



Marketing through artificial intelligence

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Abstract

Disruptive technologies like the internet of things, big data analytics, block chain, and artificial intelligence have transformed the way businesses function. Artificial intelligence (AI) is the most recent technological disruptor, and it has enormous commercial transformation potential. Practitioners all over the world are attempting to determine which AI solutions are most suited to their marketing functions. A systematic review of the literature, on the other hand, is required, can emphasise the importance of artificial intelligence (AI) in marketing and outline potential research possibilities. The goal of this study is to provide a comprehensive evaluation of AI in marketing utilising bibliometric, conceptual, and intellectual network analysis of published literature between 1982 and 2020. A detailed examination of one writers, as well as the most essential sources In addition, co-citation and co-occurrence analysis provided the conceptual framework.

Keywords: artificial intelligence, Marketing, Machine Learning, Deep Learning

Introduction

To begin, marketing is a method of communicating, generating, trading, and providing valuable services to clients, partners, customers, and consumers. At first glance, connecting the topic of Artificial Intelligence with various marketing techniques appears to be quite challenging, as studying or exploring this field requires one to think outside the box. It's even tough to imagine a field where AI hasn't had an impact. Artificial Intelligence (AI) has changed the marketing landscape all around the world. Artificial Intelligence Marketing (AIM) is a strategy for improving customer experience by maximising the use of technology and data. Big Data Analytics, machine learning, and collecting insights about our targeted sector of customers are some of the approaches employed to accomplish this goal. Such operations have led to the designation of this epoch as "The AI Marketing Era," which necessitates a significant shift in the way marketers connect with their clients and build strategies to achieve their goals. According to a survey conducted by Weber Firm, consumers around the world believe that the impact of AI on society will be favorable rather than detrimental. In addition, there is a report: In June 2016, KRC Research, commissioned by Weber Shandwick, polled 150 CMOs (Chief Marketing Officers) in the UK, China, and the United States, and found that around 55 percent of CMOs believe AI will have a significant impact on marketing, communications, and customer relations, and that AI will be better than social media. With around 2.55 billion dollars spent on AI, marketing is the 4th largest use case in terms of resources spent and the 6th largest industry adopter of AI technology ^[1].

Marketing strategies in the digital era

Because of the availability of assistive technologies, many firms are growing rapidly in the current era. Social media is the most widely used form of technology in marketing. Social media has shown to be a valuable instrument in the development of marketing strategies and is essential for business success. Not only because we are living in the digital age, but also because it is simple. With all of these new technologies, businesses must develop new marketing techniques to advertise their products. A few of them are discussed farther down.

Content Marketing is a term that refers to the process of creating and distributing content. Because of its importance in social media, multimedia, and mobile search, content marketing has become primary priority for many brands. Many businesses are still unaware of the significance of trends and how content marketing may help them (fig.1).



Fig 1

Mobile Marketing

Many people now use smart phones and tablets because they are convenient and time-saving because they can take them

with them everywhere they go and access them whenever they want. The ever-increasing number of people who own smartphones and tablets has made the availability of marketing content on mobile platforms a necessity.

Integrated marketing

Is crucial for ensuring that all marketing messaging and communications tactics are consistent and focussed on the customer. For example, Google created Google + for a variety of reasons, one of which is to be able to observe and catch social signals and patterns.

Continuous Marketing

One of the most popular marketing methods right now is to actively and repeatedly remind customers about the product. However, it is equally critical to strike a balance between online and offline product advertising.

Personalized Marketing

Due to media saturation, traditional marketing methods such as television are becoming less successful. Personalized marketing is a new marketing concept that has recently emerged.



Fig 2: AI Strategy

Adapting Artificial Intelligence systems has the following advantages

To the public

AI systems can serve clients 24 hours a day, seven days a week. Search sessions become easier as AI records user behaviour and anticipates future web behaviour and decisions, resulting in better keywords and, in some cases, a

rise in the use of semantic keywords. They can save consumer information and avoid having to repeat the process with each engagement.

They are pleasant to deal with and always treat consumers with respect and patience. They can handle multiple consumer requests at the same time, reducing wait times to nothing^[2].

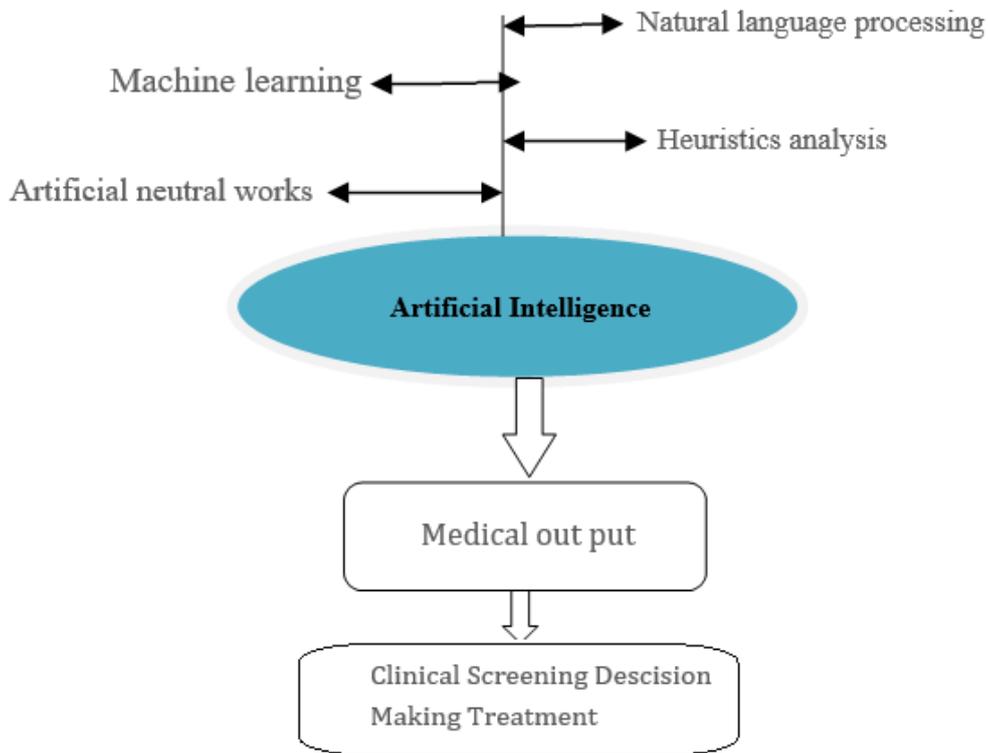


Fig 3

Plan for data analysis

The data was evaluated bibliometrically with R software to evaluate the performance of scientific players such as the most relevant writers and researchers, as well as the most important sources. Analyzing the data and evaluating the outcomes. The investigation's intellectual structure domain was offered by each scientific player. Inter-rater validity was examined in the Scopus data by two researchers. The data

analysis procedure is divided into three parts. The first step of data analysis is concerned with the performance of scientific actors, such as the most relevant sources and data. Bibliometric analysis of the most important authors in the scientific field. The citation index and the total number of citations aided performance researchers in finding the most important sources [3].

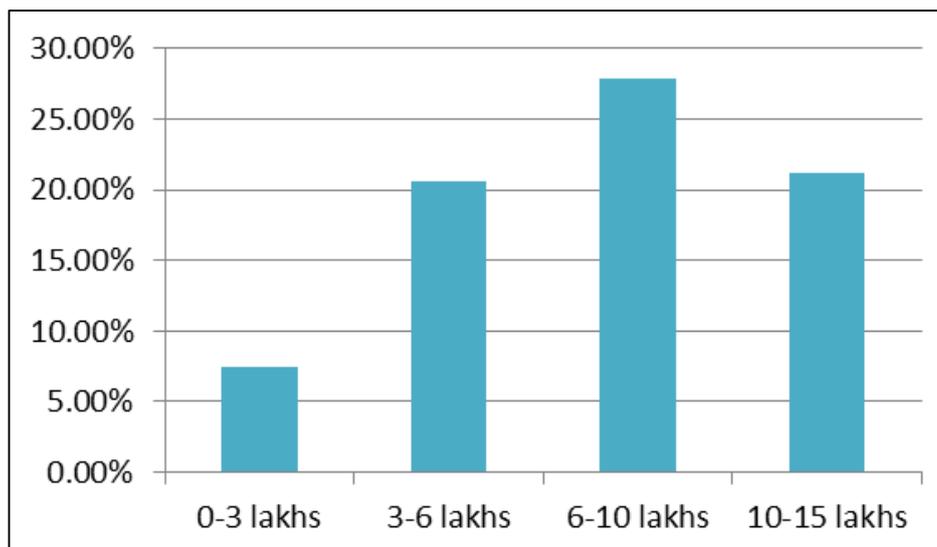


Fig 4: State of Artificial Inteliegence marketing in India 2020

Framework for Artificial intelligence in marketing

In a knowledge-based environment, we synthesise the research and develop an AIM framework that allows autonomous machines to create, disseminate, and utilise

information to improve customer relationships. The framework absorbs and converts massive data into information and knowledge [4], thereby increasing a company's knowledge potential (fig2).

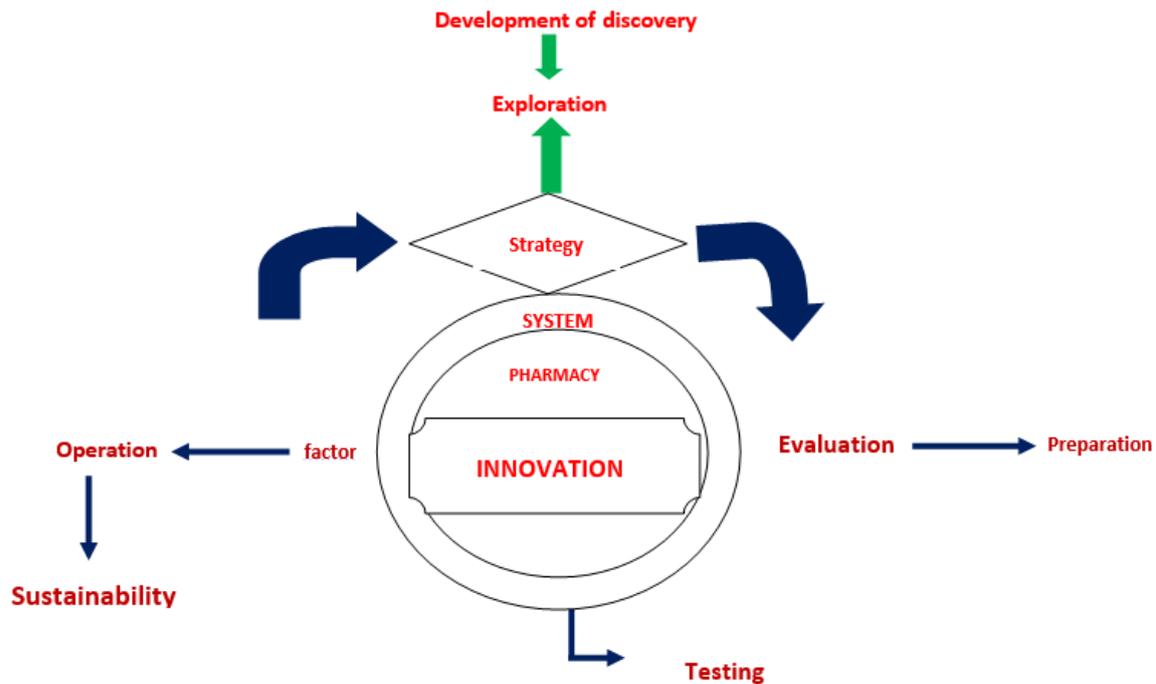


Fig 5: AI Frame Work

Human Operation Modes in AIM

Humans and robots are involved in AIM, and there are four ways to accomplish this [5]. For starters, completely AI replaces humans with machines in situations like proposing advertisements in real time. Second, AI-human enables AI to monitor, collect, and analyse data in order to provide meaningful information for humans to make decisions, such as hiring to improve customer relationships. Third, human-AI enables humans to monitor and gather data for AI to use in making decisions, such as monitoring a human's health. Fourth, combining human and AI intelligence allows both humans and machines to participate in distinct aspects of the decision-making process [5]. While the first approach replaces human intelligence with machines, the other three approaches augment human intelligence with superior machine capabilities, particularly high computational and storage capabilities for handling accurate and comprehensive data sets, which aids in providing better decision-making and reasoning processes. Human-assisted operating modes are useful in and of themselves because addressing the wide range of marketing issues and decisions explains the factors to consider while selecting an acceptable operation mode [6]. In the fully AI approach,

- a) The problems are well defined and structured;
- b) The problems, which are not new and exceptional, can be solved using prior knowledge;
- c) The problems are large
- d) The decisions are generated in real-time;
- e) The decisions are measurable; and
- f) The decisions are not interpretable, with the reasons for the decisions being unclear and uncertain at times.

In these considerations, the rest of the operation modes relax some criteria. For example, where past knowledge is lacking, the combined human and AI approach is more suited to tackling a new or unusual problem. Most, if not all, AIM techniques now presented in the literature fall into one of two categories: totally AI or human-AI. It is possible to investigate both AI-human and aggregated human and AI

techniques.

AI in Marketing Research Directions

We offer research questions for two interrelated, relevant streams within the marketing domain: improve depth and increase breadth, to solve the problems and embrace the opportunities of AI for marketing research (Dong & Sivakumar, 2017 [7]).

Expand the scope of AI research

Using AI without understanding its mechanisms is likely to have negative implications, hence efforts should be undertaken to deepen essential notions and theoretical insights in several ways. "Deep learning, a crucial approach utilised by most AI systems, is inherently a black 28 box," warn Haenlein and Kaplan (2019, p. 11). Because managers don't understand, for example, how the AI systems they rely on work, lack of transparency about how machine learning algorithms work or the depth with which they may effect organisational and individual decisions and actions can lead to tactical and strategic failures (de Bruyn et al., 2020) [8].

Extend the scope of AI research

We also urge researchers to look into the linkages between AI and other theoretical structures, entities, fields, and technological advancements. According to our list of important subjects, marketing studies of AI primarily take an outside-in 29 perspective. Outside of organisational bounds, vast amounts of unstructured data, such as customer usage, review, and response data, are available. Companies should collect this data and utilise AI to provide actionable insights, but they should also take an inside-out approach and employ AI to perform internal organisational duties and provide additional value to customers [9].

Artificial intelligence in use an overview of the customer lifecycle

Marketers have a difficult time analysing and predicting consumer journeys. Consumers express themselves through

blogs, Tweets, "likes," videos, search, comments, and chats, as well as other outlets. Customer interaction and value are shown over time, as well as the role of machine learning, propensity modelling, and AI application at various phases. When done well, customer experience is a competitive growth driver; when done poorly, it is the largest source of risk ^[10].

Understanding artificial intelligence with a framework

Context awareness vs. task automation Task automation and context awareness are contrasted by Davenport and Kirby (2016) The former entails AI applications that are standardised, or rule-based, in the sense that they demand consistency and logic (Huang and Rust 2018) ^[11].

Marketing strategy and artificial intelligence

Predictiveability Because AI can help firms estimate what customers will buy, it should lead to major improvements in predictive capability. Firms may even adjust their business models dramatically based on predictive accuracy, supplying goods and services to clients on a continuous basis based on data and predictions about their demands. As a result, a wide range of research opportunities linked to different customer buying habits and marketing strategies emerge. One crucial research field may be related to how successfully predictions are made. Artificial intelligence-based algorithms could be used to forecast demand for whole new products (RNPs; described in Zhao et al. 2012) ^[13]. AI algorithms are expected to be good predictors for incrementally new goods; the question is whether they will be good predictors for RNPs. RNPs that would be used in training data.

AI pharmaceutical market

Pharmaceutical companies are turning to AI to reduce the financial costs and chances of failure that come with VS. The AI market has grown from US\$200 million in 2015 to US\$700 million in 2018, and is expected to grow to \$5 billion by 2024 ^[14]. AI is expected to revolutionise the pharmaceutical and medical industries, with a 40% projected growth from 2017 to 2024. Various pharmaceutical companies have invested in AI and are continuing to do so, as well as collaborating with AI companies to develop critical healthcare tools. A collaboration between Google subsidiary DeepMind Technologies and the Royal Free London NHS Foundation Trust for the treatment of acute kidney injury is an example of this ^[15].

Conclusions

The article lays out a framework for understanding how artificial intelligence (AI) will affect marketing strategies and consumer behaviour in the future, with a particular focus on how AI will affect marketing techniques and customer behaviour. My conclusions are based on previous research and extensive discussions with practitioners. To begin, we create a multidimensional framework for AI evolution, emphasising the importance of factors such as intelligence levels, task types, and whether the AI is embedded in a physical robot. As a result, we propose the first attempt to integrate all three dimensions in a single framework. Two (warning) points are also made. To begin with, contrary to common opinion, AI's impact in the short to medium term may be limited. Second, we believe AI will become more sophisticated in the future.

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