

Towards A Futuristic Perspective of Introducing AI into Marketing Communication Education in Egypt

Dr. Iman M. Zahra*

نحو منظور مستقبلي لتضمين الذكاء الاصطناعي في تعليم الاتصال التسويقي في مصر

ملخص الدراسة:

يستخدم مصطلح الذكاء الاصطناعي (AI) في مختلف التوجهات الاجتماعية والتكنولوجية، وقد تم تعريفه بعدة طرق. أما في الأونة الأخيرة - على عكس بدايته في خمسينيات القرن الماضي - يتم استخدامه يوميًا من خلال عمليات البحث على محرك جوجل ومحتوى الوسائط الاجتماعية وكيفية تنفيذ مهام الاتصال والتسويق في الشركات حول العالم. وفيما يتعلق بالعلاقات العامة والتسويق، أصبح الذكاء الاصطناعي في وضع يسمح له بتغيير العمليات التكتيكية والاستراتيجية في الممارسة العملية لهما بشكل جذري، وبالتالي يمكن الاعتماد من خلاله بشكل كامل على إدارة العلاقة بالعلامات التجارية والمسؤولية الاجتماعية.

وقد أشارت نتائج الأبحاث الإمبريقية المتعددة التي تتناول هذه الظاهرة في جميع أنحاء العالم، إلى أن ممارسي الاتصال التسويقي الذين يتبنون تقنيات الذكاء الاصطناعي سيحظون بالعديد من المميزات التنافسية، حيث يبدو أن مستقبل مهنة الاتصال في العلاقات العامة والتسويق سيكون مزيجًا من تقنيات الذكاء الاصطناعي والحس البشري.

على الرغم من ذلك، لم يحظ إدخال الذكاء الاصطناعي كمجال رئيس في مناهج الاتصال التسويقي بنفس التركيز كما في الممارسة المهنية، بالرغم من كونه الركيزة الأساسية في تأهيل ممارسي المستقبل والمعروفين أيضا بصناع المحتوى.

تستهدف الدراسة الحالية استكشاف طبيعة التأهيل لممارسي الاتصال التسويقي وصانعي المحتوى الذي يمكنهم من التعاطي مع الذكاء الاصطناعي الضيق ANI. ومن خلال نهج مستقبلي، تميل الدراسة إلى اقتراح مقررات وموضوعات الذكاء الاصطناعي ليتم تضمينها في الأساليب التربوية والتعليمية المصرية لبرامج الاتصال التسويقي، وتجنب الخلافات المحيطة بأخلاقيات الذكاء الاصطناعي ونقص الدراسات المتعمقة في هذا الصدد.

تصدت الدراسة الحالية للإجابة عن خمسة أسئلة رئيسية، حول استخدام الذكاء الاصطناعي بشكل احترافي في الاتصال التسويقي من قبل صانعي المحتوى، والتناول البحثي لاستخدام

* Associate Professor of Public Relations – Cairo University

الذكاء الاصطناعي في مجال الاتصال والعلاقات العامة والتسويق والاتصال التسويقي، وماهية تضمين أخلاقيات الذكاء الاصطناعي في التراث العلمي فيما يتعلق بمجال الاتصال التسويقي، وماهية المقررات التي يمكن تضمينها في المناهج المصرية لبرامج الاتصال التسويقي فيما يخص صانعي المحتوى.

وقد قامت الدراسة من خلال منهج التحليل الثانوي بمراجعة حوالي ثمانين بحثاً علمياً يتناول الذكاء الاصطناعي وعلاقته بالاتصال التسويقي خلال الفترة من 2018-2023. وخرجت الدراسة بعدة نتائج أهمها: إن صانعي المحتوى يفتقرون الي التأهيل العلمي المناسب والمنظور المهني الصائب لاستخدام الذكاء الاصطناعي. ولاستغلال الذكاء الاصطناعي بشكل أمثل، اقترحت الدراسة بعض المقررات التعليمية لتأهيل صانعي المحتوى لبيئة الاتصال المستقبلي القائمة عليه والمتغيرة باستمرار، بما في ذلك المفاهيم الأساسية والأخلاقية، وأبحاث التسويق المعتمدة على الذكاء الاصطناعي، وذكاء المحتوى، وتحليل البيانات، وتحليل المشاعر، ومعالجة اللغة الطبيعية من بين أمور أخرى.

الكلمات المفتاحية: الذكاء الاصطناعي، الاتصال التسويقي، التعليم، الأخلاقيات

Abstract:

The term artificial intelligence (AI) is used for various socio-technological approaches and has been defined in many ways. Nowadays – unlike its inception in the 1950s – it is used every day by everyone to some extent, through Google searches, social media content, and how communication and marketing tasks are performed in companies around the world. Regarding public relations and marketing, AI is positioned to fundamentally change both tactical and strategic processes, thereby thoroughly empathizing relationship management and social responsibility.

Findings of vast empirical research tackling the issue worldwide, suggested that marketing communication practitioners who adopt AI technologies would certainly gain a competitive advantage. It appears that the future of the communication profession in PR and marketing would be a blend of both AI technologies and human insight.

Unfortunately, introducing AI as a major domain in marketing communication education haven't received the same focus as that of the professional practice, though AI education should be the main pillar in qualifying future practitioners, aka content creators.

The current study tends to explore the qualifications content creators and practitioners should possess when taught about marketing

communication to deal with ANI (Artificial narrow intelligence). Via a futuristic approach, the study tends to suggest AI courses and topics to be included in the Egyptian pedagogies of marketing communication programs, evading the controversies surrounding AI ethics and lack of in-depth studies.

The current research is set to answer 5 main questions: RQ1 How is AI professionally utilized in marketing communication by content creators? RQ2 How did academic research tackle utilizing AI in communication, PR, marketing and marketing communication? RQ3 Has academic research tackled utilizing AI technology in marketing communication education? RQ 4 What are the ethical concerns related to AI utilization professionally and are pedagogies keeping up with those concerns? RQ5 From a futuristic perspective, how can Egyptian curricula encompass AI courses and topics to be included in the Egyptian pedagogies of marketing communication programs?

First, a secondary analysis of 80 empirical studies tackling AI and marketing communication published in referred journals and referred books was carried out. The time interval of the study sample has fallen between 2018-2023 due to the recency of the topic. Findings revealed that western research schools haven't prevailed in this topic, rather Asian AI research school from India, Malaysia, Indonesia, and Vietnam prevailed together with the Turkish literature. Pertaining to building marketing communication curricula depending mainly on AI concepts, the study found out that not only practitioners and content creators lack professional perspective of AI, rather it is the academic discourse that is lacking an investigation on the topic. The study, futuristically, suggests a number of ANI courses obligatory to be introduced in the marketing communication education to qualify content creators and practitioners for the ever-changing milieu of AI based communication, including core and ethical concepts, marketing AI research, content intelligence, data analytics, sentiment analysis and NLP among others.

Keywords: AI, Marketing Communication, education, ethics

Introduction

The fourth period of the industrial revolution was marked by the process of automation and full digitalization, as well as the use of information and electronic technology in the personal environment. Although the transformation of the internet in the digital industry is still in the process, artificial intelligence, big data and connectivity show a new round of digital revolution in industry 4.0. (*Munandar & Irwansyah, 2019*).

Artificial intelligence (AI) is used every day by everyone to some extent, through searches on Google that show results based on previous activity, chatbots on websites, and automated messaging systems that answer telephone calls. AI affects the content social media users see, how health professionals select treatments, and how communication and marketing tasks are performed in companies around the world. AI is embedded in Amazon's product recommendations, Google's search results, and Facebook's timeline algorithm. This technological advancement is rapidly taking over choices, operations, and decisions in various domains, including policy making, predictive policing, and recommending sentencing to judges. Furthermore, AI is increasingly used for an array of business functions including public relations, marketing, and journalism (*Buhmann and White, 2022*). AI has also displayed the power and potential to shake up the status quo in various fields, including digital marketing. Many applications equipped with AI technology such as personal assistant (e.g., Alexa, Siri and Cortana), streaming music (e.g., Pandora) and financial planning (e.g., Olivia) for personal uses, as well as digital marketing (e.g., Sentient), process automation (e.g., Amazon MTurk) and facial recognition (e.g., Haystack) for business uses are widely adopted in different industries including media. While human factors embedded in branding such as the experience and intuition of marketing practitioners and content creators and the psychological analysis of consumers continue to play a vital role, AI offers a new way to acquire, process, analyse data, as well as to generate insights and deliver personalized results (*Chen et al., 2022*).

Regarding marketing communication, in the last decade, there have been various digital innovations in the field. With AI, computers and machines can perform tasks that typically required human intelligence.

Public relations is one component of marketing communication that is witnessing the growing application and is at the brink of the AI revolution. AI is attracting attention in advertising as practitioners, and lately, scholars have started recognizing AI's productive potential in that field (*Panda et al., 2019*).

The major controversy that presents itself here is that the industry of media and communication keeps on evolving and is ceaselessly moving forward, not only journalism, advertising, PR and social media as prior mentioned, but also audio, film and television, and photography—have been witnessing breakthroughs with AI. Imparting education, itself a form of communication, is influenced by those technologies that have made their marks in the field of educational pedagogies (*Biswal, 2022*). AI has become a transformative tool in providing education in different parts of the world, especially in developed nations. AI-powered technologies have been deployed in various aspects of education, especially in teaching and delivering academic content. For example, AI has brought new methods for students to access content and achieve success. It has revolutionized the idea of smart content, including digitized books, video conferencing, video lectures, and automated lessons. Through AI, virtual learning has become possible. By powering platforms that digitize textbooks, students can learn virtually using different devices, from anywhere and anytime. An institution that offers virtual or online learning, which has thrived in recent years, especially with the outbreak of covid-19, schools are using AI-powered assessment tools to monitor exams and maintain academic quality and integrity on the side of students and institutions. On student security, AI powered scans are being used to identify students when entering and leaving schools and even when taking exams, among other school activities (*Batuca, 2021*).

Having elaborated on AI's general contribution to education, *Luttrell et al., 2022* discussed the biggest challenges facing the CMC and social media field, i.e. the gap between the industry and academia. Industry moves at a rapid pace with new trends, challenges, tools and more, whereas academia moves at a slower pace when it comes to publishing research and incorporating these insights into pedagogy. Understanding what are the assignments, exercises, and experiential learning outcomes

that can bridge the gap between education and practice in social media and CMC, will continue to be a growing area of focus, especially as expectations continue to rise for new hires to master and apply their education to the current marketplace. Social media pedagogy is a growing area of research, yet still in its infancy compared to other areas in social media research. Imparting the uses of AI to the students in the field of media communication is essential to tap its maximum utility, which will prove beneficial for the development of business (*Biswal, 2022*).

Consequently, the Chartered Institute of Public Relations (CIPR) recommended a review of education and training courses that will equip current and future professionals for the AI work landscape of the 2020s and beyond. It is essential for educators in media and communications to effectively incorporate professional context around the technology and emerging theories they teach in the classroom, with an eye towards ensuring graduates possess essential knowledge of the changes in the field. Educators and media professionals are called to come together to develop a more professionally relevant curriculum that account for emerging industry trends, including the application of AI technology. Students and practitioners do not need to become expert technologists; rather, they should develop a sufficient understanding of AI's present and potential uses to be able to offer informed counsel for strategy development (*Mc Collough et al, 2022*).

Although *Mc Collough et al, 2022* asserted that AI education in marketing communication would not require a technology expert, *Ahmed & Ganapathy (2021)* had a different perspective when considering a more advanced marketing communication field that is considered crucial for content creators, i.e. automated content, that would help acquire an upper hand in the packed advanced marketing scene. AI tools can translate the content into different formats and advanced solutions utilizing NLP (natural language processing) and can even write the content all by itself. Above all, artificial intelligence and automation assist marketers in understanding customers and build significant relationships with them, utilizing user engagement, conversions, and maintenance. Luckily, advanced content marketers are beginning to understand the significance of artificial intelligence that would require a different type of education.

The current study sets out to understand the possibility of AI's gradual introduction into the curricula in the Egyptian marketing communication (marcom) programs and how via a futuristic approach, controversial implications, and challenges, especially those regarding the ethical issues could be dealt with. The researcher first elaborates on professional utilization of AI in the most prominent marcom fields dwelt upon in literature i.e. public relations and advertising. Second, a secondary analysis would track research tackling utilizing AI in communication, PR and marketing, then the same analysis would cover utilizing technology in marketing communication education research. The ethical concerns related to AI utilization professionally and the way pedagogies are keeping up will be the third discussion pillar, and finally suggesting marcom curricula depending mainly on AI concepts that could be eligible for programs would follow.

Methodology of the study

Statement of the current problem:

Findings of previous studies as *Chen et al. 2022*, revealed that although marcom practitioners and consumers' understanding of AI is intuitive and scattered, they are able to touch upon different core concepts of AI such as computer, human-like, machine, algorithm, software and learning, suggesting gaining basic knowledge of the term directly or indirectly from various sources and in different ways. In addition, marcom practitioners' AI knowledge reflects mainly the limited functions offered by Weak AI or ANI (Artificial Narrow Intelligence) applications, which depict AI as a conduct for relatively simple tasks. In particular, as discovered by many human-AI decision-making studies, the participants tend to perceive humans as superior to AI in performing complex or creative tasks. This has implications on the nature of AI-based marketing communication messages. Despite some findings related to ethics and trust, AI is the most inevitable phenomenon in the field of marketing communication, given the noticeable imbalance between the marcom profession and marcom education pertaining to AI worldwide and in Egypt. Therefore, the current study tends to explore the *qualifications, content creators and marcom practitioners should possess when being taught about*

marketing communication to deal with ANI (Artificial narrow intelligence). Via a futuristic approach, the study tends to suggest AI courses and topics to be included in the Egyptian pedagogies of marketing communication programs, evading the controversies surrounding AI ethics and lack of in-depth studies.

Research Objectives:

The current research aims at achieving five major objectives:

- 1- Elaborating on professional utilization of AI in the most prominent marketing communication fields dwelt upon in literature i.e., public relations and advertising.
- 2- Tracking research tackling utilizing AI in communication, PR marketing and marketing communication.
- 3- Tracking research tackling utilizing AI technology in marketing communication education.
- 4- Dwelling upon the ethical concerns related to AI utilization professionally and the way pedagogies are keeping up with those ethical concerns.
- 5- Constructing Egyptian curricula encompassing AI courses and topics to be included in the Egyptian pedagogies of marketing communication programs in the future.

Research Questions:

The current research is set to answer 5 main questions:

- 1- How is AI professionally utilized in marketing communication by practitioners and content creators?
- 2- How did academic research tackle utilizing AI in communication, PR, marketing and marketing communication?
- 3- Has academic research tackled utilizing AI technology in marketing communication education?
- 4- What are the ethical concerns related to AI utilization professionally and are pedagogies keeping up with those concerns?

- 5- From a futuristic perspective, how can Egyptian curricula encompass AI courses and topics to be included in the Egyptian pedagogies of marketing communication programs?

Research Method:

The current research resided to synthesize AI's involvement in marcom education empirical research in a secondary analysis framework. Secondary analysis in marketing research refers to: the analysis of a large collection of results from individual studies for the purpose of integrating the findings, thus offering new opportunities for integrating and combining the contradictory outcomes of studies for analysing variance in effect sizes across findings (*Laroche and Soulez, 2012*). Analysing the sample in hand, the researcher attempted to synthesize the diverse findings of the various research papers into different AI domains in relation to marketing communication and its components, communication, ethics, and education to create a framework of common aspects tackled mostly in the nascent AI*marcom education studies and build AI*marcom education curricula.

Sampling Procedures:

The research utilized a purposive sample to implement the study because of the difficulty of assembling all the literature on AI, AI education and marketing communication studies. The following steps were implemented to locate the study sample according to the criteria set in advance:

- ✓ To the researcher's best knowledge, no Arabic research papers and dissertations tackled utilizing AI in marketing communication as a concept. Instead, rare papers tackled partial AI marcom concepts, that were not of real benefit to the current study.
- ✓ The researcher resided to the upcoming online libraries to locate the foreign AI marcom research literature and AI education published in English whether papers or dissertations on condition that the paper title includes directly the word AI marketing communication, or marcom components as PR or Advertising, or AI and communication or AI education, thus locating 80 empirical studies published in referred journals and referred books that met the pre-set criteria. The

time interval of the sample studies has fallen between 2018-2023 due to the recency of the topic. To the surprise of the researcher, western research schools haven't prevailed in this topic, rather Asian AI research school from India, Malaysia, Indonesia, and Vietnam prevailed together with the vast Turkish literature. Arab Research Hubs and Think Tanks contributed to AI educational literature as well.

- EKB.
- ProQuest.
- Science Direct.
- NGU libraries.
- AUC Libraries.
- Sage Publications.
- Google scholar

Findings

In the upcoming lines the researcher will discuss the various aspects tackled in the paper that tend to answer the five research questions. Finally, curriculum building will follow to prove the researcher's viewpoint.

AI Role in the Professional Practice of Marketing Communication:

Arief and Gustomo (2020) adopted the following AI definitions: AI is defined as an advance and a high degree of complexity application of technology by which a machine demonstrates human cognitive function, such as learning analysis and problem solving. Another definition of AI is a software or computer program equipped with the mechanism for learning. With that knowledge, it is used to make decisions in new situations, as is done by humans. AI has the ability as a machine to use algorithms to learn from data and use what it has learned to make decisions as humans do. It is a system that can think like humans, act like humans, reason, and act rationally. Machine learning algorithms which are equipped with valid data, PR and other

marcom components, can amplify several forms of content and promotions through social media, also allowing the involvement between brands and audiences on social media to be improved. Moreover, AI can provide input to the sentiment of media coverage and then send a notification when negative news appears so that professionals can respond rapidly.

Content marketers are leveraging AI for *content customization*. They additionally allocate the greater part of their marketing budgets to analytical analysis, personalized decision making, and content segmentation. AI-powered learning management has been generally adopted, as it helps the experts' instinct and thinking by working with the control and display of information to help reveal patterns probably not going to be recognized by the expert. In addition to comprehending the meaning, sentiments, and expressions in content, AI exceeded expectations by the remarkable quality, time, and money-saving advantages of embedded AI when managing enormous content (*Ahmed and Ganapathy, 2021*).

Suciati et al. (2021) focused in their seminal work, that one of the content creator skills is the routine task of creating press releases. This activity has a very close significant achievement with media relations and media monitoring. As a matter of fact, press releases are branding and credibility tools, not SEO tools. The content creation process of press releases is one of the skills that is predicted to be helped by the automation of AI. PR Bot is a "Press Release Robot". This application will make it easier to prepare press releases and distribute them to the press for publication in the mass media, as a representation of PR 4.0, in an era in which artificial intelligence (AI) and big data prevail, when robots are able to write articles in the media and help write, find materials, and other activities.

Various tools can be used by PR and marketing communication which serve to simplify their tasks, including managing corporate campaigns, artificial identifying buzzers, influencers, and managing data of interested parties. In addition, managing platforms for digital content, audio and video as well as managing data analytics can be done using AI technology (*Suciati et al., 2021*).

According to *Panda et al. (2019)*, AI can facilitate agencies' tasks and their clients with content creation. AI can scan various data sources and produce high quality and engaging white papers, case studies, data sheets and posts, through utilizing AI-powered systems like Wordsmith, a natural language processing platform. Wordsmith can create content on financial results for sensitive reporting. These AI-powered programs can identify the style of the publisher and write stories using relevant financial information quickly and reliably.

Munadar and Irwansysh, (2020) depicted on *social media analysis* that can be done by artificial intelligence and includes the activities of collecting, monitoring, analyzing, summarizing, and visualizing data obtained from social media that aims to facilitate online conversations and interactions and explore patterns that are useful for decision making in organizations. Artificial intelligence is predicted to be able to do real-time analysis of shifting sentiments on social media, so that it can identify the causes or contributors of certain problems and crises faced by organizations.

Another crucial field as discussed by (*Biswal, 2022*) is the creation of new campaigns. Automation and machine learning assist the professionals to understand which elements will pay the success to campaigns. Since a machine does faster than human beings, it is easy to take fast and accurate decisions, which are beneficial for the client concerned. It helps to understand and foresee the trend, which is ultimately required for decision-making process. It assists in sorting out the time, content, medium, and audience of the campaign. It can lessen the time wastes on content creations for specified audience.

(*Biswal, 2022*) also asserted that routinized and mundane communication tasks are being easily accomplished with AI assistance. Robotic Process Automation (RPA) is making several administrative tasks possible as scheduling calendars, structuring meeting notes, crunching numbers, organizing files and other similar tasks. Empowered with the technology, they can create, organize, and prioritize tasks in their firms to meet their clients' requirements.

Sentiment Analysis is not only used on social media but in *crisis management* as well, as it is known as opinion mining or emotion. AI

indicates the use of natural language processing, text analysis, computational linguistics, and subjective information. This analysis is being applied to the voice of the customer materials. With the interventions from the machine, sentiment analysis uses the natural language processing to separate vocabulary use, tone, and language settings. Moreover, it assists the agencies to handle the clients' adverse situations. With AI involved into the picture, the technology proves beneficial in creating smarter chatbots which are being used to interact with consumers. To mobilize social interaction and effective communication, chatbots are acting as instrumental to follow the relevant hashtags or respond to messages related to crisis or even create ready-made messages for their audience (*Biswal, 2022*).

In a 2019 study on multiple practitioners, *Panda et al.* revealed their research results related to experts who believe that AI can assist the PR and marcom industry in the much-needed digital transition for development, in sustaining themselves in the digital age. Content strategy is one input that AI can provide to make content creation easier, through drawing a clear picture of demands and possible trending demands. Various social media platforms are using AI to customize and personalize newsfeeds and posts. Major e-retailers are using AI to send offers to the users based on their browsing behaviours. AI can lead to current and relevant insights regarding drawing conclusions out of data coming from a variety of sources like social media, website traffic and other digital touch points. Communicators can make use of these insights generated from the data to make informed and active decisions. AI systems can keep messaging to the point, with ideas based on analysis of Big Data and other relevant trends. AI can help identify and tailor content for influencers. Using influencers is common but identifying them and adapting material for building engagement and loyalty is a huge challenge. AI can assist in determining and engaging these influencers and relevant stakeholders.

Not only influencers, but AI can create accurate buyer personas used to create engaging content for these buyers. AI helps to know the choices, buying patterns, habits, influences, pain points and point of failures. With AI-based personas, companies can create and deliver targeted messages. AI systems can decipher the digital DNA and core

characteristics of the target group, thus creating offers and messages to suit the individual client in real time (*Panda et. al, 2019*).

The upcoming section will separately detail the multiple uses of AI in different components of marketing and marketing communication to highlight the importance of introducing AI into the profession and consequently in the curricula administered to content creators and marcom practitioners.

Utilizing AI in Marketing and Digital Marketing

In this regard, it is crucial to understand *Chen et al. (2022)* classification of AI into two types to be able to comprehend marketers' stance in the near future: namely, Strong AI and Weak AI. Strong AI or artificial general intelligence is a more advanced and complex machine with consciousness, sentience, and mind, which exhibits intelligence in more than one specific area and can perform a variety of tasks. By contrast, Weak AI or artificial narrow intelligence (ANI) refers to a relatively simplified machine, which concentrates on one specific field by performing narrow tasks such as self-driving car. Based on the definition of ANI, most marketing-related applications are at the ANI stage.

Other AI-related marketing terms include machine learning, deep learning, natural language processing and robotics. Machine learning has taken AI to a more intelligent level which enables computers to learn by themselves based on the available data by establishing connections and links between individual pieces of data, and makes it possible to draw conclusions and form generalizations on the basis of performed analyses. Deep learning is an advanced level of machine learning which is based on learning algorithms that do not need human beings' management and can process data and generate a new piece of information immediately by taking advantage of big data and computing power. Natural language processing is a speech recognition application supported by machine learning and deep learning and can process large amounts of text data by deciphering the context, the vocabulary, the syntax and the semantic meaning. Robotics focuses on the design, development, operation and application of robots. All those technologies have been used by marketers to facilitate their marketing practices via AI applications.

Haleem et. al., (2022) asserted that AI is primarily concerned with user retention and lead conversion in digital marketing. It can guide a user in the direction that aligns with the business's goals by using intuitive AI chatbots, intelligent email marketing, interactive web design, and other digital marketing services. Several factors determine the impact of AI on digital marketing. Machine learning is concerned with computer programmes that access data and use it to learn independently. It compiles data from various places, including social media accounts, menus, online reviews, and websites. AI then uses the information to produce and deliver content relevant to the audience. By implementing AI into marketing strategy, businesses can use the available data better and reach out to potential customers with attractive commercials at more convenient times. Digital marketing gives a visibly pleasant experience for clients with AI for advertising across social media and digital platforms such as Facebook and Instagram. These platforms thoroughly assess users' information before directing them to offers appropriate to their wants. It prevents the company from overspending on digital advertising and ensures that the money is well spent. AI has simplified building client profiles and comprehending the customer journey process. It allows brands to provide valuable personalised content quickly and easily for the various client profiles in any marketing funnel stage and throughout each avenue.

The most used AI applications in digital marketing according to *Barton (2021)* are: ad targeting, web and app personalization, voice search such as Amazon Alexa, chatbots and marketing automation. Salesforce.com, a customer relationship management platform, offers customers the possibility to create their own customized AI-powered apps. The most used and beneficial outcomes of the AI-powered apps involve recommendations, forecasting and predictive scoring. Another company that has applied AI successfully is Adobe, who has its own marketing cloud that allows world's leading brands to co-operate in identifying and improving customer experiences.

Marketers can use AI to gain deeper consumer insights and better understand how to categorise and drive customers to the next step in their journey, providing the best possible experience, which can increase ROI.

The following diagram by *Haleem et al., 2022*, enumerates multiple uses of AI regarding almost all marketing aspects.



Figure (1) Contributions of AI in Marketing (*Haleem et al., 2022*)

AI plays a critical role in the success of any marketing campaign. As a result, companies that fully utilise AI will gain a competitive advantage. Machines with capabilities replicating cognitive functions associated with the human mind, most notably learning and problem solving, have been developed. By analysing user data and assisting marketers in making sense of user intent, AI is helping marketers decipher the ever changing world of *content marketing*. Marketers can use AI to generate content for simple stories such as stock updates and sports reports.

Furthermore, AI systems are constantly working in the background of popular products and services like Netflix, Amazon, Google etc. However, in recent years, AI has made its way into marketing, assisting firms in improving every stage of the consumer experience. Resources previously available to huge firms have become affordable and accessible to SMEs. To enhance consumer behaviour, create and understand more sophisticated buyer segments, marketing automation, content creation, and sales forecasting, neural networks are developing dynamic tools for marketers, allowing them to process large data sets that provide more significant insights. Marketers can use predictive analytics to forecast the outcome of a campaign by recognising patterns from previous campaigns. Deep learning uses over a million data points to evaluate whether a prediction is valid and similar to machine learning models.

AI technology has been adopted to serve various functions in the context of marketing as explained by *Chen et al., 2022*:

- First, personalization, which occurs when decision on marketing mix is based on previously collected customer data and the automatic machine-driven selection of products, prices, website content and advertising messages that fit with an individual customer's past behaviors.
- Second, prediction and adaptation. Closely interconnected with personalized consumer experience, AI's power in prediction and adaptation can be harvested from multiple perspectives as providing real-time adaptation not just to the consumer but also to the conditions of a specific marketing practice.
- Third, interaction/engagement, using cognitive technologies in the areas of natural language processing, image recognition/ computer vision and decision-making related applications. In particular, text/voice-assisted AI such as chatbots and virtual assistants (Google Assistant, Siri and Alexa), which have the ability to identify and "understand" spoken phrases or words and are available 24/7, are increasingly utilized in customer services, product information, marketing and sales support.

Muli Uses of AI in PR

Literature review proved in this paper that PR is the most researched marketing communication component related to AI. Panda et al., 2019, explained that organizations are focussing heavily on delivering smart solutions to their stakeholders to achieve organizational goals. With the adoption and application of AI tools and technologies, organizations can measure the value of PR efforts and ensure alignment with their business' overall mission and goals. In the context of PR, AI has the potential to automate and perform various tasks. These tasks include writing data-driven stories, organizing and updating media lists, aiding in crisis management, converting, and transcribing audio into text, following and predicting media trends and monitoring and managing social media. Their research also contributed to the discussion of AI from the practitioner's perspective; they discovered that practitioners, in general, feel well-acquainted with the AI technology and that AI will have a transformative effect on the public relations industry, particularly in the areas of content creation, managing public relations crises, and public relations measurement.

Swiatek et al. (2022) focused on other PR functions: systems for natural language generation can produce news releases, convert written texts to speech and audio files to text, and generate promotional materials in multiple languages. AI is also used for communication management tasks that include monitoring and providing sentiment analysis from media clippings and social media, searching for brand mentions across large bodies of text, images, and videos, and monitoring competition. Commercially available AI-based products such as Hootsuite are widely used for social media analytics. AI can be used to customize story angles for public relations practitioners, based on their past coverage. It can provide predictive data to help determine when to release stories, or to predict potential issues that might affect a brand or company.

Chartered Institute of Public Relations (CIPR) formed #AIinPR panel to help understand the impact of technology and specifically artificial intelligence on public relations skills and professions. Until 2020, #AIinPR has tagged more than 130 tools. In each case, they have added a description, and labeled each tool based on AI's functionality and

sophistication using a five-point scale: (1) Simplification – technology that simplifies a public relations process, or provides a tactical service; (2) Listening and monitoring – media and social media listening and monitoring tools; (3) Automation – automation of tactical tasks; (4) AI for structured data – machine intelligence applied to structured data; and (5) AI for unstructured data – machine intelligence applied to unstructured data. The transformation of Public Relations practices in the industry 4.0 is full of technology penetration (*Suciati et al., 2021*).

Alawad (2021) asserted that big data, machine learning and the right solutions are the three most influential tools in the field of PR utilization of AI. Big Data: refers to the capacity of a practitioner to compile and classify broad datasets with minimal manual work. PR will then use this data to ensure that the correct message is sent to the correct person who asked about the query. Machine learning: When marketers try to make sense of this massive data collection, Machine learning systems will give an easy way to feed data. They can help recognize patterns or common events and forecast common observations, responses, and reactions effectively so, marketers can understand root cause and probability of repeating those responding behaviour. Making up right solution: Strategies for artificial intelligence actually act in the same way a person makes decisions. This means that, extremely quickly, the platforms can recognize informative concepts and trends through large data sets. AI solutions also view emotion and communication like a human being, thereby allowing such networks to understand open form content such as social media, natural language and email responses, and put bigger value of both creative and strategic business practices in creating new competitive advantage. Because of the current level of AI improvement (the Artificial Narrow Intelligence level), a new model of cooperation with AI entities offering data engineering or ML techniques needs to be developed.

(Buhmann and White, 2022) discussed the use of AI in public relations and how difficult it is to assess because public relations as a communication function of organizations is as varied as organizations themselves. More specifically, it is difficult to make broad determinations about the use of AI for public relations for two reasons. First, AI varies across industry sectors and types of organizations. Since

AI relies on massive amounts of data, most SMEs simply do not have the capacity to set up their own AI-based systems and may have little need for sophisticated AI solutions in many domains. *Zerfass et al.* (2020) found significant differences in predictions among communication professionals about the impact of AI across types of industries. The second reason, it is difficult to give one overall assessment of the use of AI for public relations is that individual practitioners differ greatly in their understanding and use of AI and limited competencies about it.

Zerfass's research team concluded that communication managers need to *educate* themselves about AI and to identify the implementation of AI-based systems as a strategic and leadership issue, as well as serving the interests of the organization for which communication professionals work, there also is an *ethical* obligation to serve the public interest. Public relations communication is based on advocacy and persuasion, both of which can be used ethically. However, social media platforms move beyond simply presenting persuasive information; they use AI to put persuasive messages in front of individuals who are the most susceptible to them and who may not be able to rationally evaluate them, resulting in emotional manipulation (Buhmann and White, 2022).

Utilizing AI in Advertising

Turksoy (2022) highlighted that in 2017, AI was named the Marketing Word of the Year by the Association of National Advertisers. In the past ten years, advertising campaigns were enriched by artificial intelligence-driven platforms which make advertising design more efficient for advertisers. Artificial Intelligence is a game-changer for the advertising industry. Advertising that uses intelligent algorithms is defined as “consumer-centered, data-driven, and algorithm-mediated brand communication” that knows consumers’ interests, preferences, needs, wants, and tastes. It is suggested that with the help of Artificial Intelligence practices, advertisers began to target the right customers at the right time.

Literature on AI within advertising shows that contemporary digital technologies have enormously transformed how companies reach and interact with consumers. Four key themes have been identified that

highlight how AI applications may transform the advertising profession. These are: (1) discovering consumer insight, (2) evaluating the impact of ads, (3) media planning and buying, and finally (4) advertising creation. It is acknowledged that the algorithms knew the demographics, psychographics, motivations, and past purchase behaviours of customers, and even their vulnerabilities that may help them to practice the art of persuasion. AI may help consumers and advertisers alike, as AI can recognize both the product and potential social-media influencers; speech recognition would allow AI to analyse the meaning of spoken words, and provide meaningful voiceovers for advertisements, and natural language processing would allow AI algorithms to evaluate the nuances of human language. Ad agencies started focusing on Artificial Intelligence technologies that could transfer big data into valuable information about consumers. Examples of AI advertising tools are Albert, that uses sophisticated AI to analyse ad campaigns, then manage targeting and budgets. It is a self-learning solution that improves the effectiveness of online advertising with more persistence and efficiency. Gumgum is another contextual intelligence company that could develop applied computer vision technology that ad agencies could use to place ads strategically. Ad tech company Sizmek is another AI-power platform that provides insights that help advertisers better understand customer data, thus producing more relevant campaign content, personalized messages, and impactful ads. WordStream, an online advertising company, also uses machine learning to quickly analyse an ad campaign. WordStream takes better decisions than human beings about the target market; these decisions translate into better performance, reduced costs, and increased revenue. New digital technologies created new opportunities for advertisers; they became able to build better consumer relationships and be more interactive on online platforms. Time and space are not important anymore, and consumers could be reached anywhere at any time via their smart devices.

Chen et al. (2022) projected that programmatic advertising which optimizes the purchase of online advertising space between agencies and publishers without human intervention on a case-by-case basis will become dominant in online advertising, and company websites will also

allow for real-time adjustments in design and content to optimize for Search Engine Optimization. In other words, content marketing practices have been greatly enhanced by the adoption of AI techniques. Chen et al. (2022) asserted introducing an AI-assisted programmatic creative platform in 2019, which can facilitate advertising creative process by generating large-scale personalized and contextualized advertising messages in real-time.

In the upcoming part, the researcher will present a literature review of studies that tackled the role of AI in marketing communication and its separate components.

Taking off with literature that tackled AI and PR, advertising and communication, then more comprehensive studies tackling AI and marketing communication. A discussion will follow the review presented in chronological order.

Literature review: AI's involvement in PR, Advertising and Communication

Alexander Buhmann and Candace L. White (2022) asserted that regardless of the disparities among organizations and individual practitioners, there is overall positivity about the potential of AI to improve the way information is delivered as well as the potential to provide insights and predictive analytics for communication professionals. Most articles to date in the scholarly and business press focus on the *benefits* that AI will bring to communication practices, but also note the lack of preparedness to use new AI-based approaches. On the other hand, other articles depicted that practitioner professional development is both an *opportunity and a barrier* (*McCollough et al, 2022*), thus *educating* faculty to meet industry needs is an urgent necessity.

Hussain et al, 2022 has tackled practical topics related to utilizing AI in the field of social media as global efforts towards the development and deployment of a vaccine for SARS-CoV-2. The researchers developed and applied an artificial-intelligence (AI)-based approach to analyse social-media public sentiment in the UK and the US towards COVID-19 vaccinations, to understand public attitudes and identify topics of concern. Over 300,000 social-media posts related to COVID-19 vaccinations were extracted, including 23,571 Facebook-posts from

the UK and 144,864 from the US, along with 40,268 tweets from the UK and 98,385 from the US respectively, from 1st March - 22nd November 2020. The study used natural language processing and deep learning based techniques to predict average sentiments, sentiment trends and topics of discussion. These were analysed longitudinally and geo-spatially, and a manual reading of randomly selected posts around points of interest helped identify underlying themes and validated insights from the analysis. Overall findings were positive, negative and neutral sentiment in the UK to be 58%, 22% and 17%, compared to 56%, 24% and 18% in the US, respectively. Public optimism over vaccine development, effectiveness and trials as well as concerns over safety, economic viability and corporation control were identified. The team compared their findings to national surveys in both countries and found them to correlate broadly. AI-enabled social-media analysis should be considered for adoption by institutions and governments, alongside surveys and other conventional methods of assessing public attitude.

A prominent Turkish study was conducted by *Nilüfer TÜRKSOY* in 2022 to examine the latest academic research conducted in the last decade on the future benefits, challenges, and impact of Artificial Intelligence and its adoption in the communication profession. The study is grounded in the perceptions of reviews from relevant academic articles and emphasizes the technological innovations related to Artificial Intelligence applications within the public relations, advertising, and journalism professions. The followings are some of the key questions asked in the current study and answered through thematic analysis.: 1) How is the implementation of Artificial Intelligence going to impact the jobs of the communication profession? 2) Can robots replace public relations, advertising, and journalism professionals? and 3) What kind of opportunities and challenges will AI-powered systems bring to these three professions? The findings suggest that Artificial Intelligence would benefit the communication profession and those who adopt Artificial Intelligence technologies would certainly gain a competitive advantage. It appears that the future of the communication profession would be a blend of both Artificial Intelligence technologies and human insight. Also, it is emphasized that it would be a rather narrow view to see that Artificial Intelligence would create robots to

replace humans while performing various tasks or would outperform human intelligence in most of its dimensions.

In 2022 also, the Turkish researcher *Soldan* followed up on developments in the technologies of information and communication tools that have radically changed public relations studies. Terms and concepts such as artificial intelligence, big data, machine learning and natural language processing have become a part of corporate communication. The research aims at understanding how artificial intelligence affects the public relations sector. The meaning of artificial intelligence for public relations, what kind of contributions it makes to the sector, and which PR practices use artificial intelligence, are emphasized. In addition, the difficulties encountered in the use of artificial intelligence, the future of artificial intelligence public relations and ethical issues are mentioned. Interviews were held with eighteen public relations experts from different generations, within the framework of semi-structured questions. Evaluations were made about the changes made by artificial intelligence in tasks such as target audience analysis, crisis management, campaign design, measurement and reporting, automation of repetitive tasks, influencer identification, content creation and media monitoring.

In 2021, *Yuldiz* reviewed the importance of artificial intelligence, machine learning and big data and how can they affect communication science in many areas. The fact that chatbots are being used increasingly, making predictions for the future thanks to big data, identifying target audiences better by means of big data, and starting to create logical articles by machines are among the issues that will significantly affect the field of communication. Within the scope of the study, it is aimed to analyse the published theses on “artificial intelligence” in the field of communication. Within the scope of the data obtained as a result of the study, the scarcity of theses on “artificial intelligence” draws attention. A total of 8 theses on artificial intelligence in the field of communication have been reached. In addition, another result obtained is that most of the theses are put forward by qualitative research method.

In 2021, Artificial Intelligence (AI) is gradually changing every industry, including the Public Relations industry. Skills associated with conducting research, creating content, evaluating campaigns, tracking issues and countless work processes are being automated with AI. Researchers believe, although AI would never fully replace public relations professionals, but will increasingly assist them and possibly do a better job. *Suciati et al.*, 2021 were developing PR Bot, a tool that help PR to create an instant press release using an AI (machine learning). Before the researchers continue building the app, they needed to know whether the PR practitioners will accept this technology or not. Descriptive research was conducted, using interview and polling survey, convenient sampling among the PR professionals in Greater Jakarta area was executed, using Technology Acceptance Model to develop the questionnaire. According to the interview, findings highlighted that the knowledge and skill of using new technology of the respondents is very good. The survey shows the acceptance of the perceived ease of use and perceived usefulness of the PR Bot is high. In conclusion, the target market is ready to use the technology, they feel that this tech will help them in daily basis task. Based on this result, the team continued developing and using the insight from the respondents to build the feature of this application.

Alawaad (2021), as well depicted on Artificial Intelligence. (AI) has been an emerging phenomenon in a variety of fields in recent years: technology, business, medicine, automotive, and education. However, AI has made its way deeper into public relations & marketing in the last few years, helping brands develop every step of the consumer journey. In addition, instruments previously limited to companies at the enterprise level have become inexpensive and open to medium and small businesses. This study aims to explore how widely AI is implemented in PR & marketing and what consequences it has for marketing practitioners. This study concludes, based on the gathered information, that AI helps in all aspects, especially in PR & marketing. The growth of the industry is found to be high compared with non-using AI industry. The study offers business implications, in particular ideas about PR & marketing deployment of AI, developing products and

ideas about how to leverage new skills into the marketing team mandated by the new technology.

In 2021, *ÇAĞLAYAN* studied the effect of AI on the future of PR according to Turkish PR professionals. In the study, it was aimed to determine which technologies, tools and software are used by public relations professionals, their frequency of use of these tools, how they evaluate the effects of technology, tools, and software on public relations processes, whether they see AI as an opportunity or a threat, and to what extent they prepare themselves for technological transformation. The sample of the research consists of 77 public relations agencies based in Istanbul, which are members of the Public Relations Association of Turkey, which is considered to have a high performance in incorporating current developments and technological innovations into their workflows. Within the scope of the field research, the data was collected from the sample, between February 1 and April 1, 2021, by means of a quantitative data collection tool, a "questionnaire". According to the data, the majority of the participants used at least one of the various technologies, tools and software; the most used technologies, tools and software are in the categories of analytics, image management, campaign management, social media management, writing, research, planning and measurement; technology tools and software support business processes positively. AI is seen as an opportunity to increase its impact and gain competitive advantage by accelerating public relations processes and is not perceived as a threat. Finally, it has been determined that the majority of the participants are prepared for the transformation that will take place through AI technologies in various ways.

In 2020, *Arief and Gustomo* studied the preparedness of PR in dealing with the impact of big data and AI on the communications profession in Indonesia. The research objective is to determine an understanding of AI that will have an impact on automating and simplifying PR work, to identify the competency of future PR, and to find out how big data and AI can replace what kind of PR jobs. This study employed an online survey methodology with a total of 320 PR practitioners and was completed through semi-structured interviews of 10 respondents, both from state-owned enterprises and private companies. The research

concludes that there are PR jobs that have been replaced by the tool development of big data and AI, among others were 45% news clippings, 45% news analyses in the media, 37% media relations, 34% content of social media management, 33% release distribution, and 24% photos and videos. This research proposes new competencies that need to be strengthened, specifically in the areas of the *content creator*, influencer management, social media management, and data analytics.

In 2020, *Zerfass et al.* conducted their cross country research on Artificial intelligence (AI) as it might change the communication profession immensely, but the academic discourse is lacking an investigation of the perspective of practitioners on this. This article addresses this research gap. It offers a literature overview and reports about an empirical study on AI in communications, presenting first insights on how professionals in the field assess the technology. A quantitative cross-national study among 2,689 European communication practitioners investigated four research questions: RQ1 – How much do professionals know about AI and to what extent are they already using AI technologies in their everyday lives? RQ2 – How do professionals rate the impact of AI on communication management? RQ3 – Which challenges do professionals identify for implementing AI in communication management? RQ4 – Which risks do they perceive? Communication professionals revealed a limited understanding of AI and expected the technology to impact the profession as a whole more than the way their organisations or themselves work. Lack of individual competencies and organisations struggling with different levels of competency and unclear responsibilities were identified as key challenges and risks. The results highlight the need for communication managers to *educate* themselves and their teams about the technology and to identify the implementation of AI as a leadership issue.

In 2019, *Panda et al.* dwelt upon the concept, benefits, application, impact and role of artificial intelligence (AI) in public relations (PR) industry. It examines the application of AI-based systems and their role as strategic disruption in the PR industry. This article is based on qualitative semi-structured interviews of 31 PR professionals and is grounded in the insights from the review of relevant research papers, articles, and case studies. It highlights the developments in research and

practice related to AI application in the PR industry. AI-powered systems can scan social media and are smart, intelligent and experts in handling queries. These AI-enabled systems can post responses on social media in real time for the client and manage the crisis. With AI, PR professionals can save time spent on mundane activities like creating media lists, scheduling meetings and sending follow-up emails. Mass personalization and customization using AI are improving the effectiveness of PR activities. It is too early to say whether AI will act as strategic disruption in the PR industry. Based on the insights and discussion in this article, the PR professionals and researchers can make decisions on whether to invest in AI tools and solutions.

In 2019 also, and following the disruption theme in Jakarta Indonesia, *Munandar and Irwansyah* found out Artificial Intelligence (AI) has become a prominent issue that will challenge the public relations industry in the era of the fourth industrial revolution or commonly called the industry 4.0. AI is predicted to change the landscape of the public relations sphere, because there is some concern that AI will take over the job of the public relations practitioners. This article discusses what public relations practitioners think about it. Qualitative methods were used in this study. Both primary (interview) and secondary data (literature review) are collected. Telephone interviews were conducted with 5 PR practitioners who had more than three years of experience in public relations practice. Data was collected using semi-structured interviews. The interview guide discussed practitioners' thoughts toward utilization of AI in public relations practice. Results show that although PR practitioners believe that AI could do some PR tasks at the low level, they have tendency to be sceptical about AI capabilities to accomplish more complex PR tasks that require certain types of intelligence.

In 2019, as well, *Sebastio* analysed the responses of communications and public relations professionals to European Communication Monitor 2019 questions related to artificial intelligence. These questions aimed to highlight the knowledge of professionals about Artificial Intelligence and their perception of the impact, obstacles and risks to the profession. In methodological terms, responses were collected in February 2019, across Europe. Once the data was collected, the responses of Portuguese professionals were selected and their descriptive statistical analysis was

performed. Portuguese results follow the European standard, although there are very significant differences in the results collected. These show that Portuguese respondents are among the least informed about AI in Europe, perceiving greater impact with the adoption of AI in the way the communication and public relations professions will have to adjust (macro level). Requirements that are difficult to meet and may be obstacles to the adoption of AI by communication and public relations departments and agencies include the skills of these professionals (micro level). Finally, the biggest risks relate to the need for organizations to struggle with their employees' skills gap and unclear responsibilities (micro level).

In 2018, *Narida* discussed competition in website-based online sales in the shape of e-commerce in Indonesia. This creates a challenge for e-commerce companies to have the right strategy to increase the customers' interest so that they will make a purchase transaction through the e-commerce. As one of e-commerce with Business to Customer (B2C) transactions, Sale Stock applies the role of public relations as boundary spanning as a strategy to manage corporate communications with customers. The application of this public relations role is carried out by utilizing Artificial Intelligence (AI) named Soraya as a liaison or provider of information formalized through the Information Technology (IT) channel. Study found out that for Sale Stock, utilizing communication and information technology in the role of public relations will bring benefits in the form of ease of companies to communicate with new customers, promote products to new customers and customers. They become a hallmark of e-commerce in creating attractiveness for customers.

Analysis of this pillar insinuates that none of the aforementioned studies has tried to find out how PR professionals are prepared and skilled enough to survive and prosper in the AI-powered environment in the future. None of the papers has investigated how digital or AI is going to impact the agency–client relationship, and whether AI has the potential to drastically change the PR industry. Before 2018, not much scholarly material related to AI and PR was developed and discussed at the PR bodies and associations, but since 2018, number of scholarly work focusing on the applications of AI in PR has increased extensively.

Literature review on AI utilization in the field of Marketing and Marketing Communication

According to *Zada (2022)*, AI is a trending topic in marketing research, particularly in the last 8 years, as evidenced by major shifts in research topics from Customer Relationship Management in 2011 to AI and Data Mining in 2015 to Machine Learning and Big Data after 2017, all of which are derived from AI technology.

Kassem et al. (2023), discussed the increasingly customer-centric business environment, as effective communication between marketing and senior management is crucial for success. With the rise of globalization and increased competition, utilizing new data mining techniques to identify potential customers is essential for direct marketing efforts. This paper proposes a data mining pre-processing method for developing a customer profiling system to improve sales performance, including customer equity estimation and customer action prediction. The RFM analysis methodology is used to evaluate client capital and a boosting tree for prediction. The study highlights the importance of customer segmentation methods and algorithms to increase the accuracy of the prediction. The main result of this study is the creation of a customer profile and forecast for the sale of goods.

Zada (2022) tackled customer knowledge for business and marketing strategy, and how companies are turning to Artificial Intelligence (AI)-based data analysis to better understand user experience and behaviour in both product and service sectors. CRM is now fully automated, due to the latest AI approaches, which employ Machine Learning (ML) algorithms to collect data over time, analyse it, and take action to close the gap between expectations and delivery. The three major categories of machine learning are supervised learning, unsupervised learning, and reinforcement learning. This paper discusses the importance of customer knowledge, and the tools for obtaining it using AI-based analysis. While AI-based analysis has many benefits, such as advanced and detailed analytics, it also has many drawbacks, such as privacy and the human-biased factor that the machine can learn from interacting with humans. AI is a delicate marketing technology that should be

controlled by humans because it cannot replace humans in customer service, relationship management, and critical situations.

In 2022, Haleem et al., also discussed how Artificial Intelligence (AI) has vast potential in marketing. It aids in proliferating information and data sources, improving software's data management capabilities, and designing intricate and advanced algorithms. AI is changing the way brands and users interact with one another. The application of this technology is highly dependent on the nature of the website and the type of business. Marketers can now focus more on the customer and meet their needs in real time. By using AI, they can quickly determine what content to target customers and which channel to employ at what moment, thanks to the data collected and generated by its algorithms. Users feel at ease and are more inclined to buy what is offered when AI is used to personalise their experiences. AI tools can also be used to analyse the performance of a competitor's campaigns and reveal their customers' expectations. Machine Learning (ML) is a subset of AI that allows computers to analyse and interpret data without being explicitly programmed. Furthermore, ML assists humans in solving problems efficiently. The algorithm learns and improves performance and accuracy as more data is fed into the algorithm. For this research, relevant 217 articles on AI in marketing are identified from Scopus, Google scholar, Research Gate and other platforms. This paper attempts to review the role of AI in marketing. The specific applications of AI in various marketing segments and their transformations for marketing sectors are examined. Finally, critical applications of AI for marketing are recognised and analysed. Results were presented in the following diagram where the researchers specified 21 areas in which AI contributes to Marketing.

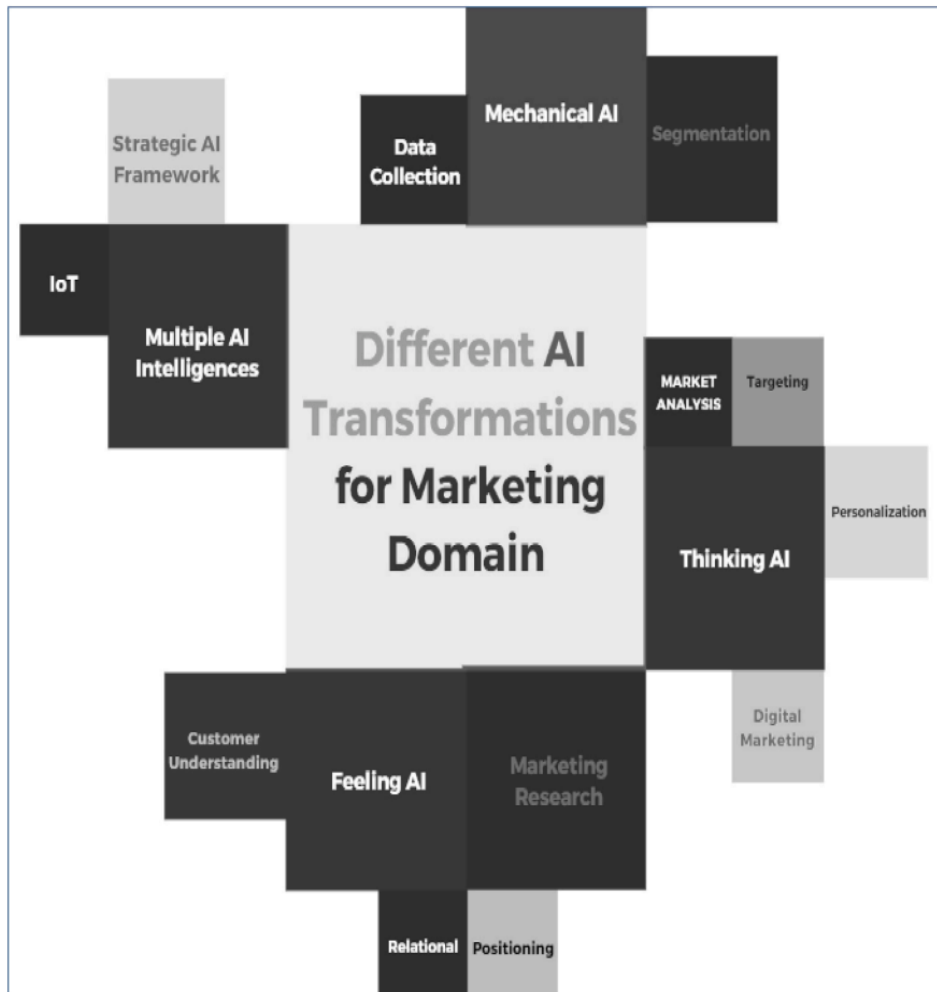


Figure (2) Domains in which AI contributes to Marketing (*Haleem et al., 2022*)

In 2022, *Chen et al.*, published their seminal research on consumers' perception on artificial intelligence applications in marketing communication and it was a rare study targeting consumers not practitioners. This study aims to examine consumers' perception of artificial intelligence (AI) and AI marketing communication. Twenty in-depth interviews were conducted to collect data and phenomenological reduction was used to analyse data. Findings suggest

that consumers' interpretation of AI is multidimensional and relational with a focus on functionality and emotion, as well as comparison and contrast between AI and human beings; consumers' perception of voice-assisted AI centers on the aspects of function, communication, adaptation, relationship and privacy; consumers consider AI marketing communication to be unavoidable and generally acceptable; and consumers believe that AI marketing communication will be limited in its effect on influencing their evaluation of products/brands or shaping their consumptive behaviours.

The year 2021 witnessed other seminal work of Khoa in Vietnam. Artificial Intelligence (AI), applied in many fields, is the core of the fourth technological revolution. In business, AI is used for customer relationship management as applied in the autoresponder systems, i.e., chatbots. Chatbots are an essential tool in the marketing relationship as many companies applied this function to their website; hence, this study analysed the influence of chatbots on the enterprise's integrated marketing communication (IMC) activities, resulting in impulse purchase behaviour and repurchase intention behaviour. Chatbot is a new technology that helps businesses integrate marketing communication activities when customers use mobile devices to access business websites. The research has applied previous studies to build and reaffirm the relationships between structures such as perceived usefulness, perceived ease of use, customer-centered IMC, impulse purchase behaviour, and repurchase intention. The mixed research method was used, particularly the in-depth interview and the survey with 886 online consumers, who shop from the online websites with chatbot system in Vietnam as Tiki, Lazada, Sendo, excetera. The research results showed that the perceived usefulness and ease of use of chatbots have positively affected the attitude of online consumers to the IMC activities of businesses. Simultaneously, IMC leads to impulse buying as well as the repurchase intention behaviour of customers. The study proposed some managerial implications for an online business to enhance the chatbot functions to consumer behaviours in the website. Research has shown chatbots to be a communication tool that can lead to shoppers' behaviours, including impulse purchase and repurchase intention. Thereby, businesses need to pay attention to this tool when

building websites or applications for online selling. Also, the study pointed that for the frontier markets, the ease of use of chatbots is essential for customers to create awareness about the enterprise's integrated marketing communication activities.

In 2020, Paschen studied utilizing the emotional appeal detection of fake news between AI and humans. The creation and dissemination of fake news can have severe consequences for a company's brand. Researchers, policymakers, and practitioners are eagerly searching for solutions to get us out of the "fake news crisis". Here, one approach is to use automated tools, such as artificial intelligence (AI) algorithms, to support managers in identifying fake news. The study in this paper demonstrates how AI with its ability to analyse vast amounts of unstructured data, can help us tell apart fake and real news content. Using an AI application, this study examines if and how the emotional appeal, i.e., sentiment valence and strength of specific emotions, in fake news content differs from that in real news content. This is important to understand, as messages with a strong emotional appeal can influence how content is consumed, processed and shared by consumers. The study analyses a data set of 150 real and fake news articles using an AI application, to test for differences in the emotional appeal in the titles and the text body between fake news and real news content. The results suggest that titles are a strong differentiator on emotions between fake and real news and that fake news titles are substantially more negative than real news titles. In addition, the results reveal that the text body of fake news is substantially higher in displaying specific negative emotions, such as disgust and anger, and lower in displaying positive emotions, such as joy. This paper provides marketing communication professionals with a practical approach to identify fake news using AI.

In 2020, also comes one of the most relevant papers related to IMC from the school of business research in Portugal, as *Ferreira et al.* studied Virtual Reality (VR) and Artificial Intelligence (AI) benefits from a constant presence in the front stage of the top technological breakthroughs due to their potential contribution in the Marketing field. This growing interest to understand the potential of VR and AI as a new way to attract customers and enrich their experiences led to this study. Using the Integrated Marketing Communications concept, the final goal

is to discuss the extent to which experiences using Virtual Reality and Artificial Intelligence may impact a customer experience in three different points of the customer journey: pre-purchase (brand associations), purchase (intention) and post-purchase stage (brand loyalty). Firms are forcing to transform the communication process due to the proliferation of new communication tools, and that has forced firms to choose the most appropriate combination of communication platforms to deliver a stronger message consistency and also to allocate the marketing budget over these efficiently. For such, it is necessary to adopt a “360-degree view” of consumers to get a complete and potentially full understanding of their behaviour in all touchpoints with a brand. To develop a well-integrated marketing communication, the current research examines 3 concepts: consistency, complementarity and cross-effects. The main findings suggest that these technologies represent valuable opportunities in Marketing and that the type of experiences addressed in this paper are more prone to instil action (purchase stage) than to build brand associations (pre-purchase stage) or brand loyalty (post-purchase stage).

In 2019, Gao and Huang, discussed smart media that combines media and artificial intelligence (AI) and can also be a user-centered content service market. However, existing research lacks an understanding of user's perceptions concerning smart services generated by different user experience types across different payment groups. Taking AI-powered Smart TV (AI TV) as a typical research object, this study (1) develops a theoretical model by integrating the technology acceptance model with users' smart service belief factors and (2) employs the user experience type as an original moderator. Using data from 585 AI TV users, the structural equation modelling analysis suggests that perceived two-way communication, perceived personalization, and perceived co-creation as three belief factors, are important antecedent constructs in the extended technology acceptance model. The analysis also suggests that the user experience type exerts positive moderating effects on two-way communication and personalization to attitude toward behaviour and purchase intention. This study thus contributes to the literature on smart service by identifying and studying smart service belief factors. The addition of smart service belief factors as antecedents, as well as

user experience type as a moderator, are crucial to expand the generalizability of TAM to the smart media service context. From a customer experience management perspective, this study shows how to convert ad supported users into new paid subscribers, while keeping existing subscribers by fulfilling their smart service requirements

Analysis of this pillar highlights multiple results. Given ANI stage of evolution, limited academic research has been conducted to examine AI applications in marketing communication. Two studies only addressed integrated marketing communication according to the current paper. With specific regard to the impact of AI in marketing, previous research has been conducted from both marketers' and consumers' perspectives as mentioned by Chen et al. (2022). For marketers, AI can increase marketing efficiency by speeding up the decision-making process and providing marketing managers with information and insights that they could not be obtained from traditional ways. AI can take over the mundane and time-consuming parts of the job and allows them to focus on the strategy and creation. AI can enhance both short- and long-term personalized engagement marketing by creating brand trust, superior brand experiences and facilitating different aspects of customer relationship management. AI can also assist marketers in every stage in a strategic marketing plan from analysing current situation to planning metrics and implication control. Summing up, AI has shown potentials to increase revenues and reduce costs by improved marketing decisions and automation of marketing tasks, customer service and market transactions. For consumers, AI can bring convenience through recommendation systems and timeless services. AI can add value to brand and strengthen the brand-customer relationship by fostering an intimate feeling through personalization, purchasing process assistance and reduction of post-purchase dissonance. Consumers' willingness to accept such technology has also been explored. Some topics in the current literature review are directly related to information studies and indirectly related to marketing and marketing communication i.e., inviting an interdisciplinary approach.

Ethical implications of introducing AI into marketing communication

With convergence of communication becoming more and more important, ethics, data, and privacy are top priorities for technology companies, lawmakers, and users alike, so more deliberate consideration must be given to AI as it crosses over into our everyday lives. Most tech companies have their own AI code of ethics, usually called an AI value platform, outlining data privacy and security as it applies to the continued development of artificial intelligence in terms of processes and products. Corporations like IBM and Deloitte have published very clear frameworks that demonstrate the value of trust as it relates to minimizing risk and capitalizing on the returns associated with AI. In order to prevent the misuse of AI, UNESCO has been working since 2018 toward a comprehensive global code of ethics of artificial intelligence research, addressing complicated questions (Wallace, 2022).

Furthermore, regarding marketing communication components, *Ward and Agozzino (2022)* empathized the Global Communications Report entitled, “The Evolution of Ethics,” released by USC Annenberg Center for Public Relations in 2018-2019 that surveyed industry professionals working in agencies and corporations worldwide and public relations students, about the future of their profession and the role of ethical decision-making in public relations. The Report asserted that 86% of PR professionals and public relations students considered themselves only “somewhat” or “not at all” knowledgeable on AI. PR professionals must acquire a broad understanding of the technologies shaping the industry, and acknowledge the need to address the ethical implications inherent in embracing AI tools. The Ethics Guide to Artificial Intelligence in PR developed by the Chartered Institute of Public Relations in 2021 encourages practical ethical decision-making through the use of an ethical framework and decision-making tree when determining the ethical implications of AI programs. *McCollough et al., 2022* discussed the efforts of Professional Associations such as the Public Relations Society of America (PRSA), American Marketing Association (AMA), the American Advertising Federation (AAF), the Society of Professional Journalists (SPJ), the International Public Relations Association (IPRA), International Institute of Marketing

Artificial Intelligence 673 Professionals (IIMP), and the International Advertising Association (IAA) that have developed ethical codes of conduct for use in the classroom and in practice. To reinforce these ethical codes through subject-specific materials and ongoing research, educators must incorporate ethics as a foundational component within communication classrooms.

The five major ethical principles of AI when utilized in the scope of marketing communication practice are according to (*Swiatek et al., 2022*): explicability and transparency; beneficence and serving the common good; nonmaleficence and working against the risks arising from technological innovations; autonomy and the need to strike a balance between the decision-making power humans retain for themselves and that which is delegated to AI; and finally justice and that AI should promote justice and eliminate all types of discrimination.

AI involvement in marketing communication education: Review of Literature

From the researcher's perspective, the idea of incorporating technology and AI into the curricula administered to content creators is dual faceted. On one hand, scholars asserted proceeding into a new educational environment where AI is used to support learners and educators, and on the other hand, learners are prepared for a future world in which AI plays an increasing role. This means, communication educators and scholars need to prepare to assess student proficiency with AI, particularly as it relates to professional development and achievement of learning outcomes (*Mc Collough et. al, 2022*).

Bringing learning studies together with AI research and development will increase the understanding of teaching and learning within those who develop AI, which can contribute to better machine-learning techniques and applications. At the same time, such collaborations contribute to the ability of education specialists, teachers and learners to understand and be confident using AI (*Dignum, 2021*).

Generally speaking, AI is often understood as a double-edged sword of modern science – a technology whose destructive potential is virtually unlimited without proper guidance from its creator. Moreover, all this indicates that AI is no longer considered a purely technological

phenomenon, but rather a social one. While the possible impact of AI-related technologies on modern society is yet unknown, researchers, enthusiasts and political leaders are still struggling to define a framework, which will ensure the utilization of AI for the benefit of social responsibility (*Saveliev and Zhurenkov, 2021*).

On a parallel level, the team of researchers from the Chartered Institute of Public Relations revealed that although humans could think critically, some PR and communication activities are threatened, because AI can replace them. Practitioners should strengthen their knowledge and skills in areas such as basic research, content development, program evaluation, and management of issues and crises. PR also requires creativity, which is a way of thinking that a machine cannot replace (*Arief and Gustomo, 2020*).

In a breakthrough, *Munandar & Irwansyah (2019)* referred to, Huang and Rust that developed a theory in 2018 called AI Job Replacement Theory, which divides four levels of intelligence to measure the extent to which AI will replace human work. The four levels of intelligence are: mechanical intelligence, analytical intelligence, intuitive intelligence, and empathy intelligence. *Mechanical intelligence requires limited training or education*. Examples of public relations tasks that can be categorized into this type of intelligence are the distribution of press releases, making media lists and making transcripts from audio and video into text. Analytical intelligence requires training and expertise on data and analysis, this intelligence is obtained from practice and expertise. Applications of artificial intelligence at this level are machine learning and data analysis. Examples of public relations tasks that can be categorized into this type of intelligence are social media monitoring and predicting media trends. Intuitive intelligence is the ability to think creatively and adjust to novel times, it includes skills that require insights and creative problem solving. Examples of professions at this level of intelligence are public relations managers, or public relations practitioners who work as facilitators of the problem-solving process. Complex tasks and creativity require intuitive intelligence, while empathy intelligence requires social, communication, and relationship building skills. Included in this intelligence are leadership, advocacy, and negotiation. The task of

public relations practitioners as public relations expert advisors, or duties as communication facilitators are part of this intelligence.

Among the relevant skills to this regard, an emphasis is focused on the development in social media through in-class activities curriculum, professional skills desired by employers, infographic design and analytics seeking to close the gap between the industry and the classroom (*Mc Collough et al., 2022, 674*).

As far as literature insinuates, there has been multiple attempts to introduce the role of AI in education. Nonetheless, none of such research tackled the educational aspect in marketing communication or its major components. Some papers dwelt upon machine learning and general academic performance (*Balaji et al., 2021*), (*Alam et al., 2021*); some studied combatting plagiarism via AI techniques (*Malik et al., 2021*); and others were more specific to discuss education in more scientific arenas as Engineering and such (*Ram'irez-Correa et al., 2021*). Proudly some such papers originated from Arab Universities as King Khaled University, Saudi Arabia, but the fact is that there is no room for such innovative research in the field of IMC, mostly technical disciplines as IT, engineering and sometimes business. *Dignum (2021)* focused thoroughly on the breakthrough AI contributed to education. Artificial intelligence is impacting education in many different ways. From virtual assistants for personalized education, to student or teacher tracking systems, the potential benefits of AI for education often come with a discussion of its impact on privacy and well-being. At the same time, the social transformation brought about by AI requires reform of traditional education systems.

Professor Pradeep Nair, a media educator and researcher, opines that the AI technologies have revolutionized the methods of teaching PR as a component of marketing communication as a subject and as a practice. It brought a paradigm shift in PR education by making the teaching pedagogy more approachable. AI makes the learning process more collaborative by engaging both the teachers and the students in real-life corporate situations. Today, AI is used in teaching PR for designing a teaching module and engaging the students in assignments, assessment, and evaluation of students' projects. It is used to assess the subjective

understanding of the students by designing instructional contents as per the immediate needs of the students. It provides multiple digital platforms to interact and instruct the students about emerging PR practices, thus making PR as an academic discipline more structured and streamlined. By producing smart audio-visual contents, a teacher has an opportunity to help the students to understand the PR industry and can help them to improve their insights on the need of consumers and create fine-tuned PR messages for them. The use of AI in teaching PR helps the media educators to adopt a utilitarian approach, by analysing the most prevalent trend among the students and to address it accordingly. It also helps the media educators to teach the students about how PR companies are improving their services with the help of high-speed data to understand the digital DNA, so that tailored and customized PR messages could be designed as per the requirements of the market (*Biswal, 2022*).

The only study that tackled utilizing AI in promoting IMC education, or at least PR as a main pillar in IMC was that of *Daryono and Firmansyah* (2021) in Indonesia. The study aimed to describe the form and function of the higher education public relations promotion strategy in the Society 5.0 era (a. digital transformation, (b) challenges faced, (c) society 5.0, (d) community improvement 5.0, and (e) industrial initiatives. The research approach used in this study is a descriptive approach. The researchers described the form and function of the higher education public relations promotion strategy in the Society 5.0 era. Society 5.0 teaches humans to be able to integrate life between the virtual world and the real world in a good and balanced manner, so that there will be harmony towards improving human life. In Society 5.0, new values created through technological advances can minimize human disparities and economic problems. The results and discussion of the study indicated that the strategy for promoting higher education public relations in the Society 5.0 era is more in response to competition between higher education institutions, to accelerate access to technology and information in carrying out its promotional strategy. In its implementation, it is carried out with a direct strategy and an indirect strategy. The strategy of promoting higher education public relations in the context of Society 5.0 places the community as the focus of interest

and convenience in using advanced technology, IoT (Internet of Things), robots, and artificial intelligence (AI) and Augmented Reality (AR) actively in life, which is in this case the field of higher education so that there is an increase in community participation.

Dignum (2021) highlighted AI as a software system (possibly embedded in hardware) designed by humans that, given a complex goal, is able to take a decision based on a process of perception, interpretation and reasoning, based on data collected about the environment and that meets the properties of: • autonomy, meaning that the system is able to deliberate and act with the intent of reaching some task-specific goal without external control • adaptability, meaning that the system is able to sense its environment and update its behaviour to changes in the environment • interactivity, meaning that the system acts in a physical or digital dimension where people and other systems coexist, all of which are rooted in the practice of IMC, yet not in education.

Adding to the lack of knowledge in the field of AI education in IMC programs, comes the lack of the most important threat in AI pedagogies, i.e., ethics and responsibility. *Dignum (2021)* realized that it is not the AI artefact or application that is ethical, trustworthy, or responsible. Rather, it is the people and organizations that create, develop, or use these systems that should take responsibility and act in consideration of human values and ethical principles, such that the overall system and its results can be trusted by society. The ethics of AI is not, as some may claim, a way to give machines some kind of ‘responsibility’ for their actions and decisions and, in the process, discharge people and organizations of their responsibility. On the contrary, AI ethics requires more responsibility and accountability from the people and organizations involved: for the decisions and actions of the AI applications, and for their own decision to use AI in a given application context and this is the concept entitled: The ART (accountability, responsibility, transparency) principles for responsible and trustworthy AI.

The current research encountered only one study that tackled this dilemma, but in the field of Computing Curriculum. The seminal work of *Garrett et al. (2020)* discussed meeting the demand of universities to add technical artificial intelligence (AI) and machine learning (ML)

courses into computing curriculum—but how are societal and ethical considerations part of this landscape? They explore two pathways for ethics content in AI education: (1) standalone AI ethics courses, and (2) integrating ethics into technical AI courses. For both pathways, the researchers asked: What is being taught? As we train computer scientists who will build and deploy AI tools, how are we training them to consider the consequences of their work? In this exploratory work, they qualitatively analysed 31 standalone AI ethics classes where the main learning objectives are related to ethics from 22 U.S. universities and 20 AI/ML technical courses where the main learning objectives are technical in nature, but that also include some ethics content from 12 U.S. universities to understand which ethics-related topics instructors include in courses. The main goal of the exploratory qualitative content analysis of courses is to spark conversation in the AI community about the ethics content we should teach in computing and beyond. *Garrett et al. (2020)* confirmed that if AI education is in the infancy stage of development, then AI ethics education is barely an embryo. While accredited computer science departments in the U.S. are required by the Accreditation Board for Engineering and Technology (ABET) to produce students with “an understanding of professional, ethical, legal, security and social issues and responsibilities,” practices vary amongst universities. Advocates of AI ethics education also argue that having students learn ethics as part of their technical curriculum is ideal because it takes ethics out of isolation and formalizes it. Of course, once AI ethics is part of the curriculum, there is also the question of how to teach it. Some argue for project-based learning to help students conceptualize real-world societal impact of AI. Findings revealed that AI ethics courses resulted in eight high level categories (listed in order from most frequent to least frequent): bias, automation and robots, law & policy, consequences of algorithms, philosophy/morality, privacy, future of AI, and history of AI. As far as marketing communication was concerned, the combination of filter bubbles, recommender systems, propaganda, and the targeted nature of online advertising all demonstrate consequences of algorithms, which was covered in 45% of the syllabi. Another common example is how Facebook and other online platforms limit what we see through algorithms that attempt to

deliver the results we expect, limiting the variety of information people see. Privacy was an explicit topic in Readings included articles about the “creepiness” of Facebook’s “people you may know” feature, which has been known to recommend inappropriate connections. Similarly, there are articles about database marketing and how companies aggregate information about employees through surveillance and analytics. Many of the articles were critical of Facebook, which is a platform that students might use and therefore understand the direct consequences of the company’s sometimes questionable practices. Topics included fake news, privacy concerns about Facebooks “people you may know” feature, and how user news feeds are manipulated and may be shifting our perceptions of the world.

Ahmed and Ganapathy (2021) suggested that content creators should equip themselves with the following topics: Automated Content Creation, Enhanced User Experience with AI Chatbots, Information-Driven Insights, Predictive Analysis, Content Curation, Insightful Customer/User Trackers, Metadata enrichment and Intelligent Content Classification

AI Education and Curricular Adaption.

Barton (2021) asserted that in the future, online content creation will mostly be done by voice and most computers will not have keyboards. Google searches will be conducted by voice and then Google will deliver search results. Content creation on different digital platforms such as Facebook and Instagram will be AI-generated, and the apps will analyse what kind of content is engaging the best with your own Facebook or Instagram followers. Analytics will be analysed with AI methods. Predictive analytics will also be used, and it will give valuable recommendations and suggestions based on previous data. AI will have an impact especially on marketing strategies, sales processes, customer service and understanding customer behaviours.

In order to benefit from the aforementioned AI techniques and enhance marketing communication procedures, education should familiarize content creators and marcom practitioners with the current AI concepts, solutions and developments in the market. They should understand the tasks that the AI system can automate and others that must be personally accomplished, especially those related to human creativity. They also

need to learn how to calculate the potential business and financial impact of the AI system. Curricula should focus on training and reskilling the existing practitioners for making full use of the AI-powered systems, not only teaching fresh practitioners.

Chartered Institute of Public Relations (CIPR) identified 22 categories between general and specific themes about the effects of AI on Public Relations and communication professions derived from 170 sourced books, academic papers, national reports, think tank studies, research group offerings, company and management consultant pieces, YouTube, and a variety of other sources to bring together what is a comprehensive overview of the impact that AI has, and will have on the professions with no reference whatsoever to incorporating AI into PR and marketing communication education, except in general theme 8 entitled: “Workforce, employment, skills and education” (*CIPR, The Effects of Artificial Intelligence on the Professions: A Literature Repository*).

As *Zerfass et al., 2020* tackled the effect of AI on the communication profession and claimed the professional perspective is lacking, the fact is, it is the academic discourse that is lacking an investigation on the topic.

Alexander Buhmann and Candace L. White (2022) mentioned the education issue as their research team concluded that communication managers need to *educate* themselves about AI and to identify the implementation of AI-based systems as a strategic and leadership issue. There is a need for critical literacy among communication professionals who use social AI to serve their organizations’ communication purposes.

Swiatek et al. (2022) suggested that while most communication professionals believe they need more *education* and competency about the use of AI for communication practices, the majority also agree that it is important to consider the ethical implications and impacts of the use of AI not just within marketing communication but generally within the organizations for which communicators work.

McCullough et al. 2022, cited the usage of AI in any classroom and its undeniable benefits. In the classroom, educators are using AI to refine skills, provide instant feedback, and delve into practical application. Citing their heavy reliance on digital devices and social media,

Millennial and Generation Z students need to be armed with the skills to detect fake news and algorithms. Learning the various different ethical frameworks such as utilitarianism, deontology, and virtue ethics, educators can evaluate the ethics of AI which will enable students to evaluate their own use of AI through a variety of methods. Artificial intelligence in the classroom enables educators to prepare students for truth verification and digital ethics in their own future careers.

AI is an essential addition to the classroom as educators look to send the next generation of job-ready professionals into the industry, prepared to leverage this technology not only in its best practical and ethical manner, but also to improve the quality of life in the communities and the industry around them. In light of the demand for AI in the industry, some revisions to marketing communication curriculum and professional development in practice are proving essential. How educators teach and practice ethics, provide access to technology, cultivate partnerships, provide resources, teach content development and curation, engage in monitoring of messages with AI, and how they engage in professional development are all critical considerations as we work past the first quarter of the twenty-first century.

Ward and Agozzino (2022) highlighted 11 value clusters found in AI ethics codes that must be adapted and administered to content creators. They include transparency, justice and fairness, nonmaleficence, responsibility, privacy, beneficence, freedom and autonomy, trust, sustainability, dignity, and solidarity. Paired together to reduce complexity, four principles resulted that must be salient in every curriculum: beneficence, nonmaleficence, autonomy, and justice to address the ethical challenges posed by artificial intelligence.

Pedagogical constructs administered to practitioners and content creators: A Futuristic perspective and suggested courses in Egyptian Curricula

In light of the demand for AI in the industry, some revisions to marketing communication curriculum and professional development in practice are proving essential. The suggested changes in the curriculum are designed to reflect industry adaptation and the versatile applications of AI that are already in play. The suggested adaptations in the curriculum also

demand further inquiry from scholars and educators that will help promote a relevant and dynamic curriculum related to AI. Research should explore AI's impact on student knowledge acquisition and cultivation of critical analysis and decision-making. The impact on industry-relevant skills development associated with integrating AI applications into the curriculum also requires thorough study.

Previously mentioned, *Ahmed and Ganapathy (2021)* suggested that content creators should equip themselves with the following topics: Automated Content Creation, Enhanced User Experience with AI Chatbots, Information-Driven Insights, Predictive Analysis, Content Curation, Insightful Customer/User Trackers, Metadata Enrichment and Intelligent Content Classification

Furthermore, based on the literature review, the current study suggests a number of ANI courses obligatory to be introduced in the marketing communication education to qualify content creators for the ever-changing milieu of AI based communication:

- 1- Basic concepts of AI, fundamental aspects of AI programming, digital and data literacy, and of course, ethical reasoning. Curriculum related to this area helps students think about their use of AI and to know what to do when AI is being used for unethical purposes, and that includes studying how AI is integrated into ethics courses, particularly on matters of resource disparity, audience manipulation, human-led decision-making, and matters of transparency, accountability, and data management, which are critical for responsible curriculum development and implementation.
- 2- How algorithms are designed and used by organizations, encompassing the study of data ethics and the impacts and consequences of the use of AI, and the work it does. Transparency also relates to AI education: developing understanding of the technologies that are shaping their world and their ethical ramifications.
- 3- Content intelligence (a subset of AI): which focuses on high-value content creation and hyper-targeting of audiences incorporating predictive analytics and utilizing digital strategies. (McCollough et al., 2022).

- 4- Marketing communication research as an AI course: Real-time sourcing of information related to the company being posted on the Web by media outlets or other users can be carried out instantly. Analysis of opinion polls, consumers' feedback, and monitoring of various platforms can be entrusted to AI. Research for IMC campaigns, automation of routine yet important tasks and analysis of people's sentiments and crisis communication can be incorporated. The services like 'speech to text conversion', 'sentiment analysis', 'massive data analyses', and 'identification of common problems' are worth-mentioning in this course. (Biswal, 2022)
- 5- Data Analytics: Artificial intelligence, especially big data, has innovations that allow new tools and procedures to be utilized not only by researchers, but also by practitioners. With these capabilities, it can analyze essential data and contribute to providing solutions to complex and challenging problems. AI technology can be implemented in applications to collect data, share data, and data analytics. Processing of data parallelly based on big learning has a high possibility of increasing the final results of predictions (Arief and Gustomo, 2020).
- 6- Social Media Management, content creation and campaign creation: Previous research has stated that social media analytics tools are very useful in generating data quickly in real-time, as well as being able to analyze, so that the audiences understand how an issue develops in public according to their perceptions. Content creation is a profession in which someone is competent to create content in the form of writing, images, videos, voice, or a combination in all content. This competency encourages the ability to utilize various media platforms with content that is expected to be liked and desired by the audience; and through utilizing sentiment analysis and NLP (natural language processing) their tasks are getting way easier.
- 7- Fake news detection: Paschen (2020) suggested content creators should identify 3 types of fake news: source-based fake news detection (identifying the degree of faking by assessing the reliability of the source reporting the information); context-based fake news detection (mainly concerned with understanding the dissemination

of fake news online, thus focusing on the receiver of a message in the communication model); and finally content-based fake news (analyzing the textual or visual content to identify dubious content, thus focusing on the third key element in the communications process, i.e. the message).

8- PR robots and chatbots

9- Routine and mundane tasks, utilizing robotic process automation RPA.

10-Content strategy and big data analysis.

11-Buyer Personas

12-AI apps for digital marketing

13-AI tools for Advertising (Albert/Gumgum and the likes)

Other AI technologies that are crucial for content creators, but are very technical and difficult to incorporate in marketing communication pedagogies include: deep learning and robotics. Such fields for content creators are interdisciplinary, that are accommodated by other disciplines.

Conclusion and Recommendations

It is crucial for marketing communication practitioners, as well as professionals in other industries, to develop a greater level of critical literacy and understanding about the use and societal impacts of AI. Past research indicates that professional communicators may currently be buying into processes they do not fully understand. The benefits and efficiencies of AI should be assessed concurrently with an evaluation of the moral and ethical implications of its use. *Swiatek et al., 2022* argue that professional communicators, have an important role to play in helping others to negotiate the shifting AI landscape. Although all individuals and groups need to be able to navigate these changing landscapes successfully, professional communicators have a unique and critically important role to play in the face of AI advances. These individuals are responsible for educating and counselling others about the broad array of current and future AI-based communication activities, as well as to help set and guard high ethical standards for these activities. Nevertheless, they need to be educated beforehand on AI technologies, as well as keep the creativity factor all the time.

Zerfass et al. (2020) and Panda et al. (2019) found out that AI will transform marketing communication and all its components. The major dilemma tackled in literature, is what *Bourne* (2019, p. 112) contextualized about the push of AI within the context of the global economy, arguing that, because of the push for growth that is consistent with politics as well, there has been little or no attention to “questionable AI ethics and practices.” On the question of ethics related to marketing communication, it is noted that both practitioners and scholars see the advantages of AI, but note that ethical concerns – ranging from data protection issues and privacy to a lack of transparency – are seen as major barriers to AI’s use in marketing communication. Furthermore, *Soriano and Valdes* (2021, p. 3), in their study of artificial intelligence as applied to public relations in the context of the 4.0 universe, argue that these technologies “are only useful if they are used to complement and strengthen human capabilities. Otherwise, they can actually do more harm than good.”

Content creators and practitioners must be reminded all the time of learning about the new technology every way possible; and at the same time consider the larger societal, political, cultural, and environmental consequences of the application of intelligent machines in human lives. Critical inquiry and critical thinking should be amplified to engage more comprehensively with discussions on the positive impact of AI and combat the negative consequences and ethical ramifications. Lack of education, training, and confidence about the use of AI is a barrier to its adoption in the communication industry.

The current study resulted into multiple recommendations regarding the education and implementation of AI, pertaining to content creators and marcom practitioners as mentioned hereafter.

Recommendations

- 1- Even though science, technology, engineering and mathematics (STEM) education is necessary, responsible AI renders the need for education in arts and humanities even more necessary. In a world where machines can find (all) answers, it becomes imperative that all people are well trained in asking questions and evaluating answers (Dignum, 2021).

- 2- Practitioners should consider the need for education and training, in particular, to ensure the technical skills needed to drive the role of AI in the digital transformation.
- 3- Pedagogies should recognize the need for introducing ethics into AI education. This is aligned with the overall view, that ensuring students are prepared for the changing labor market will be the main challenge for education curricula. Curricula should focus on the development of the twenty-first-century skills that are likely to remain in demand; and thus, prioritize teaching critical thinking, problem solving and teamwork across subject areas and at all education levels. Teaching students to become analytical thinkers, problem solvers and good team members will allow them to remain competitive in the job market, even as the nature of work changes.
- 4- Encompassing that both national school curricula and international policies increasingly include digital competencies, media literacy, computational thinking, and even AI literacy as necessary skills for the future.
- 5- Consolidating the possibilities for open education and lifelong learning of AI, but lifelong learning is also described as an obligatory precondition in an AI-fueled future.
- 6- Practical wise, practitioners may want to proactively educate and promote AI and AI devices as trustworthy and useful source of brand and product information and ultimately increase the effectiveness of this promotional tool; as it seems that current AI marketing communication practices are limited in their engagement and present multiple layers of uncertainty in terms of branding and triggering consumers' purchase behaviors.
- 7- Content creators should incorporate consumers' perspectives to broaden the scope and enrich the meanings and connotations of AI. An AI marketing communication student/researcher should also focus more on consumers' interpretation to identify possible perception gaps between consumers and marketers. They should gain more insights on the disposition and experiences of the consumers in the context of their interactions with AI.
- 8- Opportunities surrounding AI require additional resources, including funding, to educate faculty surrounding essential aspects of AI and the implications in and out of the classroom in order to master the intellectual and methodological dimensions involved.

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