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ICIS 2023 Hyderabad Paper: The implementation of AI Technology on banks interactions creating differentiated customer offerings

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Introduction

There is a pressing need to research Artificial Intelligence (AI) applications and the mechanisms by which value is produced and captured (Astrom et al, 2022), driven by the nature of competition within markets, and consequently consumer's behaviours have changed owing to the emergence and diffusion of the digital transformation technologies (Verhoef et al, 2021). It is more widely accepted that technology and banking are being used on digital devices. Inevitably because of the rise and popularity of digital banking and the transformation, there is burgeoning demand to understand how Artificial intelligence is affecting the way that the value is being created for banks to serve customers with more innovative digital tools.

Purpose

The purpose of this paper is to explore the positive and/or negative impacts of AI features/applications as a portion of the customer offering and the implications on the level of value created for the customer as a result of their customer experience. In other words, this paper explores the positive and/or negative impacts of AI features/applications as a portion of the customer offering and the implications on the level of value created for the customer as a result of their customer experience through an interpretivist philosophical mindset.

An interpretivist philosophy will be followed as it emphasizes the importance of studying the subjective experience of individuals (Putnam and Banghart, 2017). Specifically, interpretivists believe that social reality is constructed through human interpretation and that it is therefore important to understand how people interpret their experiences (Putnam and Banghart, 2017).

Design / Methodology

This paper will initially use a case study approach research strategy followed by secondary data analysis, collecting both qualitative and quantitative data. To begin with, a comparative case study analysis will be conducted to compare the different interactions between banks and customers based on their varied uses of AI features/applications in their customer offering. Hence, due to the information being analysed and the ever-evolving nature of technology, the analysis will follow a cross-sectional time horizon (Wang and Cheng, 2020).

Data Collection strategy

A selection of 5 banks were chosen to be included in the comparative case study analysis. In order to explore the positive and/or negative impacts of the different customer offerings, a thematic analysis of the bank's customer service was conducted using 30 publicly available customer service reviews per bank, from which,

codes developed using Nigel King's (University of Huddersfield, no date) 'a priori' and 'emergent' coding schematic were expounded. Each customer review was tested against the inclusion / exclusion criteria. For reference, a summary of the inclusion criteria is: the reviews must depict an online interaction, in which it must relate to a customer experience where the customer experienced an interaction with a human/ non-human agent. As for the exclusion criteria: the reviews must not solely be based on interactions that depict traditionalist banking methods; the reviews must be chosen from either the most recent date, or if that wasn't possible, then they must date from 2022 or 2023; finally, all reviews must be in English.

To interpret the findings, frameworks based on Service Logic (Vargo and Lusch, 2004 & 2008; Grönroos, 2011; Grönroos and Voima, 2013) have been developed in an abductive theoretical manner, to explore the value creation process as a whole, as well as, the process of the creation of value-in-use for the customer.

Service Logic (Grönroos, 2011; Grönroos and Voima, 2013), serves as an extension of Service-Dominant logic (SDL) (Vargo and Lusch, 2004 & 2008), it is a holistic customer-oriented approach that focuses on understanding the customer's needs and preferences, as well as, creating value by co-creating solutions with the customer (Grönroos and Voima, 2013). Grönroos and Voima (2013) argue that service logic provides a more comprehensive and integrated perspective on value creation and co-creation in service systems than traditional approaches.

A synopsis of the process of the creation of value-in-use for the customer, based on the developed model would follow these steps: 1) The firm would create 'potential value generation' from its customer offering, made up of both its operand and operant resources. 2) 'Value actualisation' occurs through the usage of the firm's resources; a) the service experience is affected by everything connected to the individual customer and the situation that they are in (Individual and Situational Filter); b) the data created from the customer's usage of the bank's customer offering is perpetually reused to better tailor the customer offering to the customer's needs, generating higher potential value. 3) The joint sphere, either through the merged dialogical process or direct interaction, can positively or negatively influence the customer's experience and therefore the value-in-use generated.

Findings

The analysis of the different cases using the comparative value creation models led to the emergence of a set of factors to begin to understand what influenced the level of value created from the bank's differentiated customer offerings. The set of factors were: 1) Artificial empathy - the second form of anthropomorphism, encompassing human-like minds or emotional reactions (Kervenoael et al, 2020); 2) Merged dialogical process - this relates to the process through which the firm and customer work together, exchanging information and ideas, resulting in co-creation (Grönroos and Voima, 2013); 3) Helpfulness of (human) customer service agents - In light of the firm's influence on the customer's value creation process, the quality of the interaction between the firm and the customer is crucial as it can have a positive or negative effect (Fyrberg and Juriado, 2009); 4) Ease of use of digital offering - from a service logic lens, a company's technological capabilities are part of a firm's operant resources which make up part of its customer offering (Lusch and Nambisan, 2015). The set of factors developed from the findings were used to provide recommendations that could be applicable to incumbent banks, as well as entrant firms, within the financial services sector.

Theoretical Implications

The model and the paper's findings add to the growing collection of literature that reflects the need for a transformation (or reshuffle) at the mechanisms by which value is generated and captured within the context of the services economy. The additional developments - joint sphere, 'perpetual loop of data', the individual/ situational filter - built upon Grönroos and Voima's (2013) initial model, reflect the holistic approach required in today's digital environment.

The findings suggest that a few key insights, that are applicable in a multitude of contexts - within the context of banks, customers, industry and policy makers - need to be considered: the ability of firms to co-

create value; the importance of interactions between the firm, or its agents, and the customer; the growing role of data that plays a pivotal role in today's value generation potential.

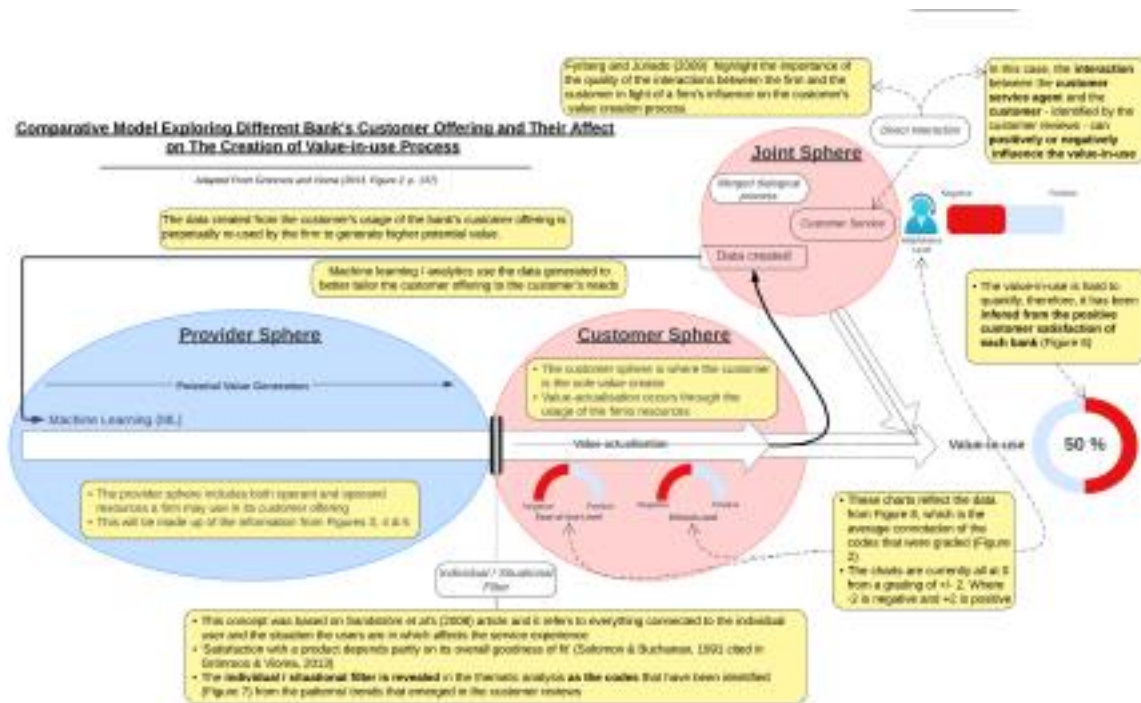


Figure 1: Comparative model exploring the banks customer offerings for the value in use processes

Practical Implications

This paper explores the intricacies and nuances in the customer's value creation process - both the value creation process as a whole and the creation of value-in-use for the customer - through frameworks (adapted from Grönroos and Voima, 2013) based in service logic (Vargo and Lusch, 2004 & 2008; Grönroos, 2011).

The four factors developed in this paper's research which are the key pillars of the framework - 'Comparative Model Exploring Different Bank's Customer Offering and Their Effect on The Creation of Value-in-use Process' - aim to create a succinct roadmap for firms (incumbent banks and entrant firms) to adapt their business model and/or practices in such a way that would positively impact the customer's experience and hence the value-in-use generated.

From a banking perspective, the findings show the importance that the interactions between the firm and the customer actually hold, this is especially prevalent since the current trend is to adopt automated programmes that have the potential to replace the human agents, although research has shown that people prefer dealing with human agents. Also, an AI used within a value creation context is very different to a solely profit maximizing algorithm, this paper aims to begin exploring this question although further research is required.

From a policy perspective, the role of data and how it is used by firms to generate potential value generation is an important question mark which requires more research through an interdisciplinary lens. Furthermore, robust service offerings have to be reviewed and monitored in such a way that encompasses the inter-linked environment in which firms operate, this will perhaps require a flexible approach that is appropriate for the context at hand.

Originality / Value

As shown in Meeteren et al's (2022) work, artificial intelligence (AI) is one of the pillars of the digital transformation and its rise is giving way to novel opportunities which have not yet been fully explored from a theoretical perspective. Due to the diffusion of these new technological developments that are at the core of the digital transformation, the nature of competition within markets has changed, and consequently consumers' behaviour (Verhoef et al, 2021). Astrom et al (2022) highlight the pressing need to research AI applications and the mechanisms by which value is produced and captured as well as the necessity for further research to fully comprehend AI's impact on businesses and wider society (Astrom et al, 2022) as current knowledge still doesn't fully grasp AI's capabilities and intelligence levels.

This paper aims to begin to explore and understand what influences the mechanisms of the creation of value-in-use for the customer through the framework - 'Comparative Model Exploring Different Bank's Customer Offering and Their Affect on The Creation of Value-in-use Process'.

The framework was based on Grönroos and Voima's (2013) work and further developed to reflect the changing context of the digital age.

- The addition of the joint sphere reflects the importance of the merged dialogical process and the influence that a firm wields on the customer's value creation process through interactions between both parties.
- The addition of the 'perpetual loop' of data which reflects the growing role of data/ big data
- The addition of the individual/ situational filter draws from psychology and the interpretivist philosophy/ mindset

Furthermore, this paper also suggests that the factors developed reflect Verhoef et al's (2021) work, which, if taken a step further could be interpreted as the emergence of Service Logic within a Goods-Dominated economy, through the facilitation of technologies at the core of the digital transformation. Further research will be needed to consider and extend our investigation based on the work of Verhoef et al. to show how these value in use for multiple banks are being transformed through the use of AI. We showcased how these work for our case study but future research is needed to extend and provide other more nuanced insights.

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