



The role of artificial intelligence in companies' marketing strategies: an exploratory study amongst marketing professionals in Morocco

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ABSTRACT

Advances in artificial intelligence (AI) have radically transformed the dynamics of today's business world. One of the most significant applications of AI lies in the field of marketing. This paper aims to determine the influence of AI on marketing from the perspective of Moroccan experts. To this end, an in-depth literature review was conducted, which

provided a solid understanding of AI and its use in the field of marketing. Subsequently, we opted for semi-structured interviews with marketing professionals from 10 Moroccan companies. The results of the study highlight the factors influencing the integration of AI within the organisations surveyed, the benefits and barriers to integrating AI into marketing, as well as pre- and post-AI marketing strategies, whilst naturally taking into account ethical considerations and the use of AI by these organisations.

Keywords: Marketing, artificial intelligence, qualitative approach, exploratory study, Morocco.

1. Introduction

The use of artificial intelligence in marketing is a strategy aimed at maximising the use of technology to improve the customer experience (Jain and Aggarwal, 2020). By analysing large quantities of data, AI can bridge the gap between data science and its implementation, which was previously an impossible task (Thiraviyam, 2018). Marketing encompasses all techniques likely to have an impact on individuals at a given time, in a specific place and through a specific channel. The Internet of Things (IoT), data science, cloud computing, big data, artificial intelligence (AI) and blockchain are all technological innovations that are transforming the way people live. The evolution of these technologies could lead to significant automation and unprecedented networking, paving the way for the Fourth Industrial Revolution (or Industry 4.0) (Bloem 2014; Klosters 2016; Schwab 2017; Park 2017; Soni Neha et al. 2019). Artificial intelligence helps marketers achieve total personalisation and relevance in their operations (Huang and Rust, 2021). It will eventually replace humans by utilising platforms such as Search, Facebook, YouTube and Google, which reach billions of people every day. With the growth of AI, the world of marketing is constantly evolving (Savica Dimitrieska et al., 2018). Furthermore, artificial intelligence (AI) is transforming the marketing landscape and will completely reshape it in the near future (Shahid and Li, 2019).

In light of the above, the aim of this paper is to develop an in-depth understanding of the integration and use of artificial intelligence within Moroccan companies. We seek to explore how AI has influenced marketing from the perspective of professionals in the field. To this end, we will adopt a qualitative methodology, using a literature review and semi-structured interviews to collect data. Accordingly, our research will be divided into four sections, the first of which presents the conceptual framework of our research and highlights key terms, notably marketing and AI. The second section, through a literature review, outlines the main studies that have addressed the relationship between these two variables. The third section describes the methodology used in the preparation of this paper. Finally, the last section summarises the main findings and discusses them.

2. Conceptual framework

2.1. AI

Artificial intelligence is a branch of new information technologies (Helm et al., 2020). It is often used interchangeably with concepts such as automation or robotisation (Hwang and Chien, 2022). It also tends to be confused with machine learning or the application of algorithms (Schmidt, 2020). According to the French Larousse dictionary (2019), AI is '*the theory and development of computer systems capable of performing tasks that normally require human intelligence, such as visual perception, speech recognition, decision-making and language translation*'. Technology based on artificial intelligence is capable of mimicking the cognitive functions attributed to the human mind, in particular the ability to solve problems and to learn (Syam and Sharma, 2018). Furthermore, the role of AI is to process and identify acquired data, and then to carry out certain tasks. This is the primary role of AI (Shanahan, 2015). The second type of AI is broader in scope; it utilises intellectual capabilities comparable to those of the human brain (Sterne, 2017). The current potential of AI is limited to its primary function, which relies on three other technologies: machine learning, deep learning and natural language processing (Ongsulee, 2017).

Firstly, machine learning (ML) has taken AI to a higher level, beyond the application of a set of predefined rules. Machine learning has transformed the role of the algorithms previously used in AI. ML has enabled computers to learn independently on the basis of available data by establishing links between different data elements. Thanks to these capabilities, ML allows conclusions to be drawn and generalisations to be made on the basis of the analyses carried out (McIlwraith et al., 2017). ML takes many forms and can be described as pattern recognition, statistical modelling, data mining, knowledge discovery, predictive analytics, data analysis and many others (Domingos, 2016).

Similarly, deep learning (DL) is an advanced form of ML as it is based on learning algorithms that do not need to be managed manually. DL, which draws on big data and computational power (server clusters, processor power and cloud computing), enables new information to be deciphered and the results to be delivered instantly (Alpaydin, 2016).

Finally, natural language processing (NLP) is one of the applications of ML and DL, aimed at speech recognition. Many years of research in this field have enabled work to be carried out on large quantities of data which serve as sources

for context, vocabulary, syntax and semantic meaning (Alpaydin, 2016).

Consequently, advances in these technologies have enabled the development of AI in the fields of voice, text and image recognition, decision-making, and autonomous robots and vehicles. Practical applications are being implemented in each of these areas. Voice recognition is available on smartphones (Siri and Google Assistant). Text recognition solutions are used as virtual assistants that provide rapid responses (Deakin University and IBM Watson). Image recognition is used for payment authorisation; by comparing images of faces, the system can process payments (the KFC chain). A decision-making system is available for educational purposes, such as IBM Elements, which is designed to help teachers assess pupils and create a recommended individual development plan for each pupil. Finally, robots and autonomous vehicles are used in warehouses to manage stock (such as Amazon's Kiva system). (Jakhar and Kaur, 2020).

2.2. Marketing

Over the past 50 years, it has been generally accepted that marketing connects a business with its current and potential customers (Godwin, 2019). This is demonstrated by research on market orientation (Kohli and Jaworski, 1990). Thus, marketing as a phenomenon represents an organisation's customer orientation (Locander and Cocanougher, 2011). However, marketing, as a management practice and academic discipline, appears to be in crisis (Marketing Renaissance, 2005). This may be one of the main reasons why the American Marketing Association (AMA) has updated its definition of marketing. According to both definitions (the old and the new), marketing is regarded as a specialised function managing certain areas of decision-making in order to create exchanges that satisfy both the customers' and the organisation's objectives. These decision-making areas are defined by the 4 Ps, namely product, place, price and promotion (Madej, 2017).

2.2.1. The marketing mix

In 2013, the American Marketing Association approved a new version of the definition of marketing: *'Marketing is the activity, set of institutions and processes that create, communicate, deliver and exchange offers that have value for customers, consumers, partners and society as a whole'*. This definition emphasises the importance of marketing in delivering value to customers (Grönroos, 2006), whilst value can represent different aspects of the product, such as goods, ideas, services, information or any type of solution that meets customers' needs. McCarthy proposed the concept of the

'marketing mix', discussed above, as a conceptual framework for putting marketing planning into practice (Bennett, 1997). Although the marketing mix is not a scientific theory, its tools enable the development of both long-term strategies and operational marketing programmes (Palmer, 2004). McCarthy refined Borden's earlier concept of target market satisfaction. He grouped Borden's 12 elements (product planning, pricing, brand image, distribution channels, personal selling, advertising, promotions, packaging, presentation, service, physical handling, fact-finding and analysis) into four elements, known as the 4Ps. Further developments have been made within the marketing mix concept, such as the addition of further 'Ps', notably people, processes and physical evidence (Booms and Bittner, 1980).

3. Literature review

3.1. The use of artificial intelligence in marketing

Although earlier concepts and principles have long been studied to address marketing-related issues (Wierenga and Bruggen, 2000), the widespread use and deployment of AI in the field of marketing has only emerged recently (Wierenga, 2010). Although AI has been applied in the majority of businesses worldwide today, there is still a lack of implementation in many organisations (Tizhoosh and Pantanowitz, 2018). Various marketing professionals have expressed an interest in using AI in the near future, with almost all of them ready to do so fully. In contrast, barely 20 per cent of marketers had used one or more AI solutions within their organisations in 2017 (Bughin, McCarthy and Chui, 2017). Marketers wish to use AI in areas such as segmentation and analysis (all related to marketing strategy), as well as messaging, personalisation and predictive behaviour (all linked to consumer behaviour) (Columbus 2019; Davenport, Thomas et al. 2019). Artificial intelligence (AI) is the intelligence demonstrated by machines, as distinct from human intelligence. Artificial intelligence is represented by a system of intelligent agents that observe their environment and achieve their objectives (Sanjeev Verma et al., 2021). The use of AI is necessary to assess customer behaviour, purchases, preferences, aversions and various other factors (Chatterjee et al., 2019).

Artificial intelligence has emerged as a panacea for small businesses in the era of globalisation, as it has enabled them to expand internationally through digital channels (Niazi, 2019). Artificial intelligence (AI) has the potential to assist marketing managers with a range of tasks, including lead generation, market research, social media management and the personalisation of the customer experience (Sterne, 2017). Artificial intelligence has developed in a highly effective and

useful manner within the globalised business environment (Parasmehak Khokhar and Chitsimran, 2019). Furthermore, it has gained in importance in virtually all fields in the 21st century, including engineering, education, medical science, business, accountancy, finance, marketing, economics and law (Halal (2003), Masnikosa (1998), Metaxiotis et al. (2003), Raynor (2000), Stefanuk and Zhzhikashvili (2002), Tay and Ho (1992), and Wongpinunwatana et al. (2000), Thiraviyam, (2018).

3.2. The use of artificial intelligence in strategy and planning

Artificial intelligence can assist marketers with strategy and the planning of marketing activities by aiding segmentation, targeting and positioning. Furthermore, AI can assist them in visualising the organisation's strategic direction (Huang and Rust, 2017). Text mining and machine learning algorithms can be applied in sectors such as banking and finance, art marketing, retail and tourism to identify profitable customer segments (Dekimpe, 2020; Netzer et al., 2019; Pitt et al., 2020; Valls et al., 2018).

3.3. The use of artificial intelligence in product management

An AI-based marketing analysis tool can assess how well a product's design meets customer needs and the resulting satisfaction (Dekimpe, 2020). Thematic modelling, when combined with the system's capabilities, serves as a means of innovation (Antons and Breidbach, 2018). The weighting of preferences assigned to product features during the search process helps marketers understand the recommendation system and align marketing strategies for effective product management (Dzyabura and Hauser, 2019). Deep learning can personalise recommendations for points of interest and helps to explore new perspectives (Guo et al., 2018). Artificial intelligence offers the capability to personalise offers according to customers' needs (Kumar et al., 2019).

3.4. The use of artificial intelligence in pricing management

Pricing involves taking into account several aspects and factors, such as production costs and the quality of the product; it is a complex stage in the development of an organisation's pricing strategy. Price variations based on fluctuations in demand add to the complexity of setting prices. However, artificial intelligence-based algorithms can

dynamically adjust prices using data from other companies or from the organisation in question (Misra et al., 2019).

3.5. The use of artificial intelligence in venue management

Access to products and their availability are essential elements of the marketing mix for high customer satisfaction. Product distribution relies on logistics, stock management, warehousing and transport, which are largely mechanical and repetitive in nature. Artificial intelligence is the ideal solution for location management, offering cobots¹ for packaging, drones for delivery and the Internet of Things for order tracking and restocking (Huang & Rust, 2020). The standardisation and mechanisation of the distribution process bring added convenience to suppliers and customers (Dumitriu and Popescu, 2020). In addition to its usefulness in distribution management, AI also offers opportunities for customer engagement in a service context. Robots programmed with emotional AI codes are effective at carrying out tasks (Wirtz et al., 2018). Embodied robots welcome and interact with customers, but human elements must complement the environment to ensure optimal performance.

3.6. The use of artificial intelligence in promotions management

Promotion management involves media planning, managing advertising campaigns and search engine optimisation (Sterne, 2017). Promotional tactics are shifting from physical to digital. Digital marketing and social media campaigns have grown in popularity due to the digital transformation taking place worldwide. AI enables messages to be personalised according to the customer's profile and preferences (Huang and Rust, 2020). Content analysis can optimise the value and effectiveness of messages. Consumers' likes and dislikes can be tracked in real time using emotional AI algorithms. Furthermore, social media content offers new opportunities for marketers to align their marketing strategies with customers' preferences (Tripathi and Verma, 2018; Verma, 2014; Verma and Yadav, 2020).

4. Research methodology

Selecting a suitable research methodology to carry out research in the field of marketing and artificial intelligence is no easy task. Given the wide variety of tools available and the increasing complexity of research topics, choosing an appropriate approach requires careful consideration of a relevant methodology. We have opted for a qualitative research method, characterised by its holistic treatment of the

¹ Collaborative robot

key concepts of our research. This will be detailed and contextualised using data collected from our target population.

Furthermore, the aim of our study is to explore how AI influences marketing, from the perspective of Moroccan marketing experts. The research will utilise both primary and secondary sources to gather data. As for primary data, this will be collected from marketing professionals using a semi-structured interview divided into two main areas. Numerous publications, journals, books, websites and blogs are included as secondary data sources.

The interviews are conducted with marketing specialists working in Moroccan companies. A sample of ten participants was selected on the basis of several criteria. One of the inclusion criteria for the study was that the individuals interviewed had to work for a company that uses AI within its marketing department, the reasoning being that those with direct experience of AI deployment would be able to provide a more accurate assessment of AI's influence on marketing. The small size of our sample stems from the scarcity of organisations employing AI in their production or marketing processes in Morocco.

The interview is divided into two parts. The first highlights the specific characteristics of marketing and AI, as well as how these concepts are defined within the surveyed companies. The second explores the relationship between marketing and AI through a series of questions set out as follows

- What factors play a role in the integration of AI into marketing?
- What are the main benefits of using AI in marketing?
- What are the main obstacles to integrating AI into marketing?
- What are the ethical implications of integrating artificial intelligence into marketing?
- What role does AI play in your company's marketing functions?
- What is your company's marketing strategy before and after the implementation of AI?

The interviews were conducted online via the professional social networking site LinkedIn. This enabled us to identify marketing managers and professionals from 10 Moroccan companies. (Table 1). They were contacted via this social network over a two-month period. These professionals chose

to keep their personal details (surname and first name) and those of their organisations (company name, size, turnover, etc.) confidential.

Table 1. Profile of respondents and companies

Respondent code	City	Sector of activity	Respondent's role
Respondent 1	Casablanca	Agri-food	Sales and Marketing Manager
Respondent 2	Casablanca	Agri-food	Marketing Manager
Respondent 3	Casablanca	Automotive	Marketing Assistant
Respondent 4	Rabat	Call centre	Marketing Director
Respondent 5	Fez	Leather industry	Managing Director
Respondent 6	Marrakech	Construction	Sales Manager
Respondent 7	Tangier	Pharmaceutical industry	Sales Director
Respondent 8	Tangier	Education	Managing Director
Respondent 9	Kenitra	IT	Sales Director
Respondent 10	Agadir	IT	Managing Director

Source: compiled by the author based on the interviews

Furthermore, the data collected was analysed manually, as it was not compatible with software specialised in qualitative research. This means that each interview was analysed individually, enabling us to gain a thorough understanding of the respondents' statements.

Finally, it is worth noting that an inductive research approach was adopted in the preparation of our paper. This approach

encourages the emergence of new insights and enabled us to add further questions to the interview based on the respondents' answers.

5. Results and Discussion

This section presents an analysis of the results obtained from the respondents as part of the research. In total, ten marketing experts from ten Moroccan companies were interviewed.

5.1. Factors influencing the integration of AI into marketing in Morocco

According to those surveyed, the main factor influencing the integration of AI into marketing is competitive pressure. Many companies are being driven by their rivals to integrate AI into their marketing strategies. Respondent 1 stated: "There is a sense of urgency amongst competing organisations to integrate AI into their marketing processes." Respondent 2, however, noted that the company's management had begun to push for the integration of AI into marketing, citing media attention, competitive pressure and the digital maturity the world has experienced following the COVID-19 pandemic. Similarly, Respondent 3 mentioned external and competitive pressure, as well as the excessive media coverage surrounding the integration of AI into marketing tasks. The same respondent stated that "Companies are currently discussing this major trend and utilising it in their marketing functions". He added that "Pressure from rival companies is a significant factor, as we have realised that to stand out, we need to integrate AI into our marketing operations". However, pressure from consumers and their demands were not mentioned by the respondents, apart from Respondent 4, who stated that "the company had realised that customers were looking for businesses offering the best services and performance, and that it had therefore felt obliged to incorporate AI-related technologies."

5.2. The benefits of artificial intelligence in marketing

When asked about the benefits of using AI in marketing, the respondents gave a variety of answers. Respondents 5 and 6 believed that integrating AI into marketing operations would help the company increase efficiency and optimise the time taken to complete tasks. Furthermore, for respondent 7, the benefits of implementing AI-based software within their organisation include increased conversion rates, a better understanding of consumer data and the ability to make more informed marketing decisions. Most importantly, this technology has led to an improved return on investment. Thus, according to respondent 4, the benefits of integrating AI include marketing insights and decision-making. Similarly,

the main benefit of adopting AI in the field of marketing, according to respondent 3, is insight. The results generated by AI-based software can be used for various operations, including pricing and the creation of new products. Finally, respondent 10 believes that the main benefit of using AI-based software in marketing is that it enables the company to provide a better service and deliver greater value to customers, which translates into a high level of satisfaction.

5.3. The main challenges of integrating AI into marketing

According to the responses from the 10 individuals, technical compatibility is the most challenging aspect of integrating AI. To resolve this issue, 60 per cent of respondents stated that the company had endeavoured to simplify the integration of its system with customer relationship management (CRM) systems. The complexity of IT software also poses a significant obstacle, according to respondent 1. Four respondents stated that the biggest problem for marketing operations following the integration of AI is the lack of technical skills within the team. Furthermore, respondent 3 believes that the organisation must train its marketing team to prepare them for the integration of AI. The adoption of new technology within a company is undoubtedly a transformative process, and it is essential to recognise and address issues in advance. Companies should not hesitate to adopt new technologies if they wish to gain a competitive advantage. The managers interviewed also felt that having access to data was essential, as it is the most important aspect of AI; consequently, they believe that data also constitutes the greatest obstacle.

5.4. The ethical aspects of AI in marketing

According to the respondents, data is the most important ethical factor to consider in customer relations. Respondent 4 believes that, to address this issue, the company collects data anonymously, meaning that this information is not linked to the users who generated it. According to Respondent 5, their main objective is to provide a small amount of personal information. Respondent 3 discussed two distinct ethical implications of artificial intelligence in marketing. In their view, ethical issues must be examined as they are extremely important, but they believe that companies do not take them into account when considering the use of knowledge-based AI software. Similarly, respondent number 5 adds that their company took the ethical implications of the new system into account before implementing it, and that the company's basic policy is not to collect personal information from customers. They also emphasise that it is essential to inform the buyer of any ethical concerns.

5.5. The use of AI in marketing functions

All respondents agree that AI has improved the efficiency of marketing operations and is now used in virtually all major marketing-related activities, including pricing, promotion, distribution, as well as product planning and development. According to respondent 2, AI is primarily used in digital platforms, advertising and customer relationship management. Similarly, for respondent 5, AI is widely used in digital marketing, particularly in email marketing, digital advertising, website design, chatbots and predictive analytics.

5.6. Pre - and post-AI marketing strategy

Summarising the managers' responses, the application of AI to marketing alters the dynamics of the entire organisation. Likewise, it can significantly impact the organisation's strategies. According to Respondent 7, prior to the use of AI in marketing, the focus was on increasing marketing resources and expanding the product range. In contrast, following the adoption of AI, marketing managers were drawn to business intelligence, which enabled them to better capitalise on opportunities in marketing, sales and operations. They created data-driven predictive models to forecast future strategies. In line with this, respondent 5 stated that AI had revolutionised the company's marketing strategy. The company decided to invest in AI for customer service. Indeed, this technology has helped to improve responsiveness and efficiency. Thus, prior to the deployment of AI, respondent 1 stated that the market strategy was focused on long-term customer value and on redirecting marketing efforts towards new modes of communication. Following the adoption of AI, the company began to focus on social media reach, personalisation, improved data collection, search engine optimisation, payment procedures and sales optimisation.

6. Conclusion

The aim of this article is to explore the influence of AI on marketing from the perspective of Moroccan experts and professionals. A combined quantitative methodology with an inductive approach was used to achieve this aim. The focus was initially on a comprehensive literature review, which provided a detailed understanding of AI and its use in the field of marketing, including a review of existing research. The main findings of the research revealed that competitive pressure, the role of the media, customer preferences and the digital maturity witnessed globally following the pandemic crisis are the key variables influencing the integration of AI into marketing. Respondents provided clear insights into the benefits of integrating AI into marketing. According to these professionals, the main benefits are the increased efficiency of

this technology, optimisation of the time taken to complete marketing tasks, improved conversion rates, a better understanding of customer information, more actionable marketing decisions, a better return on investment, enhanced understanding, improved service and greater customer satisfaction. Nevertheless, the integration of AI faces challenges; respondents stated that technical compatibility was the most difficult aspect, not to mention customer data, which also poses an obstacle for organisations. Indeed, data is the most important ethical factor to consider in relations with one's environment.

Furthermore, when asked about the use of AI in their company's marketing, respondents noted that AI had improved the efficiency of the marketing function and was now being used in virtually all aspects of it. According to these individuals, AI contributes to the development of sales and marketing strategies that result in significant gains in performance. In general, the interviews conducted with Moroccan marketing professionals highlight the relevance of AI in marketing. AI has transformed the marketing environment and contributed to the modernisation of traditional strategies. However, organisations will find it very difficult to adapt to the changing marketing environment. With the rise of innovation, companies must plan for the future and provide ongoing training for their staff. This research has made a valuable contribution to the existing literature by addressing the gap in the absence of such studies in Morocco, highlighting the relevance of AI in marketing as well as the numerous benefits arising from its incorporation. Furthermore, the key obstacles, ethical considerations and applications have provided businesses with a roadmap for implementing this technology within their marketing departments.

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