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What kind of Marketing Data is needed for Artificial Intelligence Analysis? A Theoretical Approach

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Abstract

Purpose: The interfacing of enterprises with technological innovation and AI shows a clear path to growth and progress through job automation and increased productivity. However, there are management professionals who need an understanding of AI and the ways to upskill themselves to make use of it. The objective of this research is to provide insights into the relevance of the AI concept in marketing to people from non-technical backgrounds. With more conceptual knowledge, they will be capable of improving tasks in existing projects, planning for future ones, and making improved decisions with results from AI models.

Methodology: For this, published research papers, news articles, and books from authentic sources were studied.

Design: This paper introduces the concepts of AI and marketing, states the need for understanding AI by marketers, states the research methodology, and gives an in-depth understanding of the kind of data that marketers must provide to their data analyst colleagues, along with ways to collect them, followed by a discussion and conclusions.

Findings: This paper is a practical guide to the theory of AI and its usability in the marketing context. The findings are suitable for future researchers interested in AI and marketing, for developing different analytical approaches.

Originality/ Value: Since the future of AI is unknown to many, this paper provides guidance for the enrichment of human knowledge. It has two benefits. i) When employees are aware of the kind of data that they can use, they will feel empowered. ii) When customers know the kind of data that can be extracted from them, then they will safeguard themselves more.

Keywords: Artificial Intelligence, data analysts, marketers, entrepreneurs, communication, economy, human enrichment

An overview of marketing

Globally, governments and private businesses are focused on societal progress; they use marketing to encourage better involvement/cooperation from citizens and thus solve the world's economic issues (Urbano et al., 2019). A nation has both democratic and non- democratic nation-state powers that choose to work toward progress and implement large projects that have consequences on development (Scott, 1998; Wodeyar, 2023). These democracies are driven by people who, in turn, carry out developmental works for growth, which are marked by businesses that need ideas, initiatives, activities, personality traits, financial understanding, customer knowledge, and many other factors to succeed (HBR, 2016: 14, Raj and Agrawal, 2019; Raj, 2020). For these businesses, marketing activities are the backbone, and the two concepts are intimately related (Carter, 2009). All the progressive tasks that are done for the development of a nation are logged, observed, and investigated continuously for improved decision-making in the future. Business activities are both inbound and outbound, and scholars say (Afum et al., 2023) that the developmental works of an enterprise closely mediate its posture and community-based performance. The latter is

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measured and monitored; thus, there is an endless requirement for data-based evidence for enterprises to improve their conduct and execution for society's overall welfare (Demirel et al., 2019).

This is the relevance of marketing: In a society, customers have particular problems, and enterprises make products as solutions that are provided as offerings for consumption. These products are advertised to create awareness among customers. They are advertised via advertisements, social media presence, billboards, hoardings, and so on (Luo et al., 2022; Hassan et al., 2015; Ullal and Hawaldar, 2018). The customers develop interest and then purchase products by visiting shops or ordering them online. The offerings are then evaluated by the customers and compared against one another, and they purchase the desired product for use. For example, Indian consumers are health conscious, and the French-based enterprise, Danone India, provided nutrition-based products holding over 90% market share; however, Danone had to exit the Indian market in 2019 due to its inability to adapt (Pandey and Yadav, 2020). This case explains the need for optimisation of both the product price and quality, which contribute to fulfilling the producer's economic aims of maximising profit and serving the maximum market for their products and services (Atarah et al., 2023, Goswami et al., 2023).

For this, management, or, rather, any marketer, is needed to make correct decisions on the appropriate marketing of the product to the right segment of people (Atarah et al., 2023). Scholars suggest that marketing is an applied field and that there is a need for more foundational literature (Huang and Rust, 2021). In this field, marketers advertise or promote offerings and thus build brands, create demand, promote sales, and help enterprises earn customers' loyalty. Marketers aim at answering questions like what customer segments and product lines should be the focus, the ideal level of expenses, which product features to highlight, incentives to be offered to the customer, the right mix of traditional and digital marketing vehicles, and testing and learning plans for the evaluation of new marketing technologies (Joshi and Gimenez, 2014; Atarah et al., 2023). Thus, marketers' multiple roles include resource allocation, technology usage, critical thinking, analysis, motivating others, communication, leadership, team management, and decision-making (HBR 2018: 86, 181-193).

Enterprises today need a good command of Artificial Intelligence (AI) due to their interest in performing well in the global market via interfacing with technological innovation. AI shows a clear path to growth and progress through job automation and increased productivity. However, in terms of management professionals, there are those who require an understanding of what AI is and how they can upskill themselves with respect to their area of work. Thus, the research questions (RQs) are as follows:

Q1: How does AI impact society?

Q2: How can we increase the conceptual understanding of AI by marketers?

Q3: What are the functions of AI in marketing?

This paper represents the economic impacts of AI to understand the potential it has for societal welfare and its usage in the marketing context. For this, published research papers and books from authentic sources are studied. In this paper, I highlight the concept of AI and the types of usable data in the marketing context, from a theoretical perspective. The remainder of the paper is organised as follows: Section 1 introduces the concepts of AI and marketing, Section 2 states the need for understanding AI by marketers, Section 3 states the research methodology, and Section 4 gives an in-depth understanding of the kind of data that marketers must provide to their data analyst

colleagues. Finally, Section 5 provides a discussion and conclusions.

Theoretical background of the study: Brief on Artificial Intelligence (AI)

Businesses are a combination of style and substance, and there is a structure in enterprises in which different departments (Human Resources, Marketing, Finance, etc.) may be spread across product lines (HBR, 2018:92, 233). Empiricists in the field of psychology (the scientific study of mind and behaviour) have said that 'behavior is shaped by experience' (Mann 2016: 4; Magdalena et al.,2021); here, we consider the behaviour of employees. The self-awareness of AI systems is of prime importance in their use (Verma et al., 2021).
The internet wave in the 1990s reached the commercial setting in 1993 (Carayannis, 1999; Sterne 2017:122) and has since revolutionised the world. Individuals and organisations have tremendous amounts of data and information that may be critical in nature, but it is difficult to manage and leverage it well (Carayannis, 1999), meaning that the impact of modern technologies relies on the effective use of data (Parteka & Kordalska, 2023). The speed, dependability, and impassive decision-making of computers allow them to tirelessly and endlessly complete tasks (Sterna, 2017: 60; Giuggioli and Pellegrini, 2023). The manual processing of data could cause errors (Verma et al., 2021); to mitigate this, enterprises are adopting technologies that handle the communication and processing of any task within the enterprise, making these tasks easier and less time-consuming. However, if there is a mismatch between the information technology and organisational setting, the information technology (IT) productivity paradox arises, meaning that with greater investment in IT, productivity is reduced (Hajli et al., 2015). Currently, with globalisation, organisations have offices located across borders. This necessitates the creation of virtual teams who collaborate with their international colleagues for the economical and apt use of resources for actionable results and performance (Morrison-Smith & Ruiz, 2020).

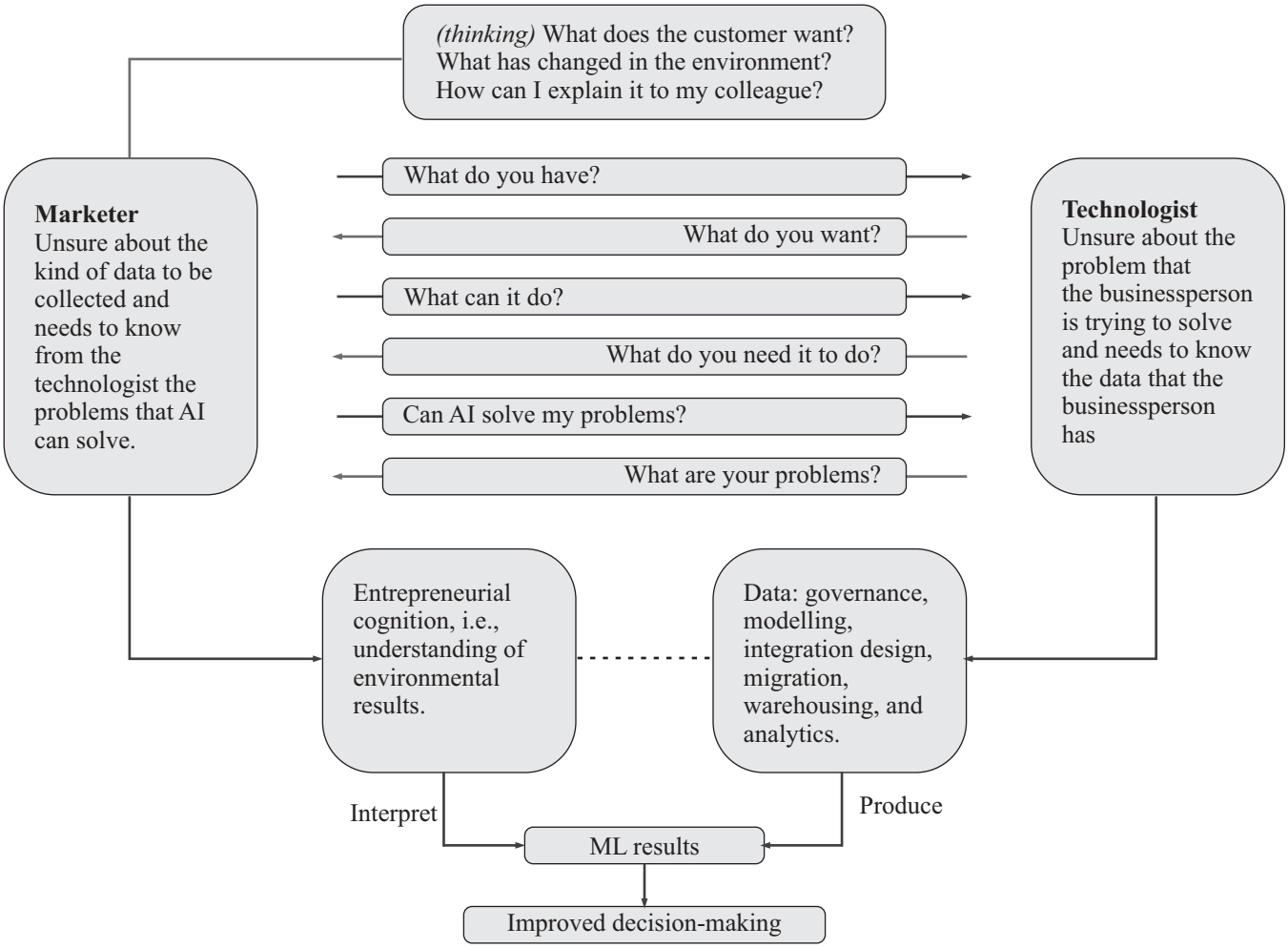
In the twenty-first century, companies have widely upgraded to the use of AI (Verma et al., 2021). Sterne (2017: 15) described AI as following the "ketchup effect", which was described by Mattiass Ostmar, expressing how ketchup oozes out of a bottle 'first nothing, then a drop followed by a splash'. The meaning here is that industries are increasingly using AI to improve business results and social development in general; hence, AI is going to be ubiquitous in the economy in the coming few years. Huang and Rust (2021) categorised the academic literature on AI in marketing into four types, i.e., technical algorithms that are used for problem-solving specifically, purchasers' emotional reactions to AI, the economic and social impacts of AI, and the related managerial and strategic problems. By understanding the relevance of AI, marketers will be capable of improving tasks in existing projects, planning for future ones, and engaging in better conversations with their technologist colleagues; this is crucial because in the twenty-first century, AI is expected to increase productivity and growth (Verma et al., 2021; Parteka & Kordalska, 2023).

Thus, there is a need for seamless collaboration involving huge datasets from multiple domains, especially marketers in virtual domains. This is supported by Joshi and Gimenez (2014) in their 'Decision X-Ray' concept, which emphasises the steps followed to reach a decision: 1) surveys and interviews are used to collect inputs from the key participants in the budget-allocation decision; 2) the decision process is mapped; 3) workshopping is conducted to discuss the collected outputs; 4) people are unclear about the responsibility of recommendations to be made; and 5) a consistent methodology is lacking. The authors wrote that meetings often end without precise results, and the quality and speed of decision-making are perceived

as being poor. To set things right, companies use more and more systematic planning. A similar case supporting this claim is that of Jeff Jones (Chief Marketing Officer, Target), where the creative processes in the company were merged with technological processes and the operating model was redesigned (Steimle, 2016). The impact of judgment and decision-making is specific to behaviour and may often be problematic (Borchardt et al., 2022). This may occur due to a mismatch between the output expectations and the productivity plan, which earlier relied upon ICT (Parteka & Kordalska, 2023).

Thus, the technological setting involving output expectations and organisational settings relies on AI-related decision-making (Parteka & Kordalska, 2023). Of all the functions of a company, marketing benefits the most from AI, and practitioners are seeking relevant solutions (Davenport et. al., 2021; Verma et al., 2021). Marketers' lack of knowledge of technology and AI capabilities may be problematic to them, while technologists lack insight into marketing problems (Sterne, 2017: 104), which could cause confusion in the workplace. Fig.I illustrates the context and shows the ways in which the marketing and data scientist teams work in coordination.

Figure 1: Perplexing conversations between marketers and technologists



Source: Author (compiled from Sterne (2017: 104, 105); Lemaire (2022); Oxford IT services)

Marketers could use the data received from the technologists and analyse them for improved decision-making. If the process needs to be reworked, the information received must be sent back to the technologists with more data to inform the repeated work (Verma et al., 2021). AI has 'transformative' potential; its decision-making algorithms and its understanding improve the conversations between policy-makers and decision-makers (Ross and Taylor, 2021; Gruetzemacher and Whittlestone, 2022). AI can analyse human feelings and emotions and mimic them (Hermann, 2022; Huang and Rust, 2021). AI is where machines prove intelligence, i.e., digital computers, humans, and algorithms work together and in the least amount of time, completing jobs to solve multifaceted problems that are nearly impossible for humans to solve alone due to the sheer amount of calculation power that is needed to adjust to the fluctuating environment (Giuggioli and Pellegrini, 2023). AI's biggest roadblock and greatest asset is data, where outcomes are achieved not by programming but rather by designing a model that updates itself regularly (Sterne, 2017: 4,9,23,24). The data can be standardised, and information can be personalised and realised thereafter (Huang and Rust, 2021). Clearly, people need skills to operate and execute the associated tasks using machines, along with the wisdom to interpret the results. It is obvious that the programmers, that is, the users of AI models, could embed biased algorithms in them to obtain favoured results at their discretion (Chui and Harrysson, 2021). Globally, there have been efforts to design a universally acceptable model for AI in various industries, but there are presently nearly seventy definitions of AI (Mhlanga, 2020).

Research Methodology

The concepts of 'AI' and 'Marketing' are central to this study, along with their relationship, to provide a better understanding of the application of AI in marketing. In this paper, I begin by providing a brief overview of AI by compiling diverse sources from the literature to examine how AI can be applied to improve marketing. The paper entitled 'Artificial Intelligence in marketing: Systematic review and future research direction' by Verma et al. (2021) is used as a main guiding point for this paper. The authors completed a bibliometric, conceptual, and intellectual network analysis of more than 1,500 papers published in the years 1982–2020. However, what is missing is a compilation of the types of data that could be used in the marketing context.

Through the findings of this paper, first, the reader will see the need for an understanding of AI. Secondly, the reader will receive an overview of the opportunities and challenges of AI. Thirdly, the reader will learn the useful types of data and the ways to collect them, explained from a theoretical approach for easier understanding by non-technologist employees. For this, newspaper articles, journal articles, and books are used from authentic sources compiled from the extant literature. The results are a practical guide for marketers on the theory of AI. This paper could be used by future researchers who have an interest in AI and marketing from different analytical and theoretical viewpoints.

Results

The first section hereafter highlights the economic impacts of AI, to provide a brief on the changes it brings to society and to thus understand its significance. The second section highlights the relevant marketing data.

Generally, know the impacts of AI on society's parameters

As mentioned in the UNESCO-UNEVOC report entitled “Understanding the Impact of artificial intelligence on Skills Development” (2021), the AI industry is focused on the geographical locations of

China, France, and the U.K. South Korea, Singapore, Japan, and China focus on manufacturing AI products, while Malaysia, Mexico, and India are positioned as providers in the AI value chain. Italy and the U.A.E. have integrated AI into government service delivery, while Sweden, the European Union, and the Nordic–Baltic region have aligned policies with an interest to improve education, quality of life, economic prosperity, national security, healthcare, energy, transport, city planning, robotics, mobility, information security, environment, agriculture, and life sciences (Shiohira, 2021: 17). To cite an example of the benefit of AI, although it may be non-monetary, the use of AI in education means that people's mindsets are being broadened, thus contributing to overall social development (NITI Aayog, 2018: 22). But AI is used negatively as well (Giuggioli and Pellegrini, 2023), and it will likely drive investment losses in developing economies (Dash and R., 2023).

Referring to the marketing context, there remain several advantages, like digital advertising, website operation and optimisation, search engine optimisation (SEO), outbound e-mail marketing, lead filtering, and scoring (Sterne, 2017: xiv), which are benefits in the marketing context. Before explaining the useful types of marketing data that can be analysed via AI, it is essential to understand how the concept impacts society, in general.

Gender parity

Women constitute half of the population, and their participation in academia and the workforce increases the Gross Domestic Product (GDP) of any nation (Raj, 2020). Publications by women researchers in AI are estimated to comprise around 14% of the total, and globally, women comprise 35% of Science, Technology, Engineering, and Mathematics (STEM) students in higher education, while 1.4% of female workers have Information and Communication Technology (ICT)-based jobs, compared to 5.5% of male workers (Shiohira, 2021:24). According to Bickley *et. al.* (2022), the quality of institutional affiliation is positively correlated with focus on AI, and the Human Development Index is correlated with the share of learning-based AI papers.

Gross Domestic Product (GDP)

A study by PricewaterhouseCoopers (PwC, 2017) estimated an increase in the global GDP by 14% (nearly USD 15.7 trillion) by 2030, while the GDP of China will increase by 26% by 2030. A finance giant since 1869, Goldman Sachs (GS, 2023) estimated an increase in the global GDP by 7% (nearly USD 7 trillion) over a span of ten years and reported that currently, 15%-35% of work in the United States is automated. Jobs that did not yet exist in 1940 now provide employment to around 60% of workers (GS, 2023). In the U.S. and Western Europe, an increase in the GDP per capita of 34% is expected; early adopters will gain significant advantages and the technological divide among firms will deepen with the use of AI, as it accelerates business activities (Dash, R., 2023). Confidence in technology and science is facilitating greater progress in societies, which creates high modernism. On a general note, societies aspire to modernize themselves in order to improve lifestyles and increase GDP, but an excess of the latter may cause a loss of tradition.

High modernism

High modernism is defined as the confidence in scientific and technical progress that resulted in industrialisation in Western Europe and in North America from approximately the 1830s to World War I (Scott, 1998). Much later came the rise of the internet in the 1990s (Wright,2006), which allowed retailers to provide online

shopping (Tkacz and Kapczynski, 2009). Many local stores lost business due to their failure to sustain online marketing (Wodeyar, 2023). Over the last 18 years, the adoption of AI has skyrocketed (McKendrick, 2021), and the use of English by giant players in this industry (e.g., ChatGPT by OpenAI) may lead to the loss of other languages. A similar thing can be seen with internet communication, which is mostly (nearly 60%) in English (Wodeyar, 2023). AI models are also expected to be mostly in English.

High modernisation can be a problem; for example, Wodeyar asked ChatGPT why it is bad to plant eucalyptus trees in the Medinipur district. The reasons revolved around the negative aspects of monoculture plantations. It failed to share the real reason why residents of the Medinipur district object to the planting of eucalyptus: because monoculture plantations reduce the amount of food that they can collect (Wodeyar, 2023). This highlights the issue of AI's failure to take experiences and livelihoods into account. This is the gap where manual human knowledge intervention is required.

Workers

Workers possess intermediate skills and are at risk of being replaced by robots with greater outputs (Shiohira, 2021: 8). In 1976, the brain-drain tax was imposed on skilled Indians moving abroad (Bhagwati, 1976), and in 2023, politicians are reaching out to Indians settled abroad to invest in the nation (Bhattacharya, 2023). This change in approach eventually transformed business with the increasing use of Information Technology (IT) to strengthen societies (Kedia, 2023), and it continues to impact changing economies and labour markets (Shiohira, 2021). The growth in the past 80 years is due to technology-driven job creation (GS, 2023). The highly skilled Indians who are working abroad in knowledge-intensive sectors like healthcare and data analytics are seen as unofficial ambassadors of India (Bhattacharya, 2023). In an interesting study comparing automated jobs and manual jobs, although productivity was increased, robot adoption immensely impacted blue-collar workers and those with low levels of education in the United States, reducing their labour share, employment, and wages (Acemoglu and Restrepo, 2017). This finding was replicated in the developing country of India (Raj, 2020; Raj and Agrawal 2019, 2022), and the unemployment results are particularly shocking because nearly 70% of Indian citizens reside in rural areas. The homologous impact of inequality among workers negatively impacts social welfare (Acemoglu et al, 2014; Acemoglu and Restrepo, 2017, 2018). Currently, there is a mismatch in the skill requirements of the new technologies (Acemoglu and Restrepo, 2018; Shiohira, 2021: 14, 28). There is a need to improve workers' skills through training, but the result could mean the loss of jobs for some, especially those who lack knowledge about AI. To give an example, if 3D printing is combined with AI, then medical professionals or physical therapists can easily complete tasks that previously required orthotists and prosthetists (Shiohira, 2021:14).

Taxation

Traditionally, the taxation system involves humans as money-givers. A government's main earnings are through taxes paid by its citizens, which are then used for developmental works (Joshi, 2020). When AI replaces a human employee, the government makes a loss on tax (Abbot, 2020). But AI provides crucial services like tax planning advice through chatbots (Mhlanga, 2020). Under high modernism in which AI replaces human employees in society, taxes cannot be paid by these machines, and

losses will occur.

On a general note, the top-down approach in policy framing fails to account for regional diversity, and a consequence may be the loss of livelihoods (Scott, 1998). Hence, governments must focus on creating environments for AI while mitigating the associated risks to society. The progression of AI could be slowed so that there is more time for democratic input and for diverse models, rather than providing one common solution globally (Wodeyar, 2023). Overall, there is a need to modify the tax system, as robots will replace human employees in many places (Abbot, 2020). It is vital to provide more training and education in the relevant sectors regarding using the demographic dividends of a country and modifying cyber regulations, as AI will impact the labour market, politics, crime, data privacy, and warfare (Dash and R., 2023). There is a need to provide greater access to finance for female entrepreneurs and to encourage their enrolment in STEM education. Financial and non-financial institutions must adopt AI so that all people can participate in the formal financial market in a better manner (Mhlanga, 2020). Thus, AI shapes the life of consumers personally, socially (Hermann, 2022), and in business.

Usage of AI in the marketing context for humans

Companies engage in rigorous marketing that largely focuses on tactical planning and cutting-edge marketing. Organisations increasingly use customer relationship management systems, customer behaviour modelling, big data analytics, and marketing optimisation tools (Joshi and Gimenez, 2014; Wang et. al., 2023) and behavioural strategies (Borchardt et al., 2023), all of which require stronger data architectures (Fernon, 2021). This enables marketers to meet the needs of customers in real time. The use of AI has increased by twelve percentage points from 2019 to 2023, improving efficiency in marketing, and it is changing the ways in which brands and users interact with one another (Shiohira, 2021:11; Haleem et. al., 2022; Bünte, 2023).

In this section, first, we need to understand why enterprises across the globe have decided to use AI in marketing. For this, a case was shared by Matthew Todd of Dt4t Solution Plc as to why they decided to use AI; it was mentioned that using email and time tracking, they determined that a customer was on their company's website for 45 minutes but made zero purchases, while the store retailer praised the same customer for entering into their store with the aspiration to buy a product (Sterne 2017: 55, 56). The confusion lay in what the numbers said versus what the human said. In the decision of labelling a customer as a 'potential' one or not, it is vital to compare with other, more relevant statistics. There are several employees in an organisation, and each one may have a different opinion on various matters. Thus, an infinite array of prospective possibilities is generated. Marketers need to reach the minimum number of feasible variables for decision-making. With AI, worker productivity increases by 14%, meaning better customer service agents, higher employee retention, and improved customer satisfaction (Mhlanga, 2020; Brynjolfsson et. al., 2023). Customers are segmented into four groups, and the AI creates customer behaviour predictions by grouping those with similar attributes, as they are likely to have similar buying behaviour (Wang, 2023).

It is a felt need in this AI boom that marketers (irrespective of industry) must understand the kind of data that can be collected for analysis using AI. A few examples can explain the breadth of customer data: In the education industry, AI-backed platforms intersect with business incubation, education, and industry innovation (Shiohira,

2021:34; Parteka & Kordalska, 2023). In the hotel industry, AI is used to analyse data sets concerning weather, hotels, and flight cancellations, and their nexus is used to offer the best deals to customers (Sterne, 2017:44). Incremental sales revenue in marketing can be created by prompting shopping experiences based on social surfing (Fernon, 2021). In a mall, data can be collected about where a person takes photographs or responds to text messages (Sterne, 2017:44), their outlet preferences, and food sellers visited. This information could be used to make customised offerings and choose apt places to create 'Selfie points', which create more social sensitivity (Shin et al., 2017; Siân et al., 2019). The breadth of customer data also includes Facebook likes/comments, tweets, auto registration (Sterne, 2017:49), competitors, high quality, high price, the quality of customer service, bundling commodities, market entry, investor confidence, risk-to-return relationship, and opportunity identification (HBR, 2018: 38, 39). Table I shows the types of relevant customer data that can be collected for marketing purposes, representing the taxonomy of customer data for AI analysis. In the first column are the usable data types, while the second column gives examples of data that could be noted.

Table 1: Types of relevant customer data that could be collected for AI analysis in marketing

Types of data	Some examples
Identity	Name, gender, age, address, mobile number, biometric details (fingerprint/retina), pulse rate, body mass index, device used, government ID, clothing colour, shoe type,hair colour, visible birthmarks, etcetera
History	Schooling, employment, occupation, criminal record, coverage in press, publications, recognition and awards, memberships, credit score, legal issues, loans, marital status,travel history, credit Score, etcetera
Proclivities/Attracted to	Preferences, hobbies, social groups, social currency, groups, entertainment, newsfeeds followed, browser history, brand loyalty, shopping experiences
Possessions	Income, home, cars, jewellery, purchase history for clothes/footwear/devices, subscriptions, relationships
Activities	Keystrokes, social cues (gestures/eye tracking), location, IP address, social posts, dining out preferences, television viewing history, heart rate changes, email filtering, use of personal digital assistants like Siri, Alexa, Bixby, Cortana
Psychographics	Religion, beliefs, values, donations, generous/miser, introvert/extrovert, active/ passive, opinions, moods, thoughts, emotions, behaviours, final purchase decisions

Source: Author compiled from (Sterne, 2017: 49-52); Verma et al., 2021; Fernon, 2021; Silva et al., 2023

Data collection is done with consent (Fedeli et al., 2022), but for AI analysis, there is a need to understand the methods of data capture (Sterne 2017: 52). Here, customers provide information, both intentionally and unintentionally. Figure.2 shows the methods of data capture for customers.

Figure 2: Methods of data capture from customers in both intentional and unintentional ways

Data are **PROVIDED** by customers when they i) initiate: e.g., fill out an application or register a product for warranty, register for voter ID, or apply for a public (gun/alcohol) license; ii) transact: e.g., use a credit card at the point of sale, pay a bill, write a cheque, make an automatic payment, respond to a survey, complete a school registration, participate in court proceedings, or answer an online quiz; iii) post: on social media.

Data are obtained about customers when they are **OBSERVED**, whether i) engaging: e.g., via browser cookies, when scanning a parlour/grocery loyalty card, etc.;ii) unanticipated: e.g., calling for roadside assistance; iii) passive: e.g., recorded by a traffic camera, movements recorded while walking in a supermarket

Data are **DERIVED** from earlier gathered data about the customers i) computationally: e.g., the difference between times of arrival and departure provides the waiting time/time on the page, feedback on items helps track the quality; ii) notionally derived: e.g., depending upon the customer's behaviour with on-site merchants/ staff, it is easy to label the customer as a serious buyer or not. This helps in market segmentation.

Data are **INFERRED** i) statistically: e.g., receiving a call on vacation whether the customer is checking into a hotel, barcode scanning; ii) as advanced analytical data: e.g., probability of a customer defaulting on loan, probability of getting a disease, likeliness to recommend a book to a friend, facial recognition, collaborative robots, drones for product distribution, YouTube recommendations.

Source: Author compiled from Sterne (2017: 52-54); Huang and Rust (2021)

It is proven that mechanical AI is the best for standardisation through automating repetitive and routine tasks, which can be used for data collection in the market research stage (Huang and Rust, 2021). The compiled datasets can then be analysed using AI. Companies havereleased the source codes for AI models, and potential problems could be identified and solved using these tools (Clegg, 2023). Thus, for marketers, knowledge of AI is a must to bring in better future results and to engage in more productive conversations with their data scientist colleagues.

Findings and Discussion

In this paper, I have discussed the opportunities and challenges in AI in the general context and in the marketing context in particular. The traditional approaches of conducting business lack scalability, and this is why companies are now switching to AI. This paper was written while keeping in mind that there are individuals who are not well versed with technology usage. They must be kept up to date regarding the terminology to use for better communication within their organisation, especially with relevance to AI. AI is and will continue to be employed for improved decision-making, as strategic decisions rely on thinking AI (Huang and Rust, 2021). To ensure seamless communication across business structures and information symmetry among them, it is vital to upskill the current human resources. Thus, marketers must upskill themselves in the field of technology. In-house teams could learn from the AI companies who are making the source codes of their models freely accessible, and vulnerabilities could be fixed (Clegg, 2023). No AI model is universally accurate, but their results are actionable and close to perfection; the preferred model depends upon the level of desired human intercession, and users must understand the diverse ways of interaction with AI and accordingly pick the correct team (Ross and Taylor, 2021). Marketers must work alongside data analysts. If the AI results are not correct, then the marketers need to provide feedback to their technologist colleagues (Sterne, 2017: 43-67). Thus, it is vital to understand the types of data that are needed for analysis using AI, what problems AI can solve, and how to explain the marketing requirements to AI specialist colleagues.

We must remember that AI can be used destructively to manipulate data, and it is also likely to replace human workers. It is best to understand the workings of AI, and humans must upskill themselves to use this new capability correctly.

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