Augmented Service Interactions: Artificial Intelligence and Customer Engagement

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Abstract:

Artificial intelligence (AI) transforms service interactions in unprecedented ways. Service-based customer-firm interactions related to AI exist as of now ranging from fully automated interactions (e.g. customer-machine) to traditional interactions that are augmented by AI (e.g. customer-human agent as enhanced by AI). Literature focuses on cases of AI that reshape service interactions, customer-firm strategies, and the impact of AI augmented interactions on broader marketing concepts of customer satisfaction, retention, and loyalty. The aim of this study is to explore how customer-firm interactions are augmented by AI in a context of call-centers and whether the ensuing interactions lead to customer satisfaction, loyalty, and engagement through an embedded case study. In order to benefit from AI, service firms need to understand where AI complements, augments, or replace service tasks. For AI to function properly towards creating customer engagement, feedback mechanisms which measure customers' direct and indirect engagement manifestations should be integrated to data.

Keywords :Artificial Intelligence, Augmentation, Service Interactions

Track : Services Marketing

1. Introduction

Artificial intelligence (AI) transforms service interactions in multiple and unprecedented ways. Service-based customer-firm interactions related to AI exist as of now ranging from fully automated interactions (e.g. customer-machine) to traditional interactions that are augmented by AI (e.g. customer-human agent as enhanced by AI). Service literature focuses on cases of AI applications that reshape service interactions, customer and firm strategies evolving around AI, and the impact of AI augmented interactions on broader marketing concepts of customer satisfaction, retention, and loyalty (Hollebeek 2018; Huang and Rust 2018).

Recently, Hollebeek (2018) calls for research on "how firms [can] successfully automate specific parts of their service interactions to augment their employees' capabilities and enhance overall service productivity". Hollebeek specifically questions the role of particular interaction technology related factors on optimizing the customer-firm value resulting from automated interactions. Answering these calls for research, the aim of this study is to explore how customer-firm interactions are augmented by AI in a context of call-centers and whether the ensuing interactions lead to customer satisfaction, loyalty, and engagement.

2. Literature Review

From a service tasks perspective, Huang and Rust (2018) specify four types of AI: mechanical, analytical, intuitive, and empathetic intelligences. While they state that these four intelligences may coexist, these intelligence levels represent a maturity model, where AI adoption moves from mechanical to empathetic intelligence in subsequent stages. Mechanical intelligence refers to AI ability to perform routine and standardized tasks automatically such as addressing repetitive and simple tasks in call centers. Analytical intelligence refers to analytical, rule based, systematic tasks performed by AI such as skills possessed by data scientists and accountants. This skill mainly relies on the power of big data and machine learning which is a subset of the AI capabilities. While intuitive intelligence refers to creative problem solving and understanding 'why', empathetic intelligence refers to understanding and responding to emotions and emphasizing with the customers.

Huang and Rust state that firms should consider the nature of tasks, the nature of services and firms' strategic emphasis in deciding to shift to pure AI and propose that AI disrupts service-based interactions first that are described as simple, standardized, and repetitive tasks. This stage where mechanical tasks are executed with the help of AI is defined as

augmentation. Huang and Rust predict that empathetic and intuitive intelligences will be adopted later in time rendering softer skills more critical for service employees whose jobs are threatened by AI.

From a technology perspective, current AI applications thrive in environments where big data is accumulated and where frequent feedback could be obtained. Bijmolt et al. (2010) listed data quality, size and new types of data, complexity of the models, data ownership, ownership of the modelling tools, usability of the results, and integration to the company processes as barriers to use customer analytics for customer engagement. AI eliminated some of these barriers but still relies on the feedback, i.e. data that guides and trains the algorithms for different purposes. Kunz et al. (2017) and Bijmolt (2010) specifically looked at how analytics and big data could be utilized to drive customer engagement and they find that data analytics deal mainly with tangible and direct aspects of customer engagement such as transactions data (Pansari and Kumar, 2017). The data captured to measure satisfaction, loyalty and intangible manifestations of engagement is not frequent and, in most cases, not present to the AI applications.

3. Research Design

An embedded case method was adopted for this study as an exploratory approach which suits better to understand new phenomena (Eisenhardt 1989, Yin 2003, Jaakkola and Alexander 2014). Data was collected through interviews with key project owners and subject matter experts as well as through secondary sources.

Huang and Rust (2018) classify interactions in call centers based on skill requirements for different intelligences required for AI. While certain call center tasks include ready and basic responses to simple customer problems, some other tasks involve situations where empathizing with customers is needed to overcome a problem. With such task and skill variety, call centers are key service environments where augmented service interactions with customers provide insights into the role of AI in services marketing.

In telecommunications call centers, customers and agents were traditionally matched with a first in first out (FIFO) method. An innovative application of AI replaces this process by matching customers and call center agents based on big data. The big data structure consists of data on calling customers, responding agents, available resources, and the objective of the task (such as customer acquisition, development, and retention as grouped by Bijmolt et al. 2010). This process runs in seconds or less when customers/agents place calls.

4. Findings and Implications

The findings indicate that augmented service interactions result in positive metrics specific to call center task objectives. However, customer satisfaction, engagement, and loyalty are harder to integrate into the AI as they rely on further measurements which are independent from the big data AI exploits to match the customers and agents. Traditional customer engagement manifestations and outcomes that go beyond transactions could be achieved in two ways. First route is more futuristic where the integration of voice analytics that measure emotive states of consumers and where empathetic intelligence stages are attained by AI applications. The developments in this route are dependent on the proliferation of relevant technologies.

Other route is the integration of feedback mechanisms to the AI applications such as measuring customers' satisfaction and loyalty levels consistently. To train AI to respond customer responses in a way that creates or enhances customer engagement is only possible through integrating such instrumentations to the AI applications. Data repositories that AI applications run on should be strategically expanded to capture data that are intangible and indirect manifestations of engagement such as online and offline WOM.

In conjunction with the propositions of Huang and Rust (2018); AI replaces mechanical tasks first and follow the trajectory of adoption they proposed. However, it is challenging to identify boundaries between mechanical and analytical intelligences as augmentation may directly take on analytical intelligence rendering the role of intuitive and empathetic roles of agents more critical. Therefore, the AI augmentation in service interactions should be considered within the service firms' broader marketing strategy. For example, customers' in-bound calls to solve problems go through a layered approach where standardized responses that could be easily provided via automation or robot assistants are filtered and only problems that require a further agent engagement are directed to the AI augmented interaction levels. In contrast, outbound agent calls from call centers that aims to cross-sell or up-sell need AI augmentation to equip agents with further analytical information to achieve persuasion.

5. Conclusion

Service interactions when augmented by AI are critical touchpoints in customer journey where service firms can excel to achieve superior competitive advantage with the help of AI. While AI is capable of creating multiple benefits to the service firms in terms of cost savings, increased sales and profitability, process efficiency, it also serves as a strategic instrument to

achieve marketing objectives of customer satisfaction and customer engagement as well as internal marketing goals such as service employees' job satisfaction.

In order to benefit from AI, service firms need to understand where AI complements, augments, or replace certain service tasks. For AI to function properly towards creating customer engagement, feedback mechanisms which measure customers' direct and indirect engagement manifestations should be integrated to data structure.

Finally, although firms may have multiple business objectives and expectations on service interactions, the broad marketing objectives of creating satisfaction, providing superior customer experience, and driving customer engagement are primary to create value. AI applications are also part of this overall marketing effort to achieve these non-ephemeral and enduring marketing goals.

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