series of encounters with a firm (Voorhees et al., 2014). It is a challenge to keep up with the new trends that appear in the market and constantly give maximum satisfaction to customers. In order to keep up with it, firms are always on the lookout for building strategies where the notion only lies in how customers can have a good experience while using their services (Lemon & Verhoef, 2016). In this argument, we see the connection between a series of encounters and experiences or satisfaction customers attain from these encounters.

7.1.2. ICT- based Service Encounters

The changing business environment demands enhanced service efficiency and quality to maintain a competitive edge. As technology is integrated to a large extent in our daily lives, the introduction of technology in service encounters has a critical role in increasing efficiency and quality. The need to explore the changing nature of service, emphasizing the improvement of service encounters through effective use of technology, has dominated many service encounters debates. Every customer is liable to receive quality information and service with dedicated content when they come in contact with the information system (Stojanov, 2019).

Parasuraman (1996) introduced the service encounter pyramid. The firm is at the top of this pyramid while employees, technology, and customers at the base. This pyramid illustrates how both customers and employees can use technology as enablers when interacting with each other. Bitner, Brown, and Meuter (2000) state the effective infusion of technology in service encounters aids both customers and employees. We can see the enhanced experience from the customer side while service providers become much effective and efficient. Efficiency may be in terms of customer satisfaction or effectiveness of the firm. The simple example one can see is the “quantities of information that could not have been remembered, filed, and sorted” in the traditional service encounters are now just a click away (Bitner, Brown & Meuter, 2000).

7.1.3. AI-based Service Encounters

Given the advancement of technologies, encounters are not just happening through ICTs, but it is happening with them. AI-based encounters occur when AI technologies alone or jointly with employees provide services to customers (Li, Yin, Qiu, & Bai, 2021). Wirtz and Zeithaml (2018) believe that AI will transform all service sectors leading to rapid innovation, holding the potential to dramatically improve customer experience, service quality, and productivity all at the same time. The same view is put forth by Robinson et al. (2020). It is argued that AI is radically transforming service encounters by increasingly playing the role of employee or customer. Customer encounter being an integral part of any business, has faced many challenges, which necessitated creating more effective modes of handling customers, leading to the emergence of AI chatbots. These chatbots have helped many businesses to assist many customers without the use of human resources as a way of creating a more compelling customer encounter.

Traditionally, when it comes to service encounters, human interaction with low or no presence of technology was given higher importance, but the introduction of technology is opposing this rule (Chebat & Kollias, 2000; Bitner, Brown & Meuter, 2000). However, the current use of AI-based service encounters such as chatbots has enabled individually tailored, more efficient, and effective services. They free up employees' time for more interpersonal, creative, and complex service activities defying the former concept of 'low-technology-high-impact' rule (Huang and Rust, 2018). These technologies allow scalable service offerings at virtually no incremental costs (Wirtz et al., 2019). Moreover, chatbots allow interaction between customers and businesses regardless of the time and location of both parties. It is primarily the case for smartphone users who are more adaptive to the modern way of communicating (Zumstein & Hundertmark, 2017).

Byrne (2018) and Robinson et al. (2020) emphasize AI by positing that chatbots offer advantages over human service providers. AI follows programmed scripts for already defined use-cases and provides initial support to customers. AI chatbots have become a powerful tool in customer encounters. They can simultaneously attend unlimited volumes of transactions, store vast information, and are less prone to emotional variability and fatigue errors, making them more convenient, user-friendly, and cost-effective (Ivanon & Webster, 2019; Robinson et al.,

2020; Nokes, 2018). They usually are used for tasks that do not require emotional or higher-level analytical skills and are more about providing assistance (Paluch & Wirtz, 2020).

Businesses today deploy chatbots as the start of the customer service encounter to engage with their customers in this digitalized world. AI chatbots have improved so that they are not just conversational tools but also transactional tools (Mufadhhol, Wilbow, & Santoso, 2020). It further opens the way to refined customer service experience while reducing the cost of building relationships, maintaining these relations, and increasing conversion rate (Zhang, 2020).

7.2. Co-Creation

Co-creation is a buzzword these days. Companies have become global market leaders by involving their customers in the business process, making them co-creators. When service providers get an innovative idea from customers through direct or indirect interaction with them and deploy the idea further in the service firm organizations, it is called co-creation. Innovations are not necessarily developed during service encounters, but the ideas for innovations can be created through them (Henten, 2012). Co-creation theory, a mindset or corporate philosophy, helps the business focus on customer experience and interactive relationships, allowing and encouraging more active involvement from the customer to create a value-rich experience (Prahalad & Ramaswamy, 2004). In this co-creation theory, the crucial aspect is bringing the customer to the process at the earliest stage and be proactive and not reactive. Here, the firm should put the power in the customers' hands to create or innovate new ways of performing activities, products, or services.

Businesses rely on customization and personalization of products and services, which helps them gain traction of new services development (Spring & Dalrymple, 2000). Customer satisfaction is maximized as it's the customers who choose what they want from a product or service (Bardacki & Whitelock, 2002). In the current globalized market, co-creation is an integral part of firms. The success of these firms is characterized by hyper-competitiveness, shorter periods of competitive advantage, shorter product life cycles, and hence, and innovation through co-creation is a requirement (Lee, Olson & Trimi, 2012).

AI chatbots have rapidly improved from a limited set of pre-programmed responses to learning and engaging responses. The repository of data collected from customer interactions over time enables the AI system to improve the performance of chatbots, their capabilities, and also new products. Through AI chatbots, firms can also frame a problem and work together with their customers towards a solution, which unearths much deeper needs and constraints that enable much more thoughtful and productive solutions and innovations (Consulteer, 2019). AI chatbots-based customer-centric solutions are co-created through perceptive and responsive mechanisms and that customers and firms are connected. The co-creation enhances operational practices through users' knowledge, which results in better service provision and customer satisfaction (Leone & Chiao, 2021).

7.3. Innovation

Innovation in a business context or business innovation is when an organization introduces new processes, products, or services to pursue positive change in the business (Sherman & Schultz, 1998). Innovation can be defined as applying ideas that improve the way things are done or delivering a unique original idea, product, or service (Rogers, 1998). Kahn (2018) provides three different types of business innovation: innovation as an outcome, innovation as a process, and innovation as a mindset. In innovation as an outcome, the main reason for innovation is the output, and this looks at issues like the product, process, marketing, supply chain, and organizational innovation. In process innovations, emphasis is on the way innovations should be organized to ensure outcomes are successful. It may include the overall innovation process and product development. Innovations as a mindset, on the other hand, deal with changing the way of innovation. The organizations' individual members, where innovative and supportive culture is instilled, are the catalyst to these changes to allow innovations to flourish. In all three types, the importance of co-creation is evident since all the types of innovation require customer inputs as co-creator to make them more relevant and more successful.

Under all circumstances, co-innovation means that the employees get the innovation idea from customers or create it through interaction with the customers and bring the idea further into the service firm. Henten (2012) implies that innovations are not necessarily developed during service encounters, but the ideas for innovation are created through them. In service innovation

theory, the emphasis is on the service product or service process that is ICT-based or has a systematic method. Many types of research on innovation service theory come from the new development research school of thought (Nijssen et al., 2006). A vital aspect of these service innovation theories is the centric role or involvement of the customer in the production of the final product. This theory assists this research in investigating innovation produced through ICT-based, more so-over AI chatbots-based customer encounters and co-creation.

The issue of innovation from service encounters has intrigued scholars for an extended period. In using service encounters as the basis for innovations, there is a paradigm shift from the service marketing and management traditions to an innovative process, open innovation, and new product development. In open innovation, external players, primarily customers, are involved in the innovation process. Most service innovations are open innovations because they involve practice-based ideas coming from customer experiences with service deliveries, and it looks at customers' involvement in the innovation process (Sundbo, Sundbo & Henten, 2015).

When we talk about technology-based service encounters, technology has been implemented between the service provider and customers (Sundbo, Sundbo & Henten, 2015). One of the assumptions of service-dominant logic is that the customers are not merely a spectator but a co-creator in value creation and innovation (Tuzovic, 2016). The paradigm shift from good-dominated to service-dominant logic has helped organizations create networks of supporting suppliers, thereby enabling more robust solutions to customers (Seth and Sharma, 2008). Sundbo, Sundbo & Henten (2015) developed the framework based on service-dominant logic by Vargo and Lusch (Service-Dominant Logic: Reactions, Reflections, and Refinements, 2006). It helps out to better understand innovations with ICT-based service encounters as the very starting point.

“Co-creation is not simply inviting the customer to take part in the product development but integrates the organization's offerings into the lives of their customers,” defines Payne et al. (2008). In encounter-based innovation, co-creation is essential as it deciphers innovation from encounters between employees and customers (Prahalad & Ramaswamy, 2004). The employees are a link between customers and the firm. The customers come up with their potential needs and relay them to the employees. Employees then pass them to the firm, where innovation may

be realized (Sundbo, Sundbo & Henten, 2015). Thus, customers are not involved only in the initial phase of the innovation process but throughout the innovation process.

7.3.1. Innovations from ICT-based Encounters

In ICT-based service encounters, technology is inserted between the service provider and the user. Henten (2012), in his research on innovations from the ICT-based service encounters, found out the use of ICT in service encounters contributes significantly to innovation. The study offers a theoretically informed analytical service approach framework of categories of services to analyze the innovations from ICT-based service encounters. In innovation from ICT-based service encounters, ICT becomes the core part of innovation, and therefore we see traditional face-to-face encounters do not take place here. In many service encounters, customers interact with ICT to create service outcomes (Bitner et al., 2000; Chaiprasit & Swierczek, 2011).

The emergence of ICT interfaces presents new opportunities to make processes in the industry more accessible and more efficient (Buhalis & Main, 2008). ICT-based service encounters have become an essential aspect of innovative activity within the service industry. These encounters have helped transfer information retrieved from interaction with customers to tangible and intangible value or what is referred to as innovation (Taques et al., 2021). The firm can also become a source of innovation to its clients by initiating and supporting the clients' innovation process through interactions and knowledge exchange.

7.3.2. Innovations from AI-based Service Encounters and AI-chatbots

From the previous discussions on service encounters and service-dominant logic, it can be concluded that services are an essential base for exchanging knowledge and skills (Vargo & Lusch, 2008). AI facilitates these exchanges by providing knowledge and making the interactions user-friendly and without human involvement required (Bakovic et. al., 2021). AI can spontaneously connect with customers and hence become a practical resource for value creation (Makridakis, 2017). Also, increased flexibility and personalization due to AI-based encounters have helped improve service quality and positively impact customer satisfaction and loyalty. AI-based service encounters reshape companies and how innovation management is

organized. AI may compel the company to rethink the entire innovation process (Haefner et al., 2021). AI chatbots play a critical role in the innovation management process, giving both creativity and organized data. It documentation users' data and ideas in a structured manner (Johansen, Schaller & Klus, 2020; Tavanpoor & Bitner, 2018).

The popularity of AI chatbots is increasing to improve co-creation and value creation (Kariman, 2017). AI chatbots in service encounters support the company's communication with customers and are also used internally to improve and accelerate workflows. Chatbots are gaining recognition as companies widely receive chatbots' ability to support external communications with customers, and also chatbots are available throughout (Xu, Liu, Guo, Sinha & Akkiraju, 2017). To summarize, we can say look further upon the role played by AI chatbots in service encounters, co-creation, and innovation. The following diagrammatic illustrations provide a better understanding of the arguments stated in the review above.

7.4. Conceptual Model

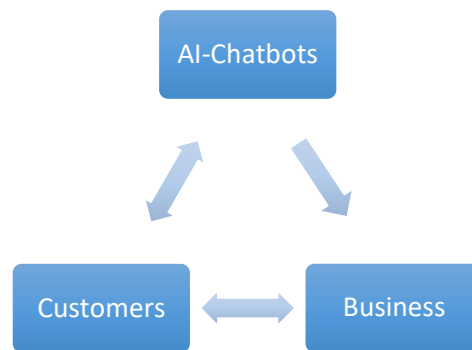


Figure 1

From the traditional times, customers and businesses have interacted, be it face-to-face or through ICTs, where human agents from the side of service providers were required to be present. For example, when customers engage with service providers through telephone or live chats, it was needed that a human agent was on the line. However, as depicted in Figure 1, with AI chatbots, customers interact with AI machines without human involvement from the business

side. Here, the business will not directly contact the customers but receive customer data through their interaction with AI chatbots. Given the limited development of AI chatbots that cannot understand and interpret emotional and high-analytical levels, customers can make suggestions to businesses through both AI chatbots and face-to-face or other ICT-based encounters. The indicators of customer encounter with AI chatbots can come under three areas, customer satisfaction, comprehension level, and goal completion.

Innovations come when new solutions are sought to solve problems faced by customers. The employment of AI-chatbots for customers encounter holds a significant role in co-creation and innovation as a whole. The data collected and advancements in AI chatbots are the results achieved from customer interactions, be it face-to-face, ICT-based or AI-based. The data can be both quantitative and qualitative. As seen in Figure 2, co-creation is now also performed with the information garnered via AI chatbots along with inputs from customers and businesses through other channels of interaction. Co-creation further aids firms in developing a novel product or service. Innovation helps create value for the company. It largely helps solve problems faced by customers, ultimately satisfying them.

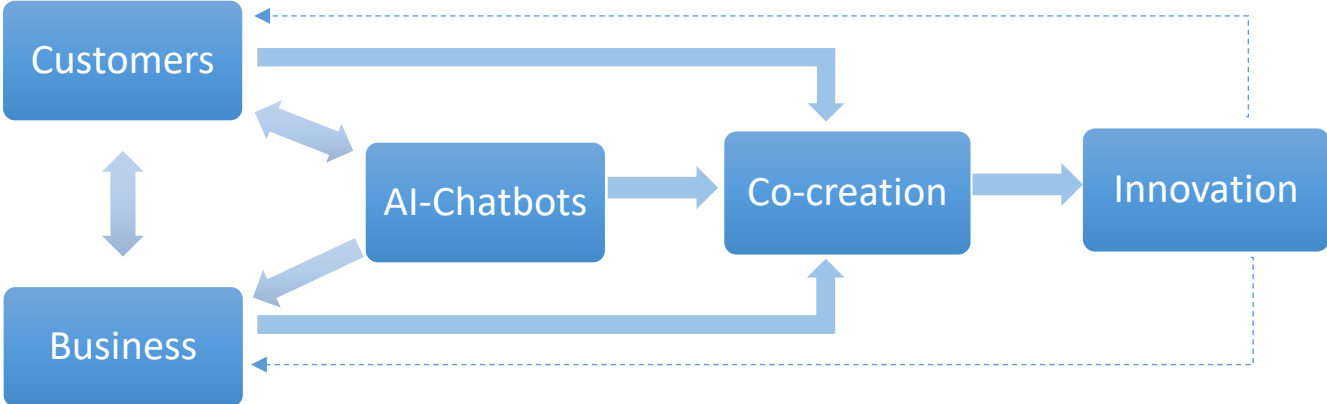


Figure 2

Value creation is the starting point of all businesses. Businesses cannot innovate in the absence of interaction between employees and customers. Customers' needs should be understood, interpreted, and met through innovation. Without customers as partners of your innovation, a business can never generate the experience customers seek (Eckert, 2019). A company aims to create value, sell or trade it to customers, and get some of that value as profit. AI has the potential

of spontaneously connecting with customers and hence become an effective resource for value creation (Vargo & Lusch, 2008). AI chatbots add value to the customer experience by offering human-like familiarity without simple human errors in customer interactions. They also provide two-way interaction between the firm and the customers, which is imperative for customer support services. They are also reducing costs in firms where firms assign more repetitive tasks to chatbots leaving the employees with ample time to focus more on valuable tasks as well as keeping tabs on the customers. With the knowledge of the customer needs, an organization is able to determine which needs are unmet, discover new segments of customers with unique sets of unmet needs, systematically conceptualize breakthrough products, predict which new concepts and offerings will be successful in the market, and align the actions of marketing, research and development to orchestrate the systematic creation of the customer value (Ulwick, 2018).

8. Methodology

8.1. Research Design

A qualitative approach has been undertaken for this study which integrates the steps from qualitative studies. This study first focuses on understanding the research and posit why this research will help in the field of the research area. With the newness and complexity of the research area, which prominently involves customer actions (Mohajan, 2018) with AI chatbots, it was decided to do qualitative research (Byrne, 2017a).

Exploratory research is carried out to explain the findings and interpret the results derived (Byrne, 2017b). The research outlines the current affairs dealing with research themes and posits the results purely based on the data collected from different studies and methods. Thematic analysis was performed to identify themes from the theoretical review (Byrne, 2017c). The theoretical review was first performed to identify elements for the study based on previous studies. Understanding these themes in relation to AI chatbots and integrating the findings with the empirical evidence collected. An analytical model was formed based on the papers reviewed, and themes were identified and applied to the interview transcripts. Content analysis was performed for both systematic review and interviews conducted. The frequency of issues commented on (Byrne, 2017d) became the base for themes dedicated in the systematic review and analysis of results from both systematic review and interview. Given the flexibility of the qualitative approach of the research, any other relevant contents from the interviews, which are not categorized under the pre-defined themes penned in the theoretical review chapter and mentioned in the findings chapter, might be pointed out in the interpretation (Mohajan, 2018).

The theoretical review has already been given above, the empirical evidence and discussions are stated in the upcoming chapters. These chapters will further give detail on how the theoretical review was carried out and the empirical evidence collected.

8.2. Theoretical Review

The evidence on the selected research topic is first selected through a review of past literary works. A critical analysis is then done on these selected research papers. Further, the theoretical study also consists of an overview of the subject collected from various articles to understand the issue and find out the gap in the knowledge so far (Jesson, Matheson & Lacey, 2011). A rapid review is mainly based on a comprehensive search of all available electronic databases and some selected journals, but this does not mean an exhaustive inspection.

The use of keywords is the most popular way of searching databases. It is essential to carefully choose the said keywords in order to produce the most relevant results (Cronin, Ryan & Coughlan, 2008). Following the concept, the search for literature in this study was conducted using keywords, chatbots, AI, AI chatbots, customer encounter, service encounter, innovation, business, co-creation, value creation, gradually expanding them with corresponding synonyms and other related keywords such as conversational agent, AI marketing, bots, and ICT-based service encounters. These keywords are the initial keywords tapping on the theme of the research. The torrents of articles that appeared in the search results were sorted out through a brief scan of titles, abstracts, and keywords within the paper. Further, the search was expanded through different related terms in the found literature. As the researcher's knowledge was limited in the area, to expand the knowledge and sought out the most relevant materials, the researcher also highly depended on existing references retrieved from the papers reviewed.

The research database used was Research Gate, Science Direct, a digital library of Association for Computing Machinery, ProQuest, Scopus, Sage, Google Scholar, Springer, Institute of Electrical and Electronics Engineers Xplore, and online library of Aalborg University and Salzburg University, among many other. However, since the research does not explore the technical aspects of AI chatbots, they were considered irrelevant and discarded. Similarly, keywords, customer and service encounter, innovation, and business included studies separately without any connection to chatbots or information communication technologies, and these studies were also omitted from the results.

8.3. Systematic review

As the topic is novel to the research body, the researcher decided to perform a thorough systematic review of blog articles pinned down by the experts of this research subject. ‘Blog search engine,’ a search engine for blogs, was used to search for the blogs on the defined research area. The articles were also selected on the basis of their citations in the literature papers which were reviewed in the former chapters of this research. However, due to the constraint of time, this study could only research up to fifty blog articles for this semi-structured systematic review performed. To define the criteria for the search, search engine optimized keywords were used as similar to researching literature papers. The keywords included AI, chatbots, innovation, business, customer encounter, and conversational marketing, but they were not limited to it. The synonyms of the said terms and other related keywords were also used to find the articles. Further, to keep up with the current trend and advancement of technology, and also to limit the number of blog articles to be reviewed, it was filtered according to the published date of the articles. Articles published in the past five years were only sought out regarding the benefits of customer encounter with chatbots and their impact on business innovation. After a thorough study of these fifty articles, clusters were made from the common factors mentioned and their frequency in these articles. These factors were posited to be the innovation factors that AI chatbots define in the industry, ultimately enabling the research paper to answer the research question. The clusters defined and later discussed upon are:

- Increase customer satisfaction and engagement
- Round-the-clock customer support
- Reduce operational cost
- Chatbots can work alongside humans
- Open new avenues for marketing and sales
- Provide personalized content to customers
- AI-powered chatbots: the future of marketing

Further, the findings under these clustered are elaborated under the empirical evidence chapter. They are discussed in relation to the theoretical research done and validated with interviews conducted.

8.4. Interview

Considering the limited knowledge in the field of the implication of AI chatbots in business innovation, semi-structured interviews were conducted. This helps us to get a deeper insight into how the business perceives the role of AI chatbots in innovation.

The interview guide questions were generated from the learnings derived from theoretical review in accordance with the analytical model and findings from the semi-systematic review of the blog articles done.

Interview Guide Questions:

Factors	Interview Questions	Relation explained
General Information	Can you tell me a little about the chatbot you are using for customer encounters?	This section looks into the general information of chatbots employed by the companies.
AI-based service encounters / Systematic Review	What motivated you to use AI chatbots for customer encounters? Have your expectations of using AI chatbots been met?	As discussed in the former sections of the paper about service encounters, primarily the focus is on AI-based chatbots and their use by the companies for customer or service encounters. In relation to discovering the value creation that could be delivered from AI chatbots, the study aims to find the reasons behind employing AI chatbots for service encounter purposes and further look if the expectations forecasted have been met or not with it.

		The systematic review also gives an insight into why firms are integrating AI chatbots. Therefore, the study looks forward to validating the findings from the systematic review of this question.
Types of service encounters and customer satisfaction	Are your customers satisfied with interacting with AI chatbots? Do they prefer talking to chatbots, or they prefer human interaction?	Both the theoretical review and systematic review posits that customer satisfaction is the primary goal behind any service. This question is to know whether AI chatbots play any role in replacing the traditional method of service encounters, i.e., face-to-face encounters or ICT-based service encounters. The impact AI chatbots can have in business by understanding customer preferences for communicating with service providers can be verified from this.
Organizational Impact	The overall impact of AI chatbots on business	This section will help attain the overall impact of AI chatbots that businesses have so far faced. It also helps to understand if AI chatbots have brought any kind of benefits to the firm.
Co-creation and Innovation	Have AI chatbots been a catalyst for any innovation in your firm?	For any innovation to take place, co-creation must happen. This section tries to determine if co-creation is happening within the

		firm and if AI chatbots have ever played a role in formulating novel solutions for customers. The systematic review indicates AI chatbots open new avenues for marketing and delivering personalized content to customers, and this research aim to validate these points through this question.
Innovation	Do you think AI chatbots will be able to aid business innovation in the future?	There is a lack of research on AI chatbots and their implication for business innovation from the theoretical review and systematic review. Therefore, the answer to this question will deliver the outlook of businesses on AI chatbots in the current context and how they see it in the upcoming days.

After the formation of the interview guide questions, a purposive sampling technique was used to reach out to businesses using AI chatbots for customer encounters. This technique was adapted as the evidence for this study could only be collected from limited data sources. LinkedIn was used as a search engine for this purpose. The set keywords, AI, chatbots, business innovation, service encounters, conversational marketing, were used for a broad search of the companies that fit the criteria. Moreover, to restrict the results, company size, domain, and location were selected in a second-order search. Multinational large-sized companies were discarded, and consumer-driven industries that are considered as the most promising sectors for chatbots in customer service made it into the list (Cui et al., 2017). After sort-listing, the top-most ten companies were reached out via email and LinkedIn messaging platform requesting their time for the interview. Out of these companies, it is confirmed and conducted interviews

with personnel from three different companies. These companies interviewed come from various sectors; online betting, e-commerce, and telecommunications.

The interviews were conducted online on the set date and time via various web applications; Microsoft Teams, Quorum, and Google Meet. All interviews were done in the English language and recorded, transcribed, and analyzed as required. The consent was taken for the recording of the session and the use of the contents in the research paper.

9. Empirical Evidence

9.1. Systematic Review

Relationships are built from a series of service encounters with the business. Successful service encounters are the key to customer satisfaction which will ultimately improve the business. Currently, top managers are expanding their strategies to design and manage the entire process of the customer service encounter to provide a better experience. For the past five years, several authors have penned about the advantage of customer service encounters using AI-powered chatbots.

i. Increase customer satisfaction and engagement

Voroneckis has reported that the use of AI chatbots increases the engagement of customers by 14% as compared to email (Voroneckis, 2019). Furthermore, unlike any other marketing channel, it has the highest click-through rate (CTR) of 84%. Study shows that 71% of people are willing to get assistance from messaging apps which means they want quick solutions to their problems (Bodner, 2018). AI-powered chatbots allow quicker response time to customer queries and faster resolutions, thereby increasing customer satisfaction (Jordan, 2019; Srivastava, n.d.). Findings from a study reveal that 65% of millennials, 65% of Generation X, and 63% of baby boomers would much instead send a message than call customer service (Barker, 2019). More than 50% of people surveyed across 15 markets believe that business messaging is the modern way to communicate (Facebook, 2018). AI-powered chatbots send

visual content and give information regarding discount offers or product information to keep the customer interested, thereby boosting customers' engagement (Laduram, 2020).

ii. Round-the-clock Customer support

Artificial Intelligence is changing the way to support customers, whether it is a very general question that one can find in FAQ pages or contemplating which product to purchase. AI-powered chatbots have become widely available and made possible what was once impossible: help customers 24/7, automatically resolve questions without any human intervention, and provide support to multiple customers at once (Pettersen, n.d.). AI chatbots allow businesses and brands to be online 24 hours a day and 365 days of the year, providing customer support, including instant responses, quick answers, complaint resolutions, etc. (Kim, 2017). A leading chatbot vendor claims that using AI chatbots can help to solve 70% of support queries (Yellow messenger, n.d.). Kaye states that AI chatbots are available when your consumers need them, allowing them to trust that your brand will always provide a swift response (Kaye, 2019). In a survey, it was found that more than 50% of Americans have or would be willing to communicate with AI chatbots (Chatbots, 2016).

iii. Reduce operational cost

The operating cost of customer service calls which goes up to 265 billion, amounts to \$1.3 trillion each year. AI chatbots can help companies save on customer service costs by speeding up response time, giving employees time to do more productive or challenging work, and answering 80% of routine questions (Reddy, 2017). Chatbots magazine states that up to 30% of customer service costs can be reduced with the implementation of conversational agents such as AI-powered chatbots (Maruti Techlabs, 2017). Statistics from an Aspect software show that the "average cost of a customer to service phone interaction is around \$35 to \$50 per interaction". In contrast, text chat is significantly less expensive, averaging approximately \$8 to \$10 per session (Aspect, 2014). In addition, AI chatbots reduce operating expenses related to the volume of phone calls and the duration of calls (MJV, 2020; Morozova, n.d.). In other words, improved operation and smarter interaction with a customer can be delivered by using an AI chatbot (Hales, 2020; Shanbhag, 2019).

iv. Chatbots can work alongside humans

AI chatbots can work alongside humans and assist them in several ways. It can take up simple and frequently asked questions and free up agent resources for complex cases (Vernersson, 2021; Meenu, 2021; Alton, 2019). Second, it can identify those visitors that are more likely to buy and engage them in a better way (Vernersson, 2021). It can collect information from the customer, which can be utilized for analytical purposes to give the agents and company insights into customer behavior (Clickatell, 2017). IBM Watson is an example of AI chatbots that can also learn from human intelligence and become more competitive with the increasing level of sophistication (Rathod, 2019). Harvard business review published in his report that human-machine collaboration enables companies to interact with employees and customers in novel and effective ways (Wilson and Daugherty, 2018). Forbes reports that AI plus human intelligence is the future of the workplace (Meister, 2018).

v. Open new avenues for marketing and sales

AI chatbots are not merely tools that help to improve customer service. It can be used for marketing brands and products too. It can also be used to send out offers to customers based on their purchase history. The entire customer base can be reached through AI chatbots, especially on social networking sites (Patel, 2021), which could be a more efficient method of reaching out to them and providing them with personalized content (Hildebrand and Bergner, 2019). Unlike humans, AI chatbots do not keep customers waiting for responses, enabling a smooth transition between stages of the sales funnel (ChatbotNews, 2018; Newlands, 2017). AI chatbots can predict customer behavior, and this makes them a convenient tool for marketing. It helps to reach the right people at the right time and can help with conversion rate optimization (Perminova, 2017). This way, it can be used to market the brand and the product in a more personalized manner. When the message reaches the audience at the right time, and wherever the customers are present, it can significantly impact sales compared to passive marketing (Gnani Marketing, 2021). 77% of consumers said that positive conversations with the chatbot made them purchase more frequently from brands (Barker, 2019).

vi. Provide personalized content to customers

The most critical aspect of business nowadays is utilizing tools to collect user data and provide the required personalization that users want without breaking the budget (Guha, 2018). The AI chatbots can personalize the customer experience by establishing personalized interactions (Vruntas, 2020). These include not just providing them with the exact or similar products but also advises on their purchases. These personalized contents are based on data directly or indirectly derived from customers. Indirect data may include the browsing history and purchase history of the customers. It recommends products or actions in real-time using customer's feedback in messenger apps on websites, social media platforms, and advertisements (Dooley, 2021; Walch, 2020). The conversational chatbot is the most advanced AI chatbot. They can deliver the best possible and personalized customer experience (Goworek, 2020; Savage, 2020). Consumers and brands embrace conversational AI chatbots because they provide customized experiences. Moreover, these experiences are delivered in a quick fashion and have made sending in and receiving queries easier than the traditional ways of interacting with businesses (Clark, 2020).

vii. AI-powered chatbots: The future of marketing

When customers have a problem, they follow the path of least resistance to the solution. AI chatbots can provide quick solutions with minimal effort (Dass, 2018). It can resolve 80% of consumer's queries without human support (Xing, 2020; Rauthan, 2019). The chatbot technology is not limited to big tech and other industry dominators, and the cost to implement AI chatbots is pretty reasonable. With the right chat tools, any company, even one without professional programmers who can code, can get started with AI chatbots (Hall, 2017). It can be said that AI chatbots could well be the future of marketing (Zhou, 2017; Hubspot, n.d.). It is reinforced by recently released data from Facebook that illustrates the value of the AI-powered chatbots for the business:

- Two billion messages are exchanged between customers and businesses each month
- 56 percent of people prefer to message than speak to a customer service
- More than half of the people are more likely to buy from an organization they can message (Graber, 2020)

The systematic review of these fifty blog articles discloses that AI chatbots, apart from being an innovation in itself, have also opened up the avenue to translate their knowledge into marketable solutions. With their ability to direct the customers through the marketing funnel and keep them engaged with a brand, AI chatbots add new value to companies' responses to the customers' queries and interests (Kumar, 2020). With intelligent and smart chatbot technology, providing personalized services to customers has become easier and cost-effective. Additionally, these personalized services can be enjoyed by customers anywhere and anytime (Leslie, 2017; Snatchbot, 2019). As the business applications of AI chatbots are growing rapidly, the report shows that by 2020, 85 percent of the brand-customer interactions will be done using AI chatbots and self-service options (Kumar, 2020).

9.2. Interview Findings

The following tables give the overview of the interview summary in regard to the research question. The factors are the themes collated from the theoretical review; the output indicates the answers given by the interviewees, and quotes depict the statement right away from the conversation held. In total, three consumer-driven companies participated in the interview process from various sectors.

Interviewee I is an online gambling company. This company is one of Europe's largest online gambling brands, which lets users get a memorable experience with betting opportunities covering ranges from World Cup, Euro cup, horse race, and many more. Always looking for novel ways of bringing services to customers, this online betting company integrated AI chatbots in 2018 and operated them for one calendar year only. They have not only used text-based conversational tools to provide service to their customers, but they have also employed voice-based services. Nevertheless, given the low and almost no return on the investment through these integrations, they do not want to employ any kinds of AI-based conversational tools in the recent future.

Interview II is an e-commerce business based in the Philippines. The company has halted using chatbots currently. It was operating chatbots through its Facebook page and had experimented with many other third-party chatbots over the years. Given the deviation of customers from the

website to different applications, this e-commerce business is taking a break from providing chatbot services to its customers. However, it is experimenting with various chatbots in the present day to discover chatbots that will provide their customers with the most satisfactory experience. It will be coming up with the best chatbot solution for its business that will meet the customers' purpose in the best possible way from their parent website.

Interview III is conducted with a product designer from Australia’s largest telecommunication company. The company introduced its first chatbot in 2018. Over the years, it has seen many updates and more outstanding features added to provide the best customer experience. They have moved from unauthenticated help and support conversations to authenticated transactional conversations. The company also claims to give a 360-degree view of customers and their services to provide highly personalized content to customers. So not only it has a chatbot integrated into its multiple channels, but it also has an AI-powered physical robot available in their corporate office with which customers can interact. Despite facing backlash from customers when initially launched on how their chatbot, Codi cannot even understand simple tasks as distinguishing a name of a human and a name of the country, this telco company has come way forward. It continues to provide experiences to customers solving their problems in the most efficient way while making customers comfortable talking to machines.

The summary of the interviews conducted are presented below:

Interview I		
Interviewee: New Channels Owner, Online gambling		
Interview Protocol: A00		
Factors	Output	Quotes
General Information	A fully functioned AI chatbots operated for one calendar year	<ul style="list-style-type: none"> • <i>build a prototype chatbot that we really were looking for could it enable people to place bets.</i> • <i>support functionality around that, so around FAQs</i> • <i>live in the UK and Australia, primarily just because they are the English speaking market</i>

<p>AI-based service encounters / Systematic Review</p>	<p>Novel concept Too ambitious with AI chatbots Stopped using AI chatbots</p>	<ul style="list-style-type: none"> • <i>looking to basically integrate our customer support network into it ...but... there was still some support built in not as deep as we want.</i> • <i>we tried to actually go authentic to conversation, which is novel of us [...] we realize we're probably trying to be too ambitious</i> • <i>as soon as a human actually did what a human wants to do, it got confused</i> • <i>other reason we stopped is that because we were trying to sell on Facebook, messenger ... instead of our website [...] there was some positive through flow but it wasn't enough to justify the investment basically</i>
<p>Types of service encounters and customer satisfaction</p>	<p>Customers strongly objected holding conversation with an AI chatbot especially when it comes to money matters</p>	<ul style="list-style-type: none"> • <i>they weren't willing to let it go to real money actually being able to place the bets through Facebook, which is understandable [...]there was basically policy limitation too</i> • <i>people will ask what they want to ask</i> • <i>we tried to be kind of understanding and soft approach to the customer ... people just got annoyed</i> • <i>you and I can understand each other</i> • <i>better conversation with a customer just because human level interactions are beyond what AI is at the moment</i> • <i>we have a large customer support team who's on 24/7, across every single market [...] human agents have better conversation with a</i>

		<p><i>customer just because human level interactions are beyond what AI is at the moment</i></p> <ul style="list-style-type: none"> • <i>It doesn't give us a comfort that we need as users</i>
Organizational Impact	<p>Business could be present where the customers are.</p> <p>Opened avenues for marketing and personalized content.</p> <p>The impact can be seen only when customers take the route, business forecasted.</p>	<ul style="list-style-type: none"> • <i>where the field currently is and what the capabilities were and are [...]every event trying to market ourselves, it was mainly around successful conversations and civic topics that people were asking about</i> • <i>offering a unique novel experience for customers</i> • <i>having that contact point to a channel they spend time on anyway ... Facebook [...] more time on Facebook than on our apps and products</i> • <i>someone started a conversation with you, you could directly reach out to them and message them, we could use it as an upscale or we could use it as a marketing reengagement channel</i> • <i>we tried to actually go authentic to conversation, [...] if you stuck to the route that we wanted to, it worked beautifully, it was an asset</i> • <i>limited it to a very click box button, then yeah, we could have talked probably having more structured conversation</i> • <i>chatbots are too complicated at the moment [...] it's worth doing just because the aim is surely to make your website easy to navigate, easy to find what you want to bet on faster to do</i>

		<i>so rather than adding a layer of complication around it.</i>
Co-creation		
Innovation	No impact on innovation Too complicated	<ul style="list-style-type: none"> • <i>don't see us going back into the space at least for another few years</i> • <i>Now we explored it, we looked at it in quite a lot of detail. But we prioritize making the core experience better rather than adding complication</i>

Interview II		
Interviewee: Chief Executive Officer, E-commerce		
Interview Protocol: A02		
Factors	Output	Quotes
General Information	Currently paused the use of chatbot Will implement AI chatbot in future	<ul style="list-style-type: none"> • <i>experimented with chatbots for quite some time, it's been an ongoing activity for the organization</i> • <i>turned off the chatbots from our facebook page because we're now experimenting, on transitioning them to having the website UX experience</i> • <i>We have decided to turn off chatbots because if we continue the chatbots and the queries will be answered by the chatbots, we won't be able to make them go to the page that we're testing at the moment</i> • <i>We have not found the ideal solution yet but our vision for the chatbot is to have a multilingual AI-based chatbot that is integrated to our CRM</i>

		<i>and ERP with very close to human like interaction.</i>
AI-based service encounters / Systematic Review	Decreased cost Increased efficiency Optimized data Initial expectations not met	<ul style="list-style-type: none"> • <i>first, the number of resources that we have ... inquiries based on the number of man hours</i> • <i>Second, most of the inquiries that we're getting can be categorized, can be optimized</i> • <i>Third, would be efficiency</i> • <i>The initial expectations were not actually met</i>
Types of service encounters and customer satisfaction	Customers are happy when their problem is solved quickly Human interaction is preferred Chatbots are not preferred	<ul style="list-style-type: none"> • <i>those that have their inquiries addressed within a very short period of time are happy [...] those whose concerns were not addressed by the system are not happy, or those that took longer time</i> • <i>Filipino culture. We are tech savvy, we're but we're still we still prefer to have human interaction.</i> • <i>participants said that they do not like to engage with chat bots [...] have happy reactions with a dashboard. Because they would say that oh, there it is, we see everything</i> • <i>concern that we have coming from our customers is that they're having difficulty communicating with the chatbots</i> • <i>a very big difference on how customer experience is between the chatbot and the live person</i>
Organizational Impact	Manage customer concerns and understanding	<ul style="list-style-type: none"> • <i>customer concerns specially their order statuses</i> • <i>terms of the sales, I think that would be the second</i>

	behavioral pattern from chat inquiries High sales Personalized content	<ul style="list-style-type: none"> • <i>Third would probably be the learnings that we're getting from the chatbot inquiries.</i> • <i>Chatbots are good [...] we have identified 30% of our users who would like to use chat bots</i> • <i>So if they have inquiries going through the chatbot, and we're able to match it with something else they might be interested</i>
Co-creation and Innovation	Use cases are developed based on customer online behavior	<ul style="list-style-type: none"> • <i>top use cases that we have identified top scenario stuff concerns, and then we customize it based on those customer behavior.</i>
Innovation	In the future, impact can be seen	<ul style="list-style-type: none"> • <i>given the data that we had and the experience that we've gone through, we can say that it's not yet the peak</i> • <i>aside from the early adopters that we have determined, we'd say that there's still a very long way for the chatbot to be really big part of the day to day transaction</i> • <i>are working on optimization and automation [...] we are not there yet but it's just a matter of time for technology to fully catch up and provide a truly seamless and humanlike experience</i>

Interview III		
Interviewee: Product Designer, Telecommunication		
Interview Protocol: A03		
Factors	Output	Quotes
General Information	Chatbots was first employed in 2018.	<ul style="list-style-type: none"> • <i>rule-based one earlier [...] they were not sophisticated to do payments and different</i>

	Then, it was rule-based, but now they operate AI chatbots.	<i>other personalized features that we have right now</i>
AI-based service encounters / Systematic Review	Reduce massive call volumes. Be the telco company that is up to the trend in the market in the technology sector. Customers demanded AI chatbots.	<ul style="list-style-type: none"> • <i>competitive market analysis</i> • <i>reduce the calls huge volumes [...]in a month, I think we are getting about 500,000 kind of queries only in the chat</i> • <i>show the public that we are really good at technology as well, like, creating technology for you and also providing services through it</i> • <i>next generation said they (chatbots) are what they are looking after</i> • <i>there's a lot of competitors, and other platform will use it as kind of the technology to solve their customers' problems. And that is where everyone wants to be, and the customer expects that one as well</i> • <i>telco business is not just selling you on plans, but also provide you with smart solutions and products and other technologies rather than just for them but also for customers</i>
Types of service encounters and customer satisfaction	Tech-savvy people, especially millennials and generations after it who are into chatting asked for chatbots, are happy to use these bots to reduce their wait	<ul style="list-style-type: none"> • <i>more tech savvy people who kind of very much used to the chat functionality and also wanted to</i> • <i>We still see customers on positive side when it comes to personalized stuff. [...] Not also, and they kind of find out, if their replies pretty much machine oriented, like</i>

	<p>time. Still, more people are not comfortable with holding a conversation with machines yet.</p> <p>Chatbots are being accepted majorly due to reduce in call wait time. Customers are optimistic about receiving personalized content. However, they are concerned about data privacy and would prefer human agents at these times.</p> <p>People who are not literate and do not understand the technology and English language have problems interacting with chatbots.</p> <p>Received negative feedback such as the chatbot is stupid.</p> <p>The expectations from AI chatbots was never met.</p>	<p><i>machine language kind of thing, not a human language. So that's a bit worried. They always say that, oh, we wanted to talk to someone.</i></p> <ul style="list-style-type: none"> • <i>But yeah, when there is like a call, wait for 30 minutes and get call wait for a long time, like few hours and they can't get into the call, I think people started accepting it slowly that okay. This is another way to accept it. That the word like in this state now so it's people are too busy to talk, then maybe this is this is how my problem is going to be solved.</i> • <i>We used to get those kind of calls, [...] from the customer that Codi is stupid. And also it's still there are a lot and they are saying that I definitely don't want to talk to anyone as with the machines.</i> • <i>there is some percentage of customers who wanted to use self-service. These customers are tech in nature, and customers used to digital channels</i> • <i>a millennial or behind those, people sometimes don't really bother to speak to a person [...] wants self serving system and does not want to be served by the human.</i> • <i>Codi did not meet what the expectation of the company especially when it was first launched</i>
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		<ul style="list-style-type: none"> • <i>The population of Codi users is small, but it is growing [...] some people use it, some don't use it and for some it is just another form of solving their problems</i>
Organizational Impact	<p>Saved time and cost</p> <p>Increased productivity</p> <p>Round the clock availability</p> <p>Information hub</p>	<ul style="list-style-type: none"> • <i>On the business side, also, I think definitely, AI side is more beneficial. It is available 24/7 for customers to solve their problems, we are happy when customers are happy. To a very minimal extent, operation cost has been saved but more than that it is the time that employees can utilize in other productive tasks.</i> • <i>help the company to create brand impression</i> • <i>who wants self-serving system and does not want to be served by the human, they can actually get everything they want there</i>
Co-creation	<p>AI chatbot was itself a form of innovation</p> <p>Customer feedback became the upgrades in the chatbot.</p> <p>Customers do not expect much from talking with machines</p> <p>AI chatbots have become a catalyst for other AI projects</p>	<ul style="list-style-type: none"> • <i>Codi was tested in front of the customer by the customer</i> • <i>There are design ideas and app features evolved through its concept.</i> • <i>We wanted to know what, what do customers expect from Codi. And lot of people were not expecting too much of detail from Codi</i> • <i>We asked customers, if they want to do some complex tasks like filling forms through chatbots in their mobiles or laptops and they were like no, if I have to do that I'll just find a store and wait for</i>

		<p><i>someone to do it for me especially since it is free. So why would I bother to do it in this screen and trouble myself to do all that. So there are complex task, they're not expecting from Codi. They are expecting very much minimal kind of content and which they can easily digest and easily understand, to the extent of self-servicing somebody doesn't have to explain them. And these kinds of simple tasks is already done by Codi in the current version.</i></p> <ul style="list-style-type: none"> <i>• The AI chatbot has been the catalyst for AI projects in other parts of Telstra to design new products and services.</i>
<p>Innovation</p>	<p>Very minimal effect in business innovation</p>	<ul style="list-style-type: none"> <i>• in 2018 there was like, oh we can get it but I think 2021 I think [...] things are quite basic, [...] it's for the future</i> <i>• information retrieved through AI-chatbots, analyzing those and creating future innovation or future product, the impact is very minimal</i> <i>• If it's been not that effective, but definitely the queries and the everyday engagement makes Telstra understand that okay, customers are really, they are interested on these things. And we are analyzing that data to create any other product or service until now</i> <i>• business innovation side definitely data coming from Codi helps, but that needs to</i>

		<p><i>be analyzed by humans to process those data. But a direct involvement of Codi to create other business opportunities, and other business process, I think it still takes time for a while. I would say at least for few years</i></p>
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10. Discussion

10.1. Why AI chatbots for service encounters?

AI chatbots are seeing a rise as conversational marketing is being a crucial element of business. One of the significant reasons being the availability of needed service round-the-clock. Pettersen and Kaye discuss the possibility of interaction between customers and companies all year round has now become a reality with AI chatbots. Just by being available for customers regardless of time zone and geographical location, the wait time of customers and businesses has been drastically reduced.

Unlike a human agent, who can cater to one customer at a time and is available only during business hours, AI chatbots can cater to many customers at once (Pettersen, n.d.). Interviewers II and III also confirm this. In addition, both the interviewers agree that with AI chatbots, the call time for customers has drastically been brought down, including reduction of operating expenses (MJV, 2020; Morozova, n.d.) which further leaves the customer satisfied upon swift response (Karhunen, 2020; Jordan, 2019; Srivastava, n.d.).

As pointed out by the interviewer I, using AI chatbots as service encounters have led the business to be present where their customers are. And these customers are present on social networking sites and are willing to get assistance through these applications (Bodner, 2018), where customers spend most of the time, which all three interviewers agree upon. The competitive market is also one of the reasons behind using AI chatbots for customer encounter purposes. As Lemon and Verhoef (2016) comment that businesses are always on the lookout for building

strategies to better customers' experience, the interview backs this statement. Interview II and III emphasize that their companies use AI chatbots to keep up with the market trend.

10.2. AI chatbots and customer satisfaction

Satisfied customers look forward to their problems being solved. However, Karhunen (2020) mentions that customers get annoyed when chatbots cannot cater to their specific questions, which is true according to the interviews. Despite being AI-powered, AI chatbots require pre-defined use cases, and customers always come up with new ways of asking the question, says interviewer I, which leads to AI chatbots not being able to solve the problem and customers being annoyed. Interviewer II also puts forward a similar view where AI chatbots are not equipped enough to understand, interpret and solve all the queries put forward. The interviewers point out that this is due to the customers who, despite being aware that they are communicating with a machine, still expect it to understand every human way of forming sentences and context.

Businesses have often found that customers are satisfied when they receive personalized content that suits their taste and look forward to receiving suggestions (Vrontas, 2020) based on their preferences. This holds true in the case of e-commerce and telecommunication businesses, as can be seen from the interviews. Further, information sharing boosts customer's engagement with the brand (Laduram, 2020). It is evident that the more the customers interact with the AI chatbots, especially when they log in through social networking sites, the more tailored will be the content received by the customers leaving customers satisfied (Zhang, 2020; Zumstein & Hundertmark, 2017).

10.3. AI chatbots in co-creation and innovation

Agreeing with Bitner et al. (2000), we see that the telecommunication company constantly upgraded its chatbot according to feedback and reviews received from users. Here, customers themselves become a part of creating service (Henten, 2012). All three interviewees agree that as users adopt the use of AI chatbots, their feedback also incorporated more of how they want these chatbots to function for a better experience. A simple example can be AI chatbots being able to hold a conversation in different languages. The other typical example will be AI chatbots

being able to read image files sent by the customers. However, they argue that the AI-powered chatbots they have been using have not been advanced enough to solve this issue. Though able to send images of different products, as in the case of the e-commerce site stated in the interview, AI chatbots are not able to decipher the images received from the customers.

There is a substantial study gap when it comes to delivering innovative aspects of AI chatbots in the systematic review. These blog articles outline the benefits of AI chatbots in business innovation and cover various areas where they can be utilized as innovative technology. However, its role as a catalyst in business innovation is overlooked by the authors. The empirical evidence collected from the interviews shares the same result. The interviewees depict that apart from being an innovation itself, AI chatbots have not been a part of the innovation process in their business system. Regardless, interviewer III mentions that learnings and experiences from their employed AI chatbot have become an inspiration for developing other AI-based technology in their telco business.

10.4. Implication of AI chatbots-based service encounters on business innovation

The theoretical review gives us an understanding of how AI chatbots can be a part of an innovation process in business. It provides us with an outline where value creation for both companies and customers depends on innovation that occurs from co-creation (Henten, 2012). And ICT-based service encounters, especially AI-based conversational agents, play a role in customers being a part of creating the service itself. However, the empirical evidence stresses the limitations of AI chatbots which hinders the path of AI chatbots towards being a catalyst in business innovation. One interviewer states that there is no impact of AI chatbots on innovation, while the other two interviewees say that the impact is minimal. The complete satisfaction from AI chatbots for both business and customers are for the future. Past research insists that AI chatbots have improved so that they are not just conversational tools but also transactional tools (Mufadhol Wilbow, & Santoso, 2020). However, interviews share the view that there is still a very long way for AI chatbots to be the norm of day-to-day transactions.

Innovations are not necessarily developed during service encounters, but the ideas for innovations can be created through them (Henten, 2012). However, until this time, apart from being an innovation itself, AI chatbots have shown a strong inclination only towards being a

part of innovation in the marketing field. Many authors hold chatbots to be innovation itself. The interviews mention that introducing chatbots into their system for customer encounters was a part of innovation itself for the organization. Providing customers with novel ways of interacting for a better experience with prompt service is quoted as part of innovation when discussing the innovative aspect of AI chatbots in businesses by both blog articles and interviews.

Nevertheless, the future of AI chatbots does not look bleak, especially in the field of marketing. Many authors have penned that AI chatbots are the next marketing tool that every business will acquire. The systematic review holds marketing as a strong base where the implication of AI chatbots can bring out novel ways of reaching out to customers. The authors discuss how the entire customer base can be reached out through AI chatbots delivering personalized content with one click, especially on social networking sites (Patel, 2021; Hildebrand and Bergner, 2019).

With 77% of consumers stating that positive conversation with chatbots made them purchase more frequently from brands, AI chatbots can be the future of marketing. AI chatbots can predict customer behavior through information collected on customers in real-time, making them a convenient tool for marketing purposes. Further, this automated stored information analysis provides insights on customers and their behavior for various other purposes in an organization, including innovation (Clickatell, 2017; Perminova, 2017). The interviewees also shared how they used AI chatbots for marketing purposes. The integration of chatbots with social media especially had a significant impact. Social networking platforms could be used as a marketing channel where sending direct messages is allowed once customers start a conversation besides studying customer preference through their online behavior and keeping track of conversations.

10.5. Limitations of AI chatbots

The empirical evidence outlines the possibilities of why AI chatbots cannot be a part of the innovation process in the current context. The interviewees stand on one ground when talking about the expectations of AI chatbots. They all agree that the expectations with which they first started AI chatbots have not been met or very scantily met. Advancement in ICT is happening, and more the AI chatbots advance, customers' expectations also go to different levels,

interviewer III points out. The development of AI chatbots over the years has been stagnant, says interviewer I putting forward his view on AI chatbots. The argument is that the development of AI chatbots is slow. The AI chatbots which were available in the market from 2017 have nothing new to offer, even in 2021. They are still at a major disadvantage when it comes to emotional or higher-level analytical skills (Paluch & Wirtz, 2020). However, interviewer III believes that AI chatbots have come a long way, from providing answers as machines to holding a conversation in the most human-like as possible. He is in line with Grudin and Jacques (2019), who said that AI chatbots might not be fully developed but hold the essence of holding a conversation with human agents.

The survey by Accenture in 2018 proved that conversational bots are tied with a higher return of investment. However, this holds true according to the nature of business too. As depicted from the interview I, the online betting company, operated chatbots only for a year and did not think of employing them in the near future, mainly because it was not worth the investment. Chatbots are still complicated, and the expectations of customers will not be fully met at the moment. Interview II also talks about how customers are still not used to the chatbot system, due to which the conversation between customers and AI chatbots end up in dissatisfied customers.

AI chatbots for customer encounter purposes have more advantages, especially for business. It helps boost customer interaction, reduce call wait-time, lessen operation and human resource costs. Additionally, companies can provide service anywhere and anytime whenever the customers demand their attention. Given that customers are well aware that they are interacting with machines and do not expect these AI-powered chatbots to understand and provide solutions to every query, it can be concluded that AI chatbots can grow to be a part of innovation in businesses coming future. Constant upgrade of these chatbots should ensue with the obligation of including feedback and reviews from the customers, as it is the customers who will be interacting with these bots to solve their problems.

Customers are adapting to the new ways of communicating with businesses through AI chatbots, especially the new generations who massively spend time on social networking sites. Customers want their problems to be solved, be it by a human agent or a machine like AI chatbots, and the goal of business is to meet the expectation of customers and keep them satisfied. However, the

major hindrance customers are currently facing when interacting with machines is their inability to communicate in human language. It only gives the essence of interacting with humans and does not understand, interpret, and provide solutions as human agents do, especially when deciphering complex queries, which has become a significant barrier for AI chatbots to support business innovation.

Nevertheless, one cannot overlook the impact of the use of AI chatbots in the field of marketing. From sliding into the message applications' direct message to customers' learning preferences through their social media activities and online behaviors, AI chatbots have opened new avenues for businesses to interact with customers. Additionally, it has become one of the best conversational marketing tools used by the company for marketing purposes. AI chatbots can deliver personalized marketing content in bulk in one click, collect and deliver personalized content through the online behavior of the customer in real-time, and can also store conversations with customers for future purposes.

11. Conclusion

Businesses cannot leverage without having customers as a part of their innovation process. Value is created when encounters between customers and service providers happen to bring them together to come up with a solution. Here, the customers are valued and given utmost importance as the service provider attains to meet the customers' needs. In this research paper, the effort has been made to explore if customer encounters happening through AI chatbots play a role in this value creation between businesses and customers.

The study was expanded from theoretical review to understand past works on the selected research topic to collect empirical evidence from systematic reviews of blog articles and conduct semi-structured interviews with representatives from different business sectors. Firstly, an analytical model with defined crucial elements is proposed to answer the research question and further map the ways of collecting empirical evidence. These elements are service encounters between business and customers through AI chatbots, co-creation, and innovation. They are derived from the theoretical review. Secondly, due to the newness of the research topic, a

systematic review of fifty blog articles is done to identify the different implications of AI chatbots on business innovation. Thirdly, semi-structured interviews were conducted to collect empirical evidence for the research.

As a result of the theoretical review, systematic review, and interviews, the research has concluded that AI chatbots fall short when it comes to implications on business innovation despite advancements in technology and AI. Though inadequate in amount, the past studies present AI chatbots as a successful conversational agent for business in the current context. However, the innovation impact of these chatbots from the empirical evidence implies otherwise. Though successfully employing AI chatbots, companies do not see the potential impact of it in business innovation. Businesses still believe that AI chatbots have a long way to fully satisfy both customers and business and play a crucial role in the business innovation system. Then again, one should not oversee the impact of AI chatbots in the marketing field, which is illustrated in the systematic review and agreed upon by interviewers.

The findings of this study are limited due to time constraints. The systematic review of fifty blog articles does accumulate insights, however, the findings would have had stronger ground if more articles could have been reviewed. The same goes for the number of interviews used in this study. The research question has been answered based on three interviews only. This cannot be considered to be a representation for millions of businesses existing in the market. Additionally, these interviews were conducted with three businesses from three different sectors. Including more interviews from diverse sectors to yield better results is one option. However, the results might have also taken an approach to hold interviews were with businesses from the same sectors, for example, businesses from the e-commerce sector. This has also a major role to play in answering the research questions as all interviewees would have similar nature of interacting with customers with the same objective. On the other hand, a case study of one business that successfully implemented the AI chatbot for service encounters to perceive better understanding and find new avenues of the implication of AI chatbots in innovation.

The study implies AI chatbots can be an assistance in the innovation process. However, scant literature is available to throw light on this area. Therefore, from the study, a need to highlight and adequately address this aspect of AI-powered chatbots in relation to business innovation cannot be unseen. This research contributes to drawing the current state of AI chatbots-based

service encounters and their implication on business innovation. As we look forward to the possible innovation that will give AI chatbots an upgrade to play a significant role in co-creating innovation for business, we hope this research will influence researchers to delve deeper into this research topic.

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