
Artificial Intelligence-Powered Customer Experience Management (Moving from Mass to Hyper-Personalization in light of Relationship Marketing)

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Abstract

This study aims to shed light on the phenomenon of Customer Experience (CX) enhanced by Artificial Intelligence (AI) as a Sustainable Competitive Advantage (SCA) for the relationship marketing industry in general, and Customer Relationship Management (CRM) in particular. It takes into account the great aura of accelerated scientific advancement and accumulated cognitive development on the one hand, and the technical and cyber progress that are expanding at a very rapid pace day after day, on the other hand. These two considerations led to a huge economic revolution that have had a profound impact on all sectors and at various levels. The industrial world moved from the Fourth Industrial Revolution (Industry 4.0) based on Cyber-Physical Systems (CPS), to the Fifth Industrial Revolution (Industry 5.0) which centers on humans and collaborative robots (Cobot). AI algorithms are among the most important outcomes produced by the digital and cloud environment supported by Information and Communications Technology (ICT) and Internet networks (Web 3.0; Web 4.0). These innovative mechanisms revealed their superior and enormous ability as well as their astonishing capability to change the rules of the competitive game and modify the laws of marketing and forces of supply and demand. This theoretical study found that CX personalization is a vital and rich source for the

establishing strategic success and sustainable excellence in target markets and managing to overcome and outperform current and potential competitors. It is also considered one of the most important modern marketing approaches that has benefited from: Automation Solutions, Machine Learning (ML), Natural Language Processing (NLP), Large Language Models (LLMs), Generative AI, Big Data Analysis, Internet of Things (IoT) Sensors, Blockchain, Augmented Reality (AR), Virtual Reality (VR), Cloud Computing (CC), and Quantum Computing (QC), ..., etc. The consequences of harnessing and adapting these efficient and effective tools and means to achieve an exceptional performance expected for brands are based on improving and enhancing the CX through Hyper-Customization instead of Mass Customization.

Keywords: Artificial Intelligence, Customer Experience, Hyper-Customization, Customer Relationship Management.

Features of the Research Dilemma

The current financial, monetary, and commercial business environment is characterized by many characteristics, specifications, and features. Its forefront is the deep cyber developments and the electronic transformations that are expanding and extending at an accelerating record pace. In addition, this environment has growing influence exemplified by a surprising cumulative way of information technologies and systems such as computer equipment, cloud software, audio-visual, wired, wireless, and satellite communications networks in the international economy and global trade. These affected aspects have become full of digital collision between countries and are charged with technical competition between organizations stronger and faster than ever before in a dramatic, radical and irreversible manner.

The concept of small global village and globalization of markets was embodied and crystallized dynamically and automatically in an era that scientists called it the era

of imagination and the Fourth Industrial Revolution (IR4). Indeed, we are on the cusp of a new and unprecedented fifth industrial revolution (IR5), whereby the reason is attributed to modern Information and Communications Technology (ICT): Internet cables, lines, connections, search engines, e-mails, websites, social media, smart phones, digital television, laptop computers, video conferencing, distance learning, apart from countless others. The aforementioned technologies enable users all over the globe to have seamless access to data, sending, receiving, storing, processing, retrieving, transmitting, and disseminating it instantly within a due-time.

There are many complexities, challenges, gains, and opportunities in this wondrous age. These successive and consecutive transformative revolutions have resulted in innovations, inventions, and discoveries, which have led to the interconnection between the physical, material systems and the cyber and digital worlds, hence coming up with a synergy between human intelligence and machine intelligence. There has been a great modification since the end of the era of steam engine, mechanization, and current Electricity to the era of algorithms, cloud computing, quantum computing, and blockchain. This shift has become apparent throughout the course of human beings' civilization, especially after the birth and emergence of AI, Machine Learning (ML), Natural Language Processing (NLP), ChatGPT (OpenAI), Virtual Assistants (VA), the Internet of Things (IoT), Big Data & Predictive Analytics, Augmented Reality (AR). Virtual Reality (VR). It also covers a wide range of other advanced tools, mechanisms, and means with automated solutions possessing superior capabilities and awesome potentials that were previously unimaginable.

It has led to the development of a group of advanced technologies that make the computer capable and trained. It also accomplishes roles, jobs, activities, and behaves in a way that mimics and imitates humans, and resembles human intelligence in interpretation, logic, understanding, deduction, prediction, and

decision-making. It is superior to living organisms in performing the required duties and specific tasks, mainly routine and repetitive ones, in addition to processing and analyzing huge amounts of data and providing recommendations in a short time. Therefore, AI allows machines to learn from experience, adapt to new inputs, and recognize patterns in data.

In a related context, the modern marketing and sales industry, enhanced by smart solutions, is an integral part of this computer and electronic system, which has been remarkably and excitingly affected by the development taking place in the environment of Industry 4.0 and 5.0, specifically: software engineering, operating systems, databases, programming languages, design and analysis of algorithms, Internet and web technologies, cloud storage, cybersecurity, 3D printing, block chain, ..., etc. Therefore, the management of marketing and commercial activity are facing a new situation and a major challenge to achieve the goals of profitability, growth, survival, which are at stake unless the necessary transformative actions and measures are taken to keep pace with these changes and variables, based on the tireless pursuit of harnessing and adapting computer science and networks. Information and communication technologies for modeling and correcting Marketing Mix (MM) decisions are represented by: New Product Development (NPD), Pricing Policies and Strategies, Integrated Marketing Communications (IMC), Distribution Channel Management (DCM).

Meanwhile, the pivotal target and fundamental objective of marketing leadership and sales management is to obtain a permanent competitive edge, over the gateway to superiority and overcoming current and potential competitors, and improving customer service efficiently and effectively. There is no doubt that measuring and tracking CX is the cornerstone and backbone, as customers are the heart of marketing efforts, and therefore the Chief Marketing Officer (CMO) is keen to put them at the top of the organizational pyramid, by sensing their waits, responding to their

expectations, as well as striving to delight them, satisfy their needs, and meet their desires.

This is what is known as Relationship Marketing, or rather CRM which aims to bridge connections and links with target markets in the long term, hence establishing strategic ties with the audiences. However, the trouble that businesses face in today's environment of globalization and the Internet is that purchasing decisions and Consumer Behavior (CB) has changed and switched purely. The psychological, sociological, cultural determinants, economic, legal, and political factors, have been affected by the scientific development and technical progress present in the global arena, and in the face of this scene as well. Adopting and embracing new methodologies and methods that rely on digital weapons is an inevitable necessity and an existential issue that cannot be ignored, thus enriching the CX in ways that were previously unimaginable. This resulted in a shift from interest in Mass Customization to Hyper-Personalization, which is based on very powerful levers, namely AI.

1. AI in the Shadows of Cyber-Physical Systems and the Fifth Industrial Revolution (Radical Change and Exponential Growth)

AI is the backbone and millstone of technological progress. As for the current study conducted by PwC estimates that by 2030, AI will generate more than US\$15 trillion for the global economy. According to Statista, the worldwide AI software market is expected to reach \$126 billion in revenue by 2025. Many of the biggest names in the technology industry have been invested heavily in both AI acquisitions and intelligence-related R&D Artificial. Microsoft, IBM, Google, and Samsung have thousands of patent applications, and funding for startups related to AI reaching tens of billions of dollars every year. It should be pointed out that some critics are afraid that the extensive use of advanced AI could hurt society, despite global recognition

of its returns and benefits. It seems that it has imposed itself irreversibly and expanded relentlessly. The growth of emerging companies in the field of AI has accelerated by 14-fold since the year 2000, and this is a qualitative pace of development (Radanliev, P., et al. 2021; Oliveira, L. M. 2021; Lv, Z. 2021; Veith, E. M. 2019; Özdemir, V., & Hekim, N. 2018; Rožanec, J. M. 2023; Akundi, A. 2022).

(in billion U.S. dollars)

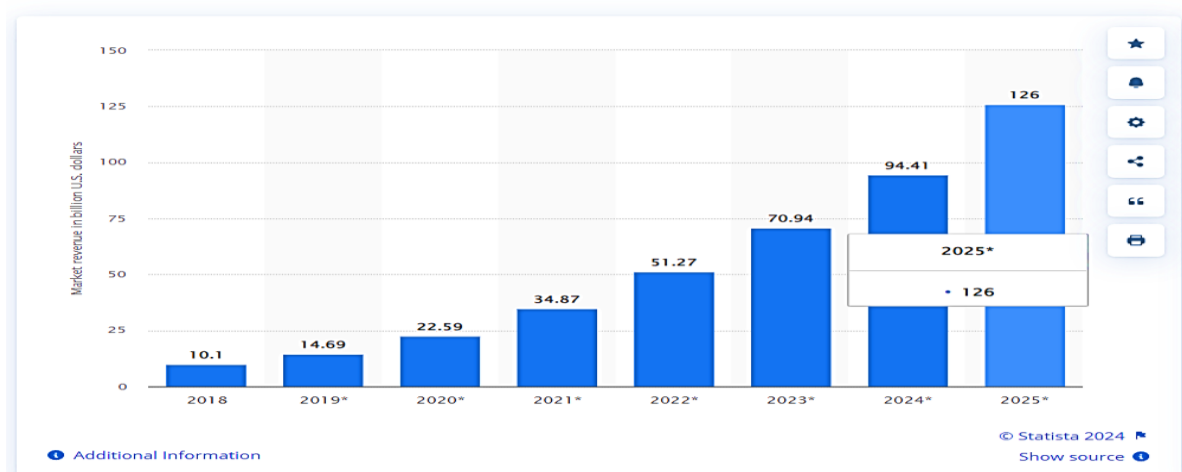


Figure (1): AI software market revenues around the world from 2018 to 2025 (source: statista team. 2024)

1.1. AI Algorithms and Their Impact on Digitizing the Global Economy and Automating Competitive Advantage (Modifying the Rules of Competition and Inevitable Adaptation)

This part of the research aims to shed light on the path of radical changes and the process of transformative developments that AI has gone throughout human and civilizational history. In the context of the timeline, the emergence of industrial revolutions (1, 2, 3, 4, 5), moves from a primitive agricultural and craftsman society to a purely cybernetic community (Society 5.0, also known as the Super Smart Society). In other words, it shifts from manual production to automated production

which is based on a machine that learns and adapts to human behavior, and the extent to which human society is affected by these unique and exceptional innovations as well as the tremendous technical discoveries. Therefore, they are wonderful accomplishments and outstanding attainments achieved, where it left a very big impact on the size and depth of change in the mechanisms of competition and competitive advantage in a virtual and cloud environment (For further digression, see: Huang, S. 2022; Carayannis, E. G., & Morawska-Jancelewicz, J. 2022; Melnyk, L. H. 2019, Groumpos, P. P. 2021; Alkhatib, R., & Lebdy, R. 2021; Ziatdinov, R. 2024; Diaz, M. 2023; Naik, N. et al, 2022; Duggal, N. 2023; Jovane, F. 2008).

AI, in all its aspects and manifestations, is one of the outcomes of steady scientific breakthrough, and an integral part of the amazing technological evolution, which ends with major repercussions and aftermaths on the Quality of life (QoL). In this dazzling and astonishing era, it is not possible to count the number of fields that ICT have delivered. The Internet in general, and machine intelligence specifically. However, moral and legislative issues, governance, transparency, and the ethical obligations of those dealing in the field of the harms of AI have spilled a lot of ink, such as violations of personal privacy, infringement of confidential data, human rights, fraud, deception, and corruption. It is necessary to be strict, cautious, vigilant, aware, and attentive to the utmost extent, as it is a civilized responsibility that one should take (For further digression, see: Kosasi, S. 2023; Hajkowicz, S. 2019; Carrillo, M. R. 2020; Karliuk, M. 2018; Oseni, A. 2021; Köbis, N. 2022; Kanade, V. 2022; Giattino, C. et al, 2023 Vorontsov, S. 2020; Naik, N., et al. 2022).



Figure (2): ethical and legal challenges of AI (source: currie, g., & hawk, k. e. 2021)

In this context, (AI) as a technical term has been proven that obtaining a consensus on its definition is a complex task, but the researcher sought to formulate a definition based on diverse and specialized sources, as it is a system based on the ability of hardware algorithms. Computers or learning machines and conscious robots, with record speed in solving and addressing difficult, thorny, and intractable problems perform tasks and implement roles, specifically routine and repetitive tasks, and thus achieving goals efficiently, effectively, and flexibly, by imitating of biological minds or imitating of mathematical logic, human thinking and adopting knowledge and skill (For further digression, see: Gil de Zúñiga, H. 2024; Caner, S. 2020; Korteling, J. 2021).

AI has emerged as a cornerstone of modern computer science, exerting a profound influence on diverse sectors of society. Machine Intelligence, due to the accelerating pace of scientific production and steady technical development, can adapt behavior, and has the ability to develop, improve, modify through perception, feeling, planning, creativity, inference, measurement, foresight, analyzing events, and providing responses, reactions, or feedback in the form of predictions. It also has recommendations in the form of supporting decisions that affect real or virtual

environments. The working mechanisms of a smart computer start from receiving and collecting sensors such as cameras for large and massive amounts of data and information through interaction with the surrounding environment, then they are stored and processed through computer performance, expert systems and deep learning. The algorithm has the ability to produce useful information for sound and correct decision-making, which appears in identifying and seizing commercial opportunities or extracting the problem from its roots (For further digression, see: Khaleel, M., & Jebrel, A. 2024; Kumar, K., & Thakur, G. S. M. 2012; Lisetti, C. L., & Schiano, D. J. 2000; Inozemtsev, V. 2017; Reddy, R. 1996; Thomas, M. 2023; Darrell, M., et al. 2018; Gartner Team, 2024; Psychology Today Staff, 2024; Chrysalis Software Solutions Team. 2020).

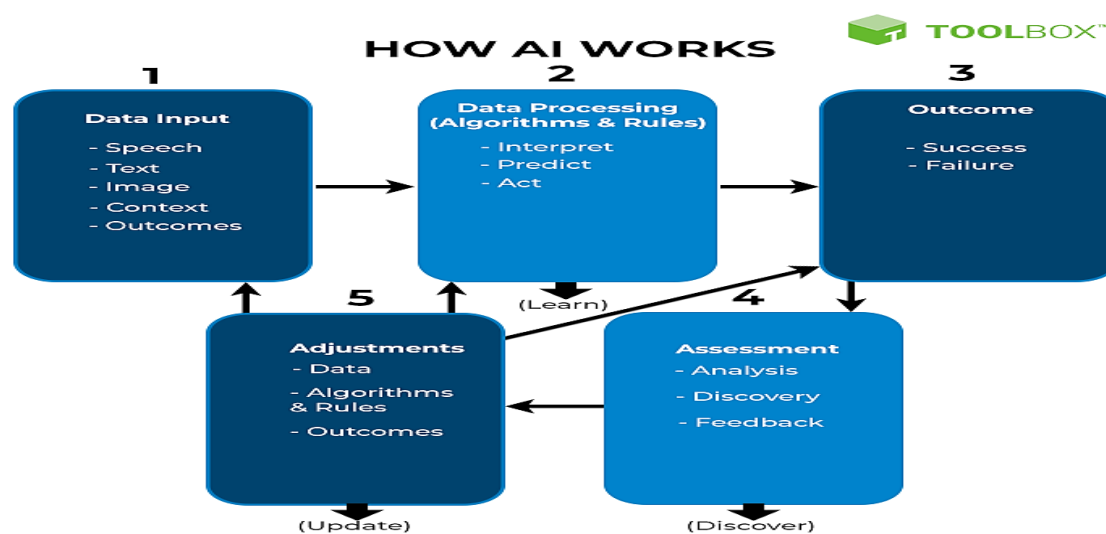


Figure (3): how does AI work? (Source: kanade, v. 2022)

It is not surprising that contemporary AI technologies, such as generative intelligence and advanced automated robots, have benefited theoretically and practically from the accumulations of previous discoveries and inventions throughout the chain of time. They start from wired and wireless communication, satellite and the global network,

and with the rapid pace of use of the Internet, they pass through computers, electronics and the rest of the technological devices, equipment, and supplies. The intranet and extranet, unleashing automation and enabling simultaneous access to data and organizing information have become the effective means on the industrial and service economy in the leading countries that are scientifically and technologically superior, and are the most invested and highest in spending of technology globally. Humanity is on the cusp of a new landscape and is a tremendous transformative force. Fueled by successive waves of creative thinking of human brains, it leads to the restructuring of people's lifestyle in all aspects of life at present as well as in the near and distant future (For further digression, see: McKinsey & Company Team, 2023; Antony, J. B. 2020; European Parliament Team. 2020; Accenture Team. 2024).

In the same regard and without the slightest doubt, the Automated Intelligence system with all its procedures and measures, has very great implications for comprehensive development and sustainable growth. It allows for the magnitude, abundance, and qualitative quality of production of goods and services in quantity and quality, supported by smart manufacturing techniques and equipment. Under no circumstances will any wealth-producing sector survive the winds of change and the storms of the smart revolution and its transformative momentum. Accordingly, all stakeholders and relevant parties are concerned with these new situations, circumstances, whether at the level of governments, businesses, or individuals. When applying AI systems with data, analysis, and automation, it inevitably contributes to supporting decision makers, thus strengthening the competitiveness of companies and facilitating their mission in achieving their endeavors, and reaching their objectives in terms of marketing, finance, technology, humanity, accounting, operation, logistics, which are embodied in improving customer service and supply chain. The increase return on investment, net profit, rationalizing cost behavior, and

Quality of training; ...etc. Therefore, any inaction and procrastination in embracing this advanced technology will have a high cost and huge losses (For further digression, see: OECD Team, 2024; Anyoha, R. 2017; Dean, J. 2024; UNESCO Team, 2024; Darrell, M., et al. 2018; Gartner Team. 2024).

1.2. Uses and Applications of AI and the Qualitative Leap in Automating the Economy and Trade and Digitizing the World of Business

Given the great benefits that have resulted from the AI revolution, and the increased interest and passion for AI which has a real revolution that is moving forward with all the connotations and meanings that the word carries, this brilliant scientific discovery is very similar to and even exceeds historical events and accidents such as the invention of the printing press and electric light bulb. The Internet and satellite with their tangible effects in reformulating and shaping societies and changing the compass and road map of international economics and business management seem that they will not stop. It is worth noting and observing that AI as an essential element and cornerstone of digital transformation is filled with a constellation of automated technologies, which contain many significant advantages for many wealth-producing sectors. Companies have now become more productive, efficient, and competitive, thanks to the inclusion of software and uses of machine intelligence, learning robots, and automation in production, as well as these advanced algorithmic and computer tools that are on the verge of penetrating and storming most administrative and operational processes. (For further digression, see: Valavanidis, A. 2023; Kennedy, B., et al. 2023; Darrell, M., et al. 2018; Gartner Team. 2024).

Meanwhile, AI is used in every aspect of our lives, and it is already present in the details of our daily lives. It has been instrumental in achieving public well-being and solving the complexities of many global problems, dilemmas, crises, and challenges, in various areas related to the quality of life. For example, but not limited to, we find its uses touching on these vital topics (For further digression, see: McKinsey &

Company Team, 2023; Rockwell Anyoha, 2017; Jeff Dean, 2024; UNESCO Team, 2024; Accenture Team, 2024; European Parliament Team. 2020):

- Manufacturing, smart factories, food technology, agriculture, fishing, infrastructure, and smart digital cities.
- Climate change and progress in pollution control, environmental sustainability, recycling, cleaner production, and environmentally friendly products.
- Public and civil services, such as government agencies and facilities, including ministries, councils, and committees such as defense, interior, justice, and judiciary.
- Health care and pharmaceutical services, telemedicine, surgical operating rooms, and blood donation banks.
- Educational, training, and advisory services, and distance courses to develop self-skills (Blackboard, Zoom).
- Logistics, postal, and customs services such as transportation, inventory, warehouses, shipments, and orders (ERP, SCM, TMS, WMS).
- Tourism, hotel, entertainment, and cultural services, travel, trips, enjoyment, hiking, recreation, festivals, and events.
- Financial services, banking, investment, insurance companies, stock exchanges, wealth management, and assets.
- Cybersecurity, which in our time today is a cornerstone of fortifying the national security and national defense system, fighting terrorism, confronting malicious attacks by hackers, finding suspicious activities, and combating information crimes and electronic corruption.

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- E-commerce, online shopping, online advertising, and marketing through search engine optimization (SEO).
 - Recruiting and attracting human resources and labor, designing a CV, and searching for a job on the web (LinkedIn).
 - Wearable devices such as digital watches (Apple Watch) and digital glasses (Apple Vision Pro).
 - Automating kitchens, refrigerators, elevators, garages, and home electrical appliances, including a smart vacuum cleaner to clean floors without human assistance.
 - Autonomous Vehicles, which are supported by high-definition surveillance cameras surrounding the car, and with automatic sensors and smart sensors, issue alerts about the presence of speeding radars, and notifications to avoid accidents and collisions (Waymo - Google, Tesla Autopilot).

And countless others, such as traffic management, road security, radars, taxis, mechanical and electrical workshops, video games, public works, sports, leasing, real estate, pharmacies, law offices, aviation, maritime navigation, meteorology, and accurate weather forecasting, astronomy, geology, natural disaster management, ... etc.

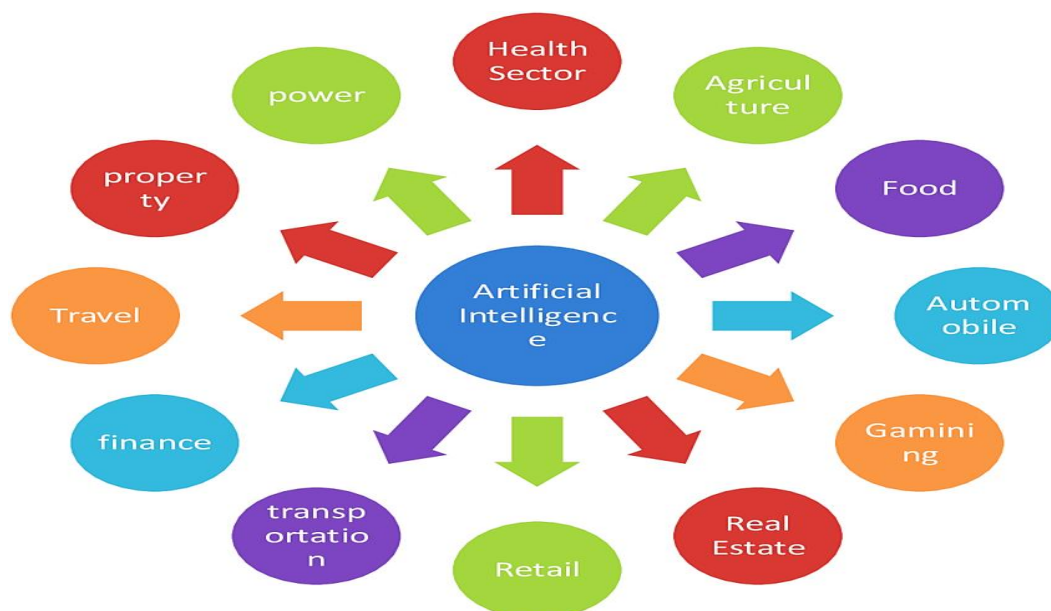


Figure (4): the uses & applications of AI in industries (source: bharadiya, j. p., et al. 2023)

In line with the above points, it is expected that future renewable applications of machine intelligence will bring about huge fundamental changes, which will enhance productivity, reduce costs, and increase return on investment and profitability. In this paragraph, we will list the most important applications supported by AI techniques in its diverse and rich fields, such as machine learning, automation, predictive analysis of big data, the Internet of Things, augmented reality, virtual reality, cloud storage, and the rest of the technological innovations behind which talented programmers are creative in the fullest sense of the word, specifically with the sweep of social networking sites and video clips. Video and podcasts supported by smart algorithms are popular (Instagram, Snapchat, WhatsApp, Telegram, ... etc). Similarly, the spread of (5G), the fifth-generation technology for cellular networks, smartphones, tablets and laptops with broadband are prevalent in the field of

communications (For further digression, see: Biswal, A. 2024; Franken field, J. 2023; Sachdeva, N. 2024; Daley, S. 2024; Coursera Staff, 2023).

A digital or Virtual Assistant (VA) service for processing and decoding voice commands, instructions, and directions, which appear in the form of smart speakers can tap into vast historical databases found on cloud storage platforms, and they are used to help users with things like setting timers, reminders, making phone calls, joining meetings, and completing searches via websites and emails (Siri - Apple, Alexa - Amazon, Cortana - Microsoft, Samsung - Bixby).

- Chatbots and instant chat to serve customers and improve their satisfaction and they are used to respond to frequently asked or common and recurring questions (FAQs), such as responding to inquiries, handling objections, and managing complaints interactively and dynamically. They are available 24x7 (means 24 hours a day 7 days a week), and one of the best of these is ChatGPT (OpenAI), which was developed by the company OpenAI. It is a giant step forward in the race for generative AI, as the IT aspires to analyze and measure user's emotions and respond effectively and instantly.
- Optical character recognition (OCR) technology integrated into Google Lens. For example, the user can recognize objects and landmarks in images and documents, and it also allows extracting text from images and interacting with it.
- Global Positioning Systems (GPS) based on machine learning algorithms, satellites, geographic data and predictive models suggest the quickest route to a destination. They are also important in navigation and travel applications such as Google Maps digital, as they update every second efficiently and quickly.
- A fingerprint recognition service such as Facebook's ability to recognize faces, or the Chinese company Alibaba.com's Flying Zoo Hotel, which is completely

devoid of human employees. The most common application of this technology is the Face ID unlock feature on most of today's leading smartphone models.

- Deep machine learning algorithm and continuous and automatic data analysis to create personalized recommendation engines for users based on their previous viewing history as well as a suggestion system, such as Netflix, Spotify, and YouTube to match their tastes in TV visuals and videos.
- AI-based speech recognition technology, as Google introduced the Google Recorder application to convert spoken words and messages from audio files into edited text with written content.
- NLP technology. For example, Hanson Robotics from Hong Kong created Sophia, an incredibly advanced social learning robot. It can communicate efficiently with natural language and use facial expressions to convey human-like emotions.
- The technology of creating professional presentations, templates, and slides using the power of AI, by carrying out coordination and design work and creating attractive content. This tool allows the inclusion of different types of media such as GIF images, videos, graphs, and websites. In addition, one of the most famous applications is the Gamma App.
- Google Translate uses deep learning algorithms to translate text from one language to another.

Other more technologies and applications are: automatic spam filtering, intelligent input keyboards, mapping technologies, machine translations, handwriting recognition for mail delivery, converting unstructured content into structured, business-ready data, etc. (For further explanation, see: Analytics Labs Team. 2020;

Valavanidis, A. 2023; Kennedy, B., et al. 2023; Frankenfield, J. 2023; Sachdeva, N. 2024; Daley, S. 2024; Hopkin, G. 2023).

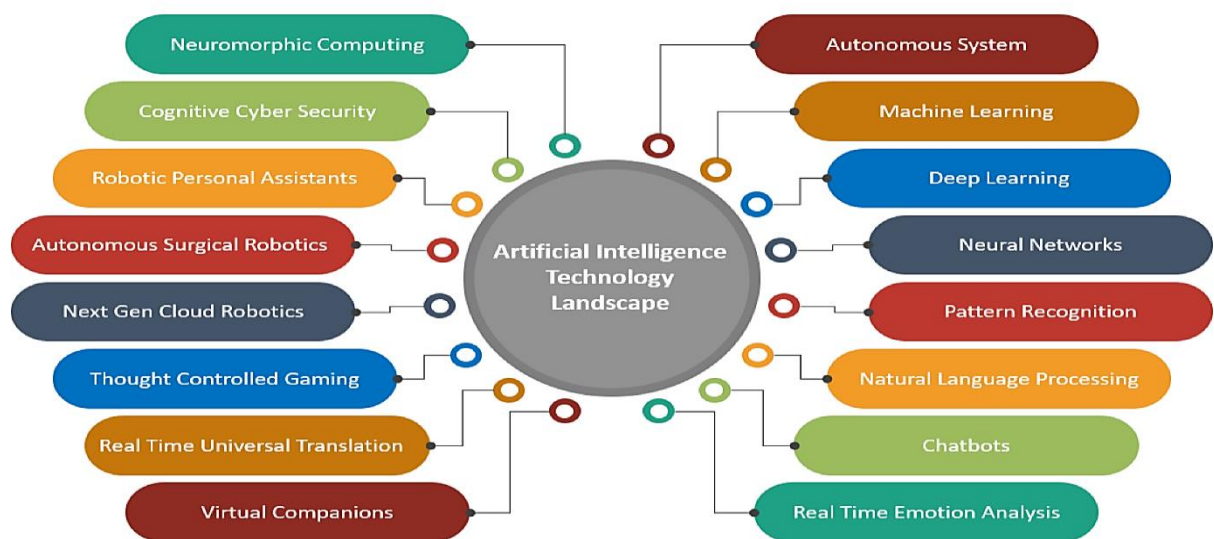


Figure (5): domains, fields, and scopes of AI (source: aldoseri, a., et al. 2023)

2. Enriching CX as a Vital Source and Tactical Approach to Excel in the Marketing Industry within Turbulent Competitive Pressures

Principally, the philosophy of CX refers to those relationships, bonds, and inter-organizational dealings with customers, which can start through the purchasing cycle from the stage and the consumer with a password to the expected consumer and then proceed to reach advanced levels of monitoring of life. The level of satisfaction achieved paves the way for achieving the functions of attraction and loyalty to the brand, and thus provide sustainable loyalty to the company and reliability of its products. Hence, all of these interactions that the customer carries out with the

company, whether concerning phone calls, recent requests, reports, notifications, notices, criticisms, compensation, comments,...., are at the expense of social networks and the rest of the traditional means of communication. There is no doubt that they will leave contributors without an impact on their minds, perceptions, effectiveness, awareness, contentment, possessions, concerns, joy, and depression. So, what are the new positive experiences to have a broad position? Also, what will be the status of market share and the opposite of profit or profit position? Investment, whether bad, negative, or with sad experiences is unforgettable and indelible. Putting memory, voice, moral and literary capital at stake leads to sales, revenues, and incomes. There is a company to liquidate, and the possibility of bankruptcy is imminent and around the corner (For further digression, see: Wintermantel, H. 2024; Bordeaux, J. 2024; Blaney, B. 2024; MacDonald, S. 2024).

2.1. Variables and Changes in the Marketing System Based on Exceptional Performance in Partnership with Customers and Insight into Their Expectations

Marketing, innovation, pricing, promotional, and logistical systems as a whole have come to live in a confusing atmosphere. They are full of fluctuations, complications, instability, ambiguity, and uncertainty about future scenarios. This change is the constant rule and the only widespread scenario in the world. Global market today is witnessing boiling, ferocity, and violent revolution among competitors, who are dueling and clashing in their commercial battles to win the heart and conscience of the customer and to seize control of his mind and way of thinking. The golden law or marketing wisdom is that the company satisfies needs, meets desires, and responds to expectations of customer, and spare no effort in being at the forefront of occupying the top of the pyramid before others.

Not only that, but the company also has to be smart and clever, excel at performing uniquely, distinctively, and dazzlingly. It should also be the first to build a database

based on intelligent diagnosis and a deep dive into psychology, sociology of the rest determinants of the CB. The company should understand the factors influencing the customer's preferences and inclinations, and track statistics and buyers' numbers of arrivals and departures. Establishing a long-term bilateral partnership (supplier, customer) is based on a selling philosophy whose soul and essence is (win, win). This because it is the candidate to gain popularity for the company's brand, win lifelong customers with lasting loyalty, and win all trade wars without a trace doubt. It is an axiom that the theory is easily accessible, but applied practice is the real test, especially if we talk about types and patterns of clients, as these are different, distinct, and even the client himself changes between the two moments T_0 and T_1 (For further digression, see: Association of National Advertisers Team. 2024; Aberle, L. 2023; Editorial Team. 2023; AI Contentfy Team. 2023; Zairi, M. 2000; Osten, B. V. D. 2023; Macdonald, S. 2024)

The global software market of giant Microsoft found that 54% of customers have higher expectations for customer service today compared to last year. This is due to several economic and social considerations, but technical development lies at the forefront of these factors. Accordingly, the crossroads in the issue of the competitive advantage industry is determined by the compass of the success and brilliance of the business organization, whether it is small, medium, or large in studying, understanding, insight, reflection, contemplation in the customer's expectations. These mental and cerebral expectations in the client's mind and cognitive map necessarily require awareness and knowledge of all its aspects as well as familiarity with all its details, especially that they are not perceptible by the five senses. In addition, it changes over time, and tends towards upward mobility in pursuit of high quality of life. However, it is a basic pillar and a critical variable in improving the Customer Experience. The customer's need increases and becomes urgent to meet these expectations, so that he feels emotionally and sensually satisfied and

comfortable, and thus it logically, smoothly, fluidly, and flexibly paves the way for a positive purchasing and consumption experience. Therefore, any marketing and sales executive who intends to formulate and implement a proactive marketing program must strive to bridge the gap between customer expectations and the actual Customer Experience, and note that the beginning was a guess, imagination, and assumption and then translated into behavior, and action. Finally, it will turn into cumulative experiences that the customer will be guided and trusted in his upcoming decisions (For further digression, see: Microsoft Team, 2017; Peterson, K. 2023; Pabley, D. 2023; Salesforce Team, 2024; Mladenov, V. 2024; Cornell, J. 2023; Hosea, C. 2021).

In short, the contemporary marketing philosophy contains within it the justifications for strategic success and sustainable victory because it is the qualified, empowered, proficient, and skilled job in applying interactive marketing. After all, the focus is on the profitability and Customer lifetime value (CLV) and it enables him to participate in Decision-making. In addition to smart and prudent management of Customer lifecycle management (CLM), it is a profitable investment and safety valve that creates the conditions for creating a fertile environment for supportive customers, advocates, loyalists, and brand ambassadors. Hence, the fate of the sustainability and continuity of business organizations depends on the consumer spending decision taken by the customer, which is: why, what, how, how much, when, where, and for whom to buy. One of the most important methodologies that have proven to be sufficient and effective in caring for customers and being dedicated to taking care of their affairs and demands, hearing their voices and suffering, and treating their complaints and objections, is the L.A.S.T methodology applied in customer service offices (For further digression, see: Cuboh Software Inc Team. 2023; Rational Expressions Inc. Team. 2023; Vianna, C. 2024; Greeno, A. 2018):

- Listening: Or Hearing and Paying attention is the skill of completely listening to the client's voice, and this expels his fears, concerns, and hesitation.

- Apology: A high-level civilized culture, without which the customer will experience extreme frustration and disappointment.
- Searching for the solution: Knowing the disease is half the medicine. That is, diagnosing the client's problem accurately and being inspired by radical solutions and treatments.
- Thanks: The last step is to offer emotional praise to the client for his/her understanding, and this leads to extinguishing the fire of his anger.

2.2. CX Management (CEM or CXM) Is an Imperative Necessity to Seize Winning and Extract Victory from Competitors in Target Markets

CXM has gradually become the main source of sustainable competitive advantage through differentiation. Standard & Poor's research found among IT executives that improving CX was expressed as the most important driver of digital transformation. According to Forrester, nearly 65 percent of CX leaders expect larger budgets in 2024 for CX initiatives. According to the expert and consulting house McKinsey & Company, CX can generate returns for shareholders on average 3 times. Also, Zendesk CX Trends Report, 81 percent of business leaders see CX and support as growing priorities in 2024, proving that organizations see this as a differentiator in the market. Research conducted by American Express found that 86 percent of customers willing to pay more for a better experience. According to a global CX study conducted by Oracle, it found that 74 percent of senior executives believe that CX influences a customer's desire to be a loyal and advocate. Meanwhile, Temkin Group published a study and found that companies earning \$1 billion annually can expect to earn an additional \$700 million on average within 3 years from investing in Customer Experience. This represents a 70 percent increase in revenue. Therefore, measuring key performance indicators (KPIs) and calculating the return on investment (ROI) for providing a unique and exceptional CX is an issue of utmost

importance. Additionally, a Bloomberg Businessweek survey found that “delivering a great Customer Experience” has become a top strategic goal. A survey conducted by Customer Management IQ found that 75 percent of CEM executives and leaders rated CX as a “5” on a scale of 1 to 5 (5 being most important). Furthermore, 89 percent of companies was surveyed by industry analyst Gartner, two-thirds of companies compete based on Customer Experience, and it is the new competitive battleground. Therefore, an engaging CX and matching or exceeding their expectations is the key to success. CX has effectively become the leading competitive differentiator (Apple, Zappos, Starbucks,...). So, companies must ensure that their CX strategies can deliver personalized and enjoyable interactions at every touchpoint throughout the customer lifecycle, increasing retention, advocacy, engagement, and reducing customer churn (For more details, see: Pei, X. L., et al. 2020; Standard & Poor's Team. 2021; McKinsey & Company Team. 2022; IBM Team. 2024; Forrester Team. 2024).

In this study, the researcher seeks to include an intellectual and theoretical framework and conceptual background for a strategy to enhance a soft, easy, and flexible CX in a fiercely competitive environment. It emerges from the womb of relational and interactive marketing, and it is an integral part of software and cloud applications for CRM software, due to the pressure on the chief executives of marketing, sales, operations, accounting, logistics, and competencies. Its responsibilities are increasing to confront the challenges and disturbances, and to accost the pressures and tensions related to the possession of the weapon of SCA, as the latter is the pivotal and the fundamental goal, which all boards aspire to. It is no surprise that measuring feedback, tracking and sensing customers' reactions and responses, feeling their pulse, and surveying their opinions on the experience of consuming products and using goods and commodities, or benefiting from the services provided is considered the cornerstone and main gateway to the Competitive Edge industry

and engineering superiority and overcoming current competitors or the potential ones. These are the company's enemies in the target market. The rules of the competitive game and the mechanisms for achieving precedence, victory, and progress over opponents in today's world depend primarily on the keenness of the marketing decision engineer and programmer to ensure that the Customer's Experience is not marred by any impurities, annoyances that arouse, and invite his enmity. The marketer must stay up late for what pleases customer and take all paths that lead to increasing the amount of pleasure and joy. The conflict and the rivalry between exhibitors and dealers are decided by the ability and capability of each of the clashing, warring parties in terms of enhancing and strengthening the excellent and wonderful experiences that bring delight and admiration. On the other hand, it avoids and fends off experiences that cause on anger, annoyance, complaining, resentment, discontent. If this disturbing, confusing, and undesirable situation occurs, the customer service desk staff should be quick to apologize and address the situation before it is too late (For more details, see: Wheelhouse Team. 2022; Paragraph Team. 2024; Chapman, J. 2020; Cube Cloud Team. 2019).

In the midst of this, CX reveal and affirm in their content the number of interactions and impressions that the individual records at the touch points, which is called the Consumer Decision Journey (CDJ) to acquire the brand. He starts from the first contact, meeting or visit, until he becomes a happy or unhappy customer, whether shopping is physical and in-person or virtual by browsing websites, and even broader and deeper than that. The CX extends over the life of the customer's relationship with the brand, starting before the purchase is made. This process continues until the purchase is renewed or repeated. This action, which is the client's entire experience and the surrounding circumstances, conditions, factors, facts that leave a cumulative impact on the evaluation of the result and the final judgment, is either favorable (positive) or unfavorable (negative). Among these circumstances is the determinants

whereby we find the product's performance, reputation and quality, its packaging, price and delivery, the efficiency of customer service crews, the immediate intervention of technical support, etc. In this regard, emotional communication, and activating soft human skills produce stronger results compared to hard skills, given that the client's actions throughout his journey are inspired and derived from human behavior. Accordingly, marketing and sales executives are racing against time to design, consolidate, and dedicate this wonderful strategy that is effective in sales achievement and competitive performance. It has become extremely important and of highest priority to re-engineer and restructure the traditional marketing path amazingly and astonishingly. Notably, this era is characterized by digital and electronic, cyber and cloud competition, and algorithmic and dynamic marketing, where customers publish and broadcast their experiences through their comments, reviews, feedback apart from the viral marketing and recommendations or word-of-mouth (WOM) in online forums and social networks (For more details, see: Barney, N., et al, 2023; Pemberton, C. 2018; Schwager, A., & Meyer, C. 2007; Patterson, C. 2022; Morgan, B. 2020; The Growth Company - Employment Team. 2024).

3. Improving CX Enhanced with AI Technologies and ML Algorithms as an Inspiring and Effective Marketing Tool

The Future of Customer Experience report from International Data Corporation (IDC) found that by 2026, 45 percent of global companies are expected to use AI & ML to drive customers into new and unfamiliar experiences, improve sentiment metrics, and potentially increase brand sales. According to another report by Servion Global Solutions, by 2025, 95 percent of customer interactions will be powered by AI. As a report by One Spot Research explained, 88 percent of consumers surveyed said that more personalized content makes them feel better about the brand. It is no surprise that targeted real-time customization and personalization of the CX is considered a wonderful competitive advantage in the business and services sector,

which are achieved by smart information technology solutions. The more the performance is exceptional from the rest of the competitors in programming and engineering an experience designed specifically for the customer, the more it grows and multiplies. The wealth of the business organization and its profit levels rebounded significantly and permanently, and it outperformed its rivals in the markets as quickly as possible. The automated marketing industry algorithms, based on AI, aim to understand, and comprehend the interests of purchasing groups, and to strive diligently to meet their expectations, thus transforming CXs into more attractive, wonderful, distinctive, exciting, and more specific and personalized. Achieving these forward-looking goals and ambitious aspirations does not come out of nowhere or is the result of coincidence. Rather, it is the result of a strategic alliance and an interactive integration between the marketing and sales system, principally CRM on the one hand, and the ongoing technical developments in the field of electronic skills for computer science on the other hand, especially within the past few years. AI applications and software with the ability to think and learn from previous experiences are unprecedented, revolutionary discoveries, and their contributions have been significant in the areas of business, principally in improved CXs. Accordingly, the decision of the CEOs of Marketing and Sales, to pump greater investments into the Chatbots, A Virtual Assistant (VA) employing the best talents and competencies in the era of imagination that provide added value to customers, is guaranteed to sustain success and victory, in light of a very complex and competitive environment (For more details, see: IDC Team. 2023; Nirale, S. 2018; Beesley, V. 2016).

3.1. A Fierce Competitive Race for Marketing Activity Departments towards Harnessing Digital Innovation Tools in Excellence Engineering

In the last few years, notably with many entities seeking to move from traditional marketing (the real experience) to cyber marketing (the digital experience), the

introductions of the (Marketing _ IT) in general, and the (CRM _ IT) in particular, have begun to loom on the horizon, heralding a revolution with great momentum and loud noise, driven by the amazing algorithmic development in operating software, databases, automated devices, cloud storage, Web 3.0, Web 4.0, etc. AI comes in many fields, such as ML, IoT, NLP, LLMs, Chatbots, Predictive Analysis of Big Data, ... etc. The ICT as a cornerstone is extensively adopted to improve the outcomes of marketing performance and improve the outcomes of the sales process, especially in light of the fourth wave and the fifth generation of industrial revolutions. The secret or password in this regard remains the subject of real-time Customization and Hyper-Personalization, that is, production and manufacturing according to the demands, expectations, and tastes of customers. This is the point of intersection between contemporary marketing culture, computers, and electronics. The methodologies and tributaries of the modern marketing industry owe a debt to AI in many matters, as it has already brought about a revolutionary and transformative change in the entire marketing system. Notably, if the focus of the talk is about AI, the latter has become a living and realistic model that goes hand in hand regularly and commonly. It will be with the daily life of members of society, as it is present at all levels, from: government services, education sector, banks, delivering orders, food, textile industry, ..., and many more. (For further digression, see: AI Contentfy Team. 2023; Wehbe, S. 2020; Mehta, J. 2023; Lin, P. 2020; Chatterjee, S., et al. 2020; Ledro, C., et al. 2022; Deb, S. K., et al. 2018; Kumar, P., et al. 2023).

AI and its subsidiary ramifications have been able to prove their economic and commercial value and to secure their technological status. Its services can no longer be dispensed with considering the successive industrial revolutions related to sustainability and quality of life. It enables companies to move faster and further than competitors. The current trend is that the ideal feature of smart machines, with all their computer tools and electronic means, is that they have become increasingly

popular, participate competently in making rational marketing decisions, help extensively in engineering tactical and strategic plans. They also contribute smoothly to addressing logistical problems at various levels. The growing effects of AI, and its escalating repercussions, are evident in the impressive achievement of automating marketing activities and sales efforts. The resulting dozens of qualitative advantages, and positives can be measured quantitatively and numerically as follows: (For further digression, see: Noorman, M. 2023; Flinders, M. 2023; Kasumovic, D. 2024; Gopalani, A., & Shick, K. 2011; Vidili, I. 2021):

- Improving competitive effectiveness and facing the challenges and stakes of competition. In this sense, strategic advantage is gained and possessed.
- Strengthening the mental image and reputation of the brand, enhancing productivity, raising productivity, and reducing the total cost of operations.
- Performing routine and repetitive tasks, such as daily reports, and completing highly complex and extremely difficult roles and functions, such as heavy logistical services.
- reinforcement the reliability and validity of forecasts and provide valuable and useful information for planning marketing activities and monitoring performance.
- Retarget the audience at the right time, to ensure better results, and reduce feelings of mistrust and discomfort.
- Generate additional sales, grow market share, achieve profitable margins, and increase return on investment (ROI).

In a related context, studying and understanding the functions and features of CB purchasing decision process from the perspective of smart robotics solutions, predictive analysis of big data, NLP, LLMs, and other branches of AI, will inevitably lead to customizing demand, and thus enhancing revenues and cash flows. To stay ahead of the competition, the behavior of consumers or users is part of general human behavior, which is a raw mass of emotions, feelings, sentiments, moods, inclinations, in addition to other psychological variables. Technology companies are racing to invent human-like robots, equipped with algorithms and software, capable of analyzing preferences, recognizing faces, personality types, and basic emotional flows. They are also fluent in speaking several linguistic languages and have a connected touch screen to support communication (For further digression, see: Gkikas, D. C., & Theodoridis, P. 2022; Hironde, J. B. 2023; Chupryna, R., & Kovalenko, O. 2020; Jain, V., et al. 2023; Dayan, A. 2024).



Figure (6): the benefits of artificial intelligence applied to marketing (source: Dowling, I. 2023)

The elements and components of the marketing mix continue to benefit from this scientific and electronic progress, as marketing and sales executives allocate and pump more money and generous budgets to adapt generative AI in modeling various types of marketing programs. As such, they enable marketers to: (For further elaboration, viewed: Analytic Edge Team. 2024; Gülen, K. 2024; Jarek, K., &

Mazurek, G. 2019; Hendricks, J. 2023; Huang, M. H., & Rust, R. T. 2021; Jarek, K., & Mazurek, G. 2019; Rosário, A. 2021):

- Designing and developing new products to suit specific audiences, through several aspects such as creativity and innovation, packaging, brand differentiation, and after-sales services like warranty, repair, and compensation.
- Determining, reviewing, and auditing prices, such as adopting algorithmic and dynamic pricing that is, improving pricing in real time, preparing to confront seasonal and sudden fluctuations.
- Managing supply chains and distribution channels, such as using delivery applications and shipping orders, in addition to automating transportation and warehouses, and improving the effectiveness of inventory control.
- Coordinating and organizing Integrated Marketing Communications and editing promotional and advertising campaigns in a coherent manner, such as providing targeted and highly customized communication activities with the help of behavioral analysis.
- Practicing and directing E-Commerce business supported by modern payment methods, automated emails, online advertisements, content marketing. In addition, improving the visibility of the name through search engines, and marketing through social media and networks, as the latter's algorithms monitor user behavior on the platform, in terms of interest and interaction: Like, share, comment, retweet, post, suggest, recommend, etc.
- Predicting and estimating future sales accurately through predictive analysis of big data, based on mathematics and statistics which are free from improvisational guesses, random assumptions, and trial and error.

- Caring for customers and taking care of their needs. Chatbots can learn from their mistakes and previous experiences, adjust algorithms according to the environment, and make product recommendations based on previous purchases. Robots learn continuously and improve their performance over time, and this is very useful in serving the customer and gaining his satisfaction. Emotional AI or Emotional Computing is an emerging area of interest for measuring customer's satisfaction.

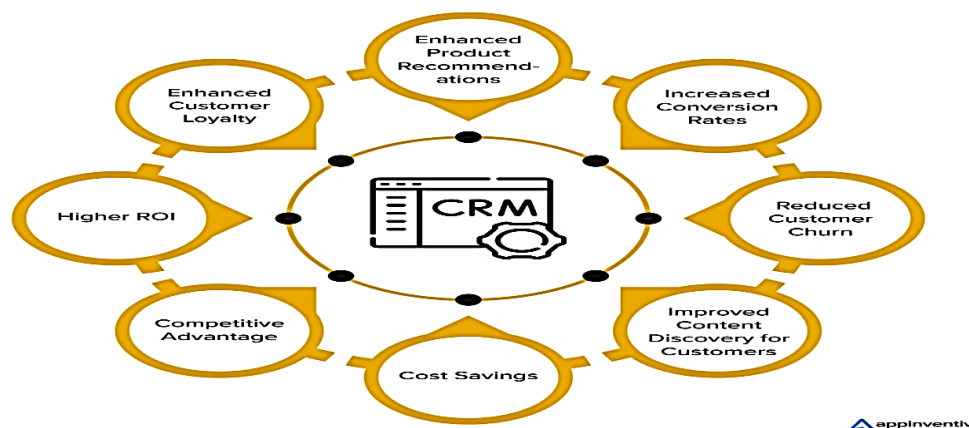


Figure (7): the tremendous benefits of using AI in crm (source: srivastava, s. 2024)

3.2. Boosting CX Outcomes Reinforced by AI Automation of Marketing Mix Components as A Guarantee of Steady Success

First of all, it must be recognized that managing the CDJ and measuring CX, are primarily the responsibility of the marketing and sales department. However, there is harmony and articulation with the rest of the other functional departments, such as Operations & Manufacturing, Engineering & Design, Accounting & Finance, Personnel, R&D & IT, Legal, Logistics,..., etc. It is not an exaggeration if we consider the positive repercussions of this storm of innovative technologies, most notably AI in all its ramifications, which has led to radically transformative changes,

and at an unprecedentedly rapid pace. It has strongly and intensively participated in keeping pace with changing customer expectations and enhancing their good and satisfactory experiences and reduce their unhappy or bad experiences. AI and its algorithmic solutions have a profound impact on the CDJ, and all of this will turn into databases, which the marketing industry will benefit from in enriching the CX outcomes. This reflects the increasing demand for CX solutions that operate with AI (For more digression, See: Cahill, B. 2016; Villegas, F. 2024; Olson, C. 2024; Ameen, N., et al. 2021; Daqar, M. A. A., & Smoudy, A. K. 2019; Chen, Y., & Prentice, C. 2024).

There are persistent and significant efforts by the marketing and advertising industry, supported by automated tools and models developed for advanced technology, to ensure the sustainability of benefiting from computer and cyber development, and to harness the power of technology, smart solutions and ML in order to enhance rich and focused CX, with extreme accuracy and quality. Thus, providing real-time insights, resulting in additional revenue generation and cost behavior control. Strengthening cash flow and profit position, diligently improve the competitive position of marketing activity, advance the pace of development, and move the wheel of growth to the maximum limit. There is no doubt that AI has a unique ability, and an exceptional capacity, to track and sense market signals and scenarios as well as the change in customer preferences and purchasing tendencies. Therefore, we can conclude from the above points, that one of the fundamental advantages and pivotal benefits of improving and automating marketing processes and models enhanced by AI, machine learning algorithms, and predictive analysis of massive user and subscriber data, is creating a better CX, in satisfactory, effective, and attractive ways, and has also appropriate emotional methods. This is what is known as Hyper-Personalization, which emerged from the ruins of Mass-Personalization. This mechanism or strategy helps to identify customer needs and keeps brands ahead of

their competitors by leveraging data and AI. (For further explanation, see: Adobe Experience Cloud Team. 2023; KPMG Team. 2024; The in Moment Team. 2023; Castillo, E. G. 2023; Srivastava, S. 2023; Clark, S. 2023; Winter, J., & Zuniga, G. 2024).



Figure (8): why do you need AI customer experience? (source: doshi, p. 2024)

In the same context, there are many AI programs, which ensure continuous learning due to the wonderful use of algorithms. The latter have proven remarkable and noticeable successes constantly in the field of improving customers value and customizing their experiences. A world characterized by accelerating uncertainty will gain the sales and marketing industry and will have many advantages resulting from its adaptation to the requirements of this cyber revolution, and cloud applications, which give the marketing and sales CEO insight into customers. A prominent and expressive evidence of this is as follows: virtual shopping assistants and automated chatbots:

- The Virtual Assistant (VA) upgraded by AI, which actively participates in enriching the user's experience during his journey and interactions in the online shopping process where NLP technology is used to making support and assistance appear as human and personal as possible. Moreover, these VAs can interact in real-time with the customer by providing good and improved customer service, which produces quick and immediate responses. This is very useful in positioning the brand in a good position in the consumer's mental map reflecting positively on unique CX journey. (For further elaboration, see: Topf, N. 2023; Iyer, K. 2023; Rajesh, R. 2022; Owen, L. 2024; Ganesan, K. 2024).
- Chatbots in general, and ChatGPT (OpenAI) in particular that are encouraged by AI can understand natural language in a way that arouses admiration and fascination. It responds effectively and satisfactorily to shoppers via the Internet, and online browsers on websites, and social networking applications. Ultimately, a huge database of quantitative and qualitative responses is formed, which is important in solving problems, handling objections and answering inquiries, especially common and Frequently Asked Questions (FAQs). This results in an improvement in customer service and deepening their satisfaction, notably since support and aid are available 24x7. (For further digression, see: Abdelkader, O. A. 2023; Campbell, V. 2023; Hawkins, L. 2023; Short, J. 2023; Sinha, S. 2022).

It is worth noting at this point in the discussion that CX, or rather CXM is a cloud-based subsystem derived from CRM. This last one stems from Enterprise Resource Planning (ERP). In a wide range of applications and technical programs, their intelligent efforts are completely united to achieve the main goals SCA of major business organizations. Among the innovative companies that have excelled and distinguished in producing and marketing these electronics and solutions have resonated, achieved popularity, and gained admiration, are Oracle, Salesforce, SAP, Adobe, Microsoft, Google, IBM. Examples of this include but are not limited to:

Customer Data Platform (CDP), Sales Force Solutions (SFA), Supply Chain Management (SCM), Configure Price Quote (CPQ), ..., etc. These modern Approaches have led to digital inventions that are shared to effectively improve the performance of algorithmic marketing augmented by AI. An insightful computer vision, whereby buyers are retargeted, informed, persuaded, and reminded of the products that are compatible with their desires is very likely that customers will buy it if they are properly directed. Accurate algorithmic prediction helps the product reach exactly the right target audience. In conclusion, the researcher lists a range of live examples and realistic applications of the dramatic impact of the branches of AI and its exciting software on improving inspiring CX:

- In the field of Autonomous or Driverless Vehicles, several technology companies are manufacturing self-driving cars enhanced by AI, which can think deeply like humans such as: Mercedes-Benz, Tesla, Samsung, Volkswagen, Huawei, Volvo, Fiat Chrysler, ..., etc. They race frantically and impulsively, and their focus is on ensuring competitive excellence by creating and developing the user's driving experience so that his travel has much safety, comfort and convenience. To improve the overall performance of the car, it uses computerized manufacturing systems and automated services, sensors and cameras to monitor routes and provide drivers with enhanced communication features. They can also provide additional systems such as emergency braking, blind spot monitoring, increasing fuel efficiency, predicting potential dangers on slopes and road curves, taking appropriate and effective measures, fastening seat belts for passengers to avoid collisions and rollovers, and reduce accidents. In addition to analyzing big data related to traffic patterns, traffic congestion and climate or weather conditions, they can make transportation and trip more reassuring. Accordingly, smart car engineers use Machine Learning and Computer Vision in almost every aspect of

- the car-making process (For further elaboration and digression, See: Lutkevich, B. 2024; Schroer, A. 2024; Farley, J. 2019).
- In the field of Health Care, signs of the revolutionary impact of AI technology and expert systems to support informed decisions in the digital age have begun to loom recently and has had the most significant and powerful impact on helping medical care service providers. To achieve a CX free of clutter and troubles and fatigue, it offers unprecedented opportunities and gains, especially since the patient spends time surrounded by mazes of reviews, diagnoses, examinations. The complexities of radiology and surgery bear huge costs during his treatment journey in hospitals and clinics. Therefore, highlighting the use of innovations and machine intelligence, analyzing huge amounts of medical data to identify patterns and predictions, and their positive impact on improving patient outcomes and strengthening their experiences are of crucial importance. In a sector where reliability and credibility are the real touchstone, patient experiential management is indispensable. Attention can be drawn to a range of technical applications used in this regard such as surgical robots, diagnostic algorithms, and voice assistant interfaces to identify specific diseases through audio biomarkers. Voice chat robots are also being integrated into healthcare applications, as this market is expected to grow from 230.28 million dollars in 2023 to \$944.65 million by 2032. Automation has also allowed the healthcare sector to reduce administrative costs by \$122 billion, according to research group CAQH (For more details, see: Suleman, A. 2018; Zimmerer, J. 2023; Phillips, B. 2023; Urbina, N., & Melnikov, V. 2023).
 - In the field of the Retail Sector, many specialized and professional careers in retail trade are exercising their effectiveness by relying on the power of cloud computing, AI solutions, and smart learning to customize the CX in a flexible manner. This leads to Hyper-Personalization, which increases their interaction,

satisfaction, trust, and loyalty in addition to the high retention rate, or the so-called Customer Lifetime Value. This will turn into a SCA, giving preference and precedence to retail stores, whether traditional or electronic, such as Walmart, Amazon.com, Aldi, Alibaba, Carrefour, Ikea, JD.com. This includes, for example, surveillance cameras enhanced by AI, which captures and analyzes the behavior of visitors to great shopping centers and malls whereby the eye may have overlooked at times. By the same token, it includes recommendation platforms, which suggest the best sellers and a list of recommended products, and surveillance robots that participate in providing the Internet of Things, in addition to inventing smart shopping basket and smart shelves supported by the Internet of Things. These revolutionize the fun and pleasure of shopping and enhance the value of the purchasing experience for shoppers as well as the contributions of augmented and virtual reality technologies. Some customer experience leaders expect that AI will dominate the retail environment and will play a major role in the retail consumer journey in the coming years. (For further elaboration, see: Murthy, S. 2024; Carvalho, J. M. S., et al. 2023; Tamminga, R. 2024; Höfner, E. 2024).

In the constantly changing environment of sales and marketing, the term ‘Hyper-Personalization’ has become more than just a buzzword—it’s a transformative strategy that harnesses the capabilities of AI. Hyper-Personalization has emerged as a transformative force, reshaping the way brands engage with their audiences in the arena of digital marketing. This paradigm shift is being driven by the integration of predictive models of AI & ML, heralding a future where CXs are finely tailored, and brand advocacy is cultivated through data-driven strategies. In the dynamic realm of customer-centric business models, organizations are increasingly adopting advanced technologies and strategies to augment the capabilities of CRM systems. Key enablers of Hyper-Personalization are AI & ML, which play a pivotal role in this

evolution. These technologies empower CRM systems to analyze extensive datasets, extract valuable insights into individual CBs, preferences, and needs. The incorporation of predictive analytics and recommendation engines allows real-time customization of interactions, to ensure customers that they receive personalized content, product recommendations, and communication channels tailored to their unique profiles. Customer data platforms (CDPs) are highlighted as essential tools that unify disparate data sources to create a comprehensive customer profile. Additionally, advanced customer segmentation tools assist in categorizing customers based on diverse criteria and facilitating targeted and personalized interactions. The integration of these tools enhances the ability of CRM systems to deliver contextually relevant experiences, fostering stronger emotional connections between customers and brands. The strategies for Hyper-Personalization involve a multi-faceted approach, encompassing proactive communication, personalized marketing campaigns, and adaptive customer journeys.

Companies are increasingly aware about the importance of prioritizing customer needs not only to thrive, but also to survive. The digital transformation revolution has introduced novel technologies that have significantly improved the way in which companies gather, store, analyze, and transmit large volumes of data. The convergence of the expanding pool of available data for businesses and the advancements in artificial intelligence offer new possibilities to obtain deeper customer insights and enable swift and hyper-personalized responsive actions. Hyper-Personalization transcends traditional marketing segmentation as it leverages AI & ML to dissect vast datasets, unveiling insights that enable brands to curate experiences that are not just customer-centric but customer-precise. It predicts consumer behavior and preferences, enables brands to anticipate needs and desires before customers even articulate them. It also delivers content, recommendations, and offers that resonate deeply with individual consumers. Satisfied customers

evolve into enthusiastic brand advocates, organically fueling brand growth by sharing their positive experiences for effective marketing strategies, data analytics, real-time interaction, and balancing automation and human touch. The future of digital marketing is undeniably intertwined with Hyper-Personalization. As AI and ML technologies continue to advance, CXs will become increasingly dynamic and tailored. Measuring the impact of brand advocacy will be pivotal, and brands must remain agile to address the challenges and seize the opportunities presented by this dynamic landscape. This comprehensive chapter delves into the ever-evolving landscape of digital marketing and its transformative journey towards Hyper-Personalization of CXs. It focuses on the crucial role that AI & ML-powered predictive models play in creating highly customized and dynamic brand engagements (For further digression, see: Rane, N., et al. 2023; Singh, B., & Kaunert, C. 2024; Morton, F., et al. 2024; Garde, S. 2024; Buzz Board Team. 2024).



Figure (9): The Era of Intelligent Marketing: Embracing AI and Hyper-Personalization for Competitive Advantage (Source: Andreychuk, N. 2023)

Conclusion

Ultimately, we can say that the study reached many derivations and inferences. Most importantly, the marketing industry and the sales process enhanced by AI have proven to have valuable and beneficial surpluses in customizing and improving CXs with an insight and clear vision. Enhancing the customer's experience, investigating ways to comfort him, and raising his level of confidence and reassurance have become a top priority and a competitive advantage that business organizations, micro, small, medium, and large alike, fight over as this results in preference and precedence. This digital and computer era is characterized by rapid development and accelerating events at an exponential pace. Indeed, it is an inevitable necessity especially in the context of the challenges of information technologies, telecommunications, satellites, the Internet, and the disturbances of the virtual and cloud environment.

In this regard, the researcher will list a comprehensive summary of the most important points contained in this research paper:

- AI is a branch emerging from computer science and under its umbrella resides its creative ramifications and branches. It is worth noting that this is a generous investment because it constitutes one of the most important and great technological innovations of the 21st century. It is the result of these wonderful electronic discoveries that has never been seen before in the world of deep learning and contemporary computing. Programmed and trained devices occupy the Foreground and Vanguard within the constellation of cyber technology and cloud applications which are harnessed to improve the quality of life of the human society to achieve its social and economic well-being efficiently and upgrade its standards of living. In addition to many broad aspects, useful and beneficial areas also serve human civilization diligently and sustainably.

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- AI, as an integral part of computer skills, with all its wonderful systems and algorithms, has resulted in amazing revolutionary transformations and involves terrible qualitative shifts. It has followed remarkable achievements, impressive gains, and exceptional and developmental performances. It includes all productive industries and consumer markets, and even reached government institutions and the charitable (non-profit) sector. As the influence of computerized and learning machines, the power of predictive analysis of data increases day after day. AI has become dominant and triumphant on modeling informed administrative and organizational decisions. It is in control of solving complex commercial and logistical problems, and it has an attractive resonance in tomorrow's engineering, creates the future, and anticipates its opportunities and potential gains.
 - AI in the age of imagination and technical knowledge considers scientific progress and computer development, constitutes the backbone, and is the basic pillar of modernity, contemporaneity, novelty, newness, and urbanization. It seems that adapting its tools and harnessing its smart means and solutions is on a steady ascension, and dramatic increase, given the amount and magnitude of the positive repercussions that its use has for the better and toward the most complete for both the public and private sectors alike. Accordingly, the enormous added value produced by smart machines supported by a combination of automation technologies, deep ML, IoT, AR, VR, Web 3.0, Web 4.0 and others, is worthy of adoption and embrace. But it is a double-edged sword: a blessing and a curse, so caution and precaution must be taken as there are catastrophic and disruptive ethical concerns. Security and legislative concerns of AI has negative repercussions and bad effects on societies, peoples, and nations.
 - The marketing industry in general, and CRM in particular, benefits from harnessing computer-enhanced AI, and the importance of the close connection
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and strong bond between the two is growing: algorithmic automation and marketing decision-making. Within the context of digital transformation, there is an amazing flow of technological progress and transition from traditional to electronic marketing, as there is a sustainable alliance and strategic convergence between the field of advertising, sales and trade on the one hand, and computer science on the other hand. This results in many quantitative returns and qualitative benefits as never before, and the entire marketing system has become more concerned with improving competitive performance through AI software and applications. It seems that the latter has become a safety valve for achieving the desired goals and objectives.

- Exploiting potential market opportunities and gains and avoiding imminent threats and dangers are one of the hottest agendas and the most difficult responsibilities placed on the shoulders of the chief marketing and sales executive. It is necessarily known that staying at the top of the pyramid is extremely difficult, but embracing and entering cyber-physical systems in professional marketing careers has led to enable marketing activity management to have the superior ability to possess a competitive advantage. This is evident in allocating the efforts and activities of the marketing mix and starts with the engineering and design of unique goods and services and customized offers. Secondly, pricing is a dynamic and flexible manner. Thirdly, it incorporates and introduces automation into integrated marketing communications, and is consistent with promotional and advertising activities. Finally, it includes and integrates robots in the management of distribution channels, transportation and storage, supply chains, networks, and logistics services.
- The methodology of measuring the CX and knowing the return on investment in its development occupies a high status and position in the world of business. It is in the first place for the modern board of directors, as tracking and touching on

- the interactions, feelings, and opinions of customers in their purchasing and consumption journeys is at the heart and core of marketing activity and a top priority for the sales management. CEM is evolving and maturing due to the increasing interests of marketers who want to win and outperform competitors. This excessive exaggeration in improving excellent customer experiences has objective and logical justifications, the most important of which are the quality of financial value, and the amount of marketing outcomes resulting from success and excellence in their implementation. These qualities must meet the condition of exceptional and different performance and create a qualitative difference from current and prospective competitors, and thus lead and pioneer the target markets.
- Participatory and rational management of all the details of CXs, and perfecting their service, treatment and support with good and attractive panoramic methods. It is a wonderful and impressive comprehensive program, and by activating Word-of-mouth marketing (or WOM marketing) will inevitably result in a significant strategic return for the organization, including, for example, increasing customers' feelings of happiness, and deepening their satisfaction and admiration. It is an emotional and sentimental bond that undermines negative and bad perceptions and strengthens beautiful impressions. Therefore, repeating and repurchase rates increase the chances of retaining and gaining their loyalty. Yet securing a solid base of loyal customers to the maximum extent is vital from the perspective of Customer Lifetime Value (CLV or CLTV). It is not surprising that it entails maximizing revenues and cash flows, stimulating the growth of bottom-line profits until they reach their peak and enhance the brand reputation.
 - The convergence and synergy between the technical resources of computer hardware and software as well as the business of the marketing and sales industry has opened the door wide to make optimal use of an awesome potential and wondrous capabilities of AI algorithms and ML applications of Hyper-

Customization CX in innovative ways and creative touches. Therefore, global markets have witnessed a radical and revolutionary shift in the rules of the competitive game. Today's competition between brands has become primarily based on Chatbots, Virtual Assistants, Big Data Analysis and other technical and digital innovations. It provides the best experience to the customer who is the final judge, and this competitive weapon is represented by smart solutions for Hyper-Customization which paves the way for customer engagement and advocacy, generating additional sales, expanding market shares, and growing wealth.

Based on what was mentioned above, deductions and extractions derived from the results and theses are reached. Moreover, the researcher puts in the hands of those interested in this topic a set of important recommendations which he/she proposes to serve as a roadmap, especially for those organizations that procrastinate to feed marketing activities with computers enhanced with AI, and the consequences it has on managing the customer's journey and purchasing experience as follows:

- The CEO of Marketing and Sales on one hand, and the administrative staff who make up the teamwork on the other hand, must be imbued with modern marketing culture and its contemporary philosophy. This philosophy considers the sustainability of the organization's business and achievement of its goals closely dependent on the customer who has an excellent and wonderful experience. His/her experience is apparent in the interactions relating to the decision of purchasing the brand, establishing a strategic relationship. Errors are prohibited, and defects should lead to zero in customer care service. Achieving these goals in the era of the digital revolution and technical development is processed through exploiting the AI system, which carries a password and Hyper-Customization.

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- Marketing practitioners and sales managers must believe that AI in all its branches and applications are catchy and motivating, despite their high material and human costs. ML, NLP, Chatbots, and Virtual Assistants have achieved remarkable results in improving the customer experience and enhanced the emotional feeling at every point of their purchasing journey, thus turning them into a satisfied and loyal customer. Without the slightest suspicion, this will lead to a scarcity of complaints and objections, growth in sales and wealth, prosperity in profits, and strengthening of reputation.
 - Customer service, care employees, and supervisors of CRM programs, must be convinced that having a sustainable competitive advantage has requirements, matters, and conditions. The most important of which is improving the outputs and outcomes of the marketing industry. This should be linked to performance standards and criteria from the perspective of efficiency and effectiveness indicators, so that they relate to everything that will spare the customer from going through an unhappy experience or having bad impressions. The guarantee that keeps the marketer away from this undesirable scenario is the activation of the impressive AI tools and methods in the field of review and auditing marketing.
 - All users in the organization, not just the marketing department and the sales function, must be convinced that there is a difference between a good and bad customer experience. When the customer experience is positive, it makes him feel happy, and negative experience when it makes him feel unhappy, disappointed, or even frustrated. Negative customer experiences often stem from customers' perceptions that the marketer doesn't know them, doesn't understand them - doesn't care about them - or is difficult to deal with. Then, there is an urgent need for preventive and therapeutic intervention from AI algorithms to automate the marketing mix and the sales system.

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