



Marketing 4.0 – Mapping the Customer Journey through Big Data Analysis

Manisha Sahay¹
Dr. Kanchan Patil²

Abstract

Over the past three decades, marketing has continuously evolved in parallel with the technological developments. During the last five years, Marketing 4.0 has become the most innovative marketing approach, and there is growing research focusing on Marketing 4.0: the marketing of big data.

In this paper, we discuss the emergence of the concept of Marketing 4.0 and its relationship with big data, the role of big data and other disruptive technologies like Augmented Reality and AI in retail sector in mapping the customer journey and enhancing the customer experience. Marketing 4.0 is focused around the use of technology to design digital marketing strategies and help organizations enhance customer interaction in retail sector.

The study is conducted to understand marketing paradoxes in the digital economy and interdependency among the shopping outcomes resulting due to customers' behaviour. The managerial implications of this study is to help management understand the role of disruptive technologies like big data, artificial intelligence, machine learning, Internet of Things, augmented reality in the adoption of Marketing 4.0 and its impact in the retail sector to the map the customer journey. This study will share a deeper insight into the ways the management can devise strategies to enhance the customer experience and ultimately achieve the organizational goal to increase the profit margins and sustain in long run.

Keywords: Marketing, Marketing 4.0, big data, customer journey, customer experience, augmented reality, artificial intelligence

1. Introduction

Over the past few decades marketing has to keep pace with the growth in technology. This has pushed marketers to devise strategies to target consumers keeping in line with the technological advancements in all industries. The continuous change in the concept of marketing due to the changing need and behaviour of the customers is also interlinked with the consistent change in technology. During the last 5 years, it's been evident that marketing has evolved based on three important principles – product management, customer management, and brand management. In the 1950-60s marketing was focused on product management, in 1970-80s it evolved towards consumer management, at the end of the 1990s and early 2000s the concept of brand management was added.

The concept of Marketing 4.0 started to evolve in 2016 when the digital transformation to marketing evolved due to the influx of social media, e-commerce, and other disruptive technologies like IoT, machine learning, artificial intelligence, blockchain and augmented reality. Data remains at the heart of technology development. Today, big data refers to predictive analytics, user behaviour and sentiment analysis which extract value and gain insights from big data to make decisions and help organizations transform to the data-driven enterprise. Big data will continue to grow, IDC forecasts revenues for big data and business analytics solutions will reach \$189.1 Billion in 2019 with double-digit annual growth through 2022 (IDC, 2019).

¹ PhD Research Scholar, Symbiosis International University, Pune Email: sahay.manisha@gmail.com

² PhD Guide and Associate Professor, SCIT, Affiliated to Symbiosis International University, Pune
Email: kanchan@scit.edu

Big data helps Marketing 4.0 to be holistic and build strong relationships in different ways (Kotler 2017). Branding can be improved by using the data acquired from customers' shopping and purchasing behavior. This can help marketers understand how to personalize a customer's shopping experience and undertake a more personalization approach to the company's marketing model for better customer engagement. Also, big data can be used in a feedback loop. With the big data analysis process, digital marketers can know whether a particular marketing approach is working and is able to engage customers. They use this feedback to transition from one marketing approach to another until they find one that yields better customer response and product interaction. Finally, big data analysis provides newer insights to Marketing 4.0 approaches that were never available before, that will make the brand ever more responsive to market demands (Kotler, Hermawan, Iwan 2017).

In this paper, we discuss the emergence of the concept of Marketing 4.0 and relationship with big data, the role of big data and other disruptive technologies like Augmented Reality and AI in sectors like retail to map the customer journey and enhancing the customer experience. The study of the conceptual framework to map the customer journey. Lastly, we discuss the future of big data and marketing and new business models to overcome the challenges posed by big data. Big data allows companies to map the customer journey to enhance the customer experience. Big data analysis provides deeper insights into Marketing 4.0 approaches that were not available before, which will make the brand ever more responsive to market demands.

2. Literature Review

There are limited academic and scholarly articles and journals available on Marketing 4.0 and Big data. Though there have been plenty of resources available in relation to big data and retail sectors where the companies have moved from traditional approaches to a more data-driven approach. The awareness of Marketing 4.0 is limited to a few advanced countries in Europe and some studies done in USA. There is very little work available in Asia and other regions. Though, most of the companies across the globe have adopted the big data and data-driven approach to mapping the customers to gain a competitive edge and increase the margins.

The growing literature on big data analytics has primarily focused on development of theoretical understanding on how firms can leverage big data to customize product offerings based on customers' purchase preferences (Aloysius 2016; Fosso Wamba 2012). We complement this literature by developing a conceptual model that elaborates on the underlying logic of customers' reactions as influenced by the emerging technologies and links customers' perceptions of service processes (online and offline shopping) to their perceptions of service providers (i.e., retailers) and the overall shopping outcome related to the customer experience in retail sector. The hypotheses stated is based on the literature review and the above arguments.

H1: Customers' perceptions of usefulness and ease of use of online marketing will be positively associated with customer experience and shopping outcomes.

H2: Customers' perceptions of usefulness and ease of use of offline shopping will be positively associated with shopping outcomes.

H3: Customers' perceptions of shopping behavior are attributed to human values that will be positively or negatively associated with customer experience and shopping outcomes.

H4: Customers' experience can be positively or negatively associated with the shopping outcomes.

H5: Shopping outcome is positively or negatively associated with the antecedents and its association with the customer experience

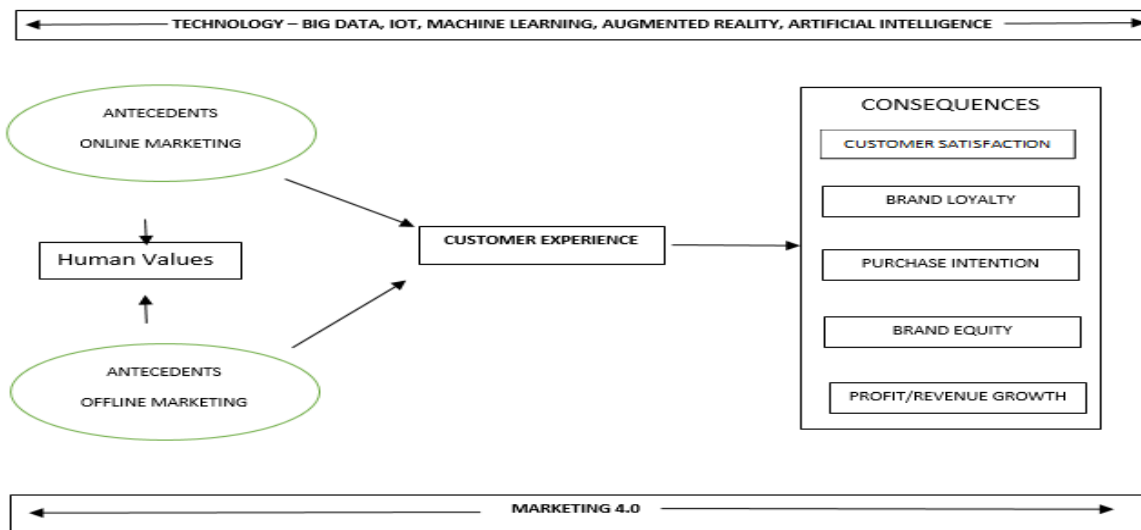
H6: Marketing 4.0 and Technology like big data, Internet of Things, machine learning, augmented reality, artificial intelligence act as an influencer to the antecedents, customer experience and shopping outcomes to map the customer journey in the modern retail environment. This also creates interdependency among the consequences.

3. Research Methodology

The methodology used in this study is a survey method yielding quantitative data for the empirical analysis. Interviews to be conducted with the customers of all genders between the age group of 21-50 years to understand their opinions of marketing 4.0 in the retail sector. The interviews are focused on understanding how and why retail industries use technology like augmented reality and artificial intelligence to gather customer data and its implications. The final survey questionnaire was developed to be reviewed by subject matter experts comprising professors and researchers.

Conceptual Model

Using the big data framework, we propose the conceptual framework for mapping the customer journey in the retail sector taking into account human values like emotions, beliefs, etc. The model consists of Antecedents (offline and online) which is crucial to create the customer experience and connect it to the consequences. The technology like big data, artificial intelligence, machine learning, Internet of Things, augmented reality helps in the adoption of Marketing 4.0 and creates interdependency among the consequences which is essential in the mapping of the customer journey.



The conceptual model is developed by the author

Plan for Data Analysis

The data will be analyzed using qualitative and statistical tools to address the research questions like:

1. To study the evolution of Marketing 4.0 and understand human-centric marketing.
2. To understand Marketing Paradoxes to connected customers in digital economy.

Study Implications

1. To validate Technology, Organization and Customer behaviour factors relationships for Marketing 4.0 adoption intentions of retail industries.
2. To study how technology competence, organization scope, consumer readiness, contribute to Marketing 4.0 adoption intentions.

4. Conclusion

Marketing 4.0 aims to help marketers identify and prepare for the shifting roles of traditional and digital marketing in building customer engagement and advocacy (Kotler, 2017).

The study sheds light into retailers' departure from the traditional sales channels to the new digital channels that allow retailers to use big data and map their customers' journey. Online and Offline shopping

services along with big data analytics can assist retailers to more effectively service customers through collecting and analysing large volume of evidence-based data in retail environment (Aloysius, 2018). Customers' responses to such emerging services are a source of big data, that if leveraged appropriately, can lead to more successful mapping of the customer journey in retail stores and help retail devise better strategies to engage their customers for a long-term success.

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