International Review of Management and Marketing

ISSN: 2146-4405

available at http: www.econjournals.com

International Review of Management and Marketing, 2025, 15(4), 329-344.

Capitalizing the Power of ChatGPT for Digital Business: Factors Catalyzing its Usage in Marketing

Mohammad Faruk[1], Md. Shahanur Islam[2]*, Md. Asif Khaled[1], Md Jahadul Hoq[3], Shah Zobair Hossain[4], Md. Imran Hossain[1]

[1]Department of Marketing, Gopalganj Science and Technology University, Gopalganj, Bangladesh, [2]Department of Business Administration, Bangladesh Army International University of Science and Technology, Cumilla, Bangladesh, [3]Global Supply Chain, Schneider Electric, USA, [4]Department of English, Bangladesh Army International University of Science and Technology, Cumilla, Bangladesh. *Email: shahan.shanto@gmail.com

Received: 19 November 2024 **Accepted:** 06 May 2025 **DOI:** https://doi.org/10.32479/irmm.18252

ABSTRACT

This study aims to synthesize the existing literature on the application of ChatGPT and identify what factors influence the actual use of ChatGPT in Bangladesh. A mixed method approach along with a descriptive research design is employed. Data is collected with a pretested 7-point Likert scale questionnaire disseminated through online media to the 260 marketing executives selected with convenience sampling. Finally, 126 responses were analyzed using regression analysis. The findings indicate that marketers in Bangladesh use ChatGPT for Content_Generation, SEO_Optimization, and writing Product_Description, but Lead_Generation negatively impacts the usage of ChatGPT. Other variables such as Email_Marketing, Socialmedia_Management, Customer_Relationship, and Marketing_Research are not found statistically significant. However, a small sample size inhibits the generalizing of the result. This study contributes by providing a picture of the usage of ChatGPT in the digital marketing sector in Bangladesh. Future research should address the sample size limitation and consider ethical issues and additional variables suggested by TAM and UTAUT models.

Keywords: ChatGPT, Digital Business, Digital Marketing, Artificial Intelligence, Technology Usage, Marketing 5.0, Generative AI
JEL Classifications: M1, M3, M15, O14, O15, O32, O33

1. INTRODUCTION

In recent times, the integration of artificial intelligence (AI) has witnessed a burgeoning presence within the business landscape, and digital marketing has particularly harnessed the advantages of this formidable technology. One notably promising AI technology in this context is the natural language processing model ChatGPT, founded on the GPT-3.5 architecture (Taecharungroj, 2023). As articulated by Hetler (2023), ChatGPT exhibits the capacity to generate responses resembling human-like language, positioning it as an optimal tool for customer engagement and the delivery of personalized content. The transformative potential of this technology in reshaping corporate interactions with audiences and boosting sales has been underscored by Chowdhury (2023). As elucidated by Chowdhury (2023), ChatGPT offers multifaceted enhancements to business processes and performance, a sentiment echoed by various researchers. For instance, Chui et al. (2022) posit that ChatGPT contributes to an enriched customer experience by furnishing personalized responses to inquiries and concerns. Furthermore, personalized service engenders heightened consumer engagement and satisfaction, thereby elevating the overall brand image of the company. Notably, the integration of ChatGPT in content creation and automated responses through chatbots liberates human resources for strategic planning and higher-level tasks (Hariri, 2023). Recognizing customer needs, desires, and demands is elemental for effective marketing and business performance. ChatGPT facilitates companies in identifying consumer perceptions and needs through the analysis of sentiment

This Journal is licensed under a Creative Commons Attribution 4.0 International License

and text mining, thereby inspiring novel ideas for product development (Chowdhury, 2023).

Despite the significant utility of ChatGPT in business, particularly within the realm of digital marketing, a comprehensive literature review in this domain is notably lacking. While a few opinion articles and research studies exist, the nature of this topic justifies the dearth of comprehensive reviews. Hence, this paper aims to:

1. Determine how ChatGPT is being used in different business sectors.
2. Identify what factors influence marketers to use ChatGPT in Bangladesh.

Finding out different applications of ChatGPT in digital business and in digital marketing particularly is deemed significant for future development (both theoretically and practically) in this domain of scholarly knowledge. As we have mentioned, there specifically a research gap exists, this paper contributes to the fulfillment of this research gap by summarizing the previous literatures and identifying the factors that contributes significantly to the adoption of this new technology by the marketers in Bangladeshi context.

2. LITERATURE REVIEW

2.1. Different Authors' Findings on ChatGPT Application

The following Table 1 summarizes the application of ChatGPT in different aspects as identified by different authors. Content is often referred to as the cornerstone of digital marketing (Rowley, 2008). Discerning digital marketers can leverage the capabilities of ChatGPT for content generation (Cooper, 2022), facilitating sustained engagement with their target audience. Nevertheless, alternate Artificial Intelligence (AI) tools, including copy.io, tome.io, and others, also find application in content creation (Farno, 2022). To thrive in the contemporary business landscape, establishing a pervasive presence in search engines is imperative for marketers. Notably, comprehensive keyword research precedes webpage creation (Chris, 2023). Taecharungroj (2023) highlights ChatGPT's potential in aiding marketers to discern the keywords customers are actively searching for on the internet, thereby enabling the generation of content that fosters heightened customer engagement.

The consistent creation of social media posts is indispensable for digital marketers to maintain customer engagement and brand recollection (Iskender, 2023). ChatGPT proves advantageous in this regard by facilitating the automatic creation of social media posts and responding to customer comments (Haleem et al., 2022; Iskender, 2023). Additionally, as underscored by research conducted by Chowdhury (2023) and Hariri (2023), ChatGPT can function as a chatbot, delivering instantaneous customer support and addressing frequently asked questions. Furthermore, Hariri (2023) posits that integrating ChatGPT with a website or social media platform can enhance customer service and response times, thereby augmenting customer satisfaction and fostering loyalty.

After critical evaluation of the major findings of all of these literatures presented in Table 1, the authors have come to an understanding that ChatGPT as an AI tool mainly assist in human tasks completion with efficiency and effectiveness. The insight that is found in all of these research papers, ChatGPT cannot replace human in anyway rather it can become a powerful weapon for human to catalyze the speed and accuracy of their tasks.

ChatGPT can help to cut costs and deliver faster service to customer services, especially in the e-commerce arena. Even on holidays or peak hours, it can efficiently handle customer complaints or respond to queries. It also can be used to set and find a target audience to whom the product/service is to be sold. Also can be used to manage and monitor incoming web traffic of visitors and remind them about the next visit or to check out the purchase sought earlier as soon it is available in the virtual or physical store.

As a Personal Digital Assistant (PDA) ChatGPT can help to find and recommend the best physician in the city. It also can notify patients about the next visit to get a treatment plan. There is no doubt that in critical surgical procedures, chatGPT can provide suggestions for the smooth and successful completion of the operation. It can be helpful in pharmaceutical industries in the innovation of new vaccines during any pandemic.

Aircraft Flying and Landing Management can be run by using ChatGPT's expert data analyzing techniques. Whether there is a heavy fog or storm will be determined by the expertise analysis of ChatGPT and it will be decided whether it should take off or change the destination for a landing.

ChatGPT can play a vital role in nuclear power plant management. It will determine the power demand and produce accordingly, which will save unnecessary consumption of fuel. It also will be able to manage the national gridline by evaluating the demand of a particular grid. Traffic Management can be smoother with the expert data analyzing techniques of this artificial intelligence. This can collect real-time data and suggest the drivers to avoid any traffic and ultimately it will save unnecessary wastage of time, fuel, and money for the passengers and drivers.

The weather forecasting especially understanding storms, heavy fog, and cyclones will be helpful in seeding plan, irrigation, and cultivation if we can use ChatGPT in this area. This machine learning algorithm will be able to accurately predict the severity of a flood which will help in taking necessary preventive measures by the authorities to minimize the impact on the community.

ChatGPT can be an interesting part of port management, shipping plans, and load techniques. It will be also useful in smooth production planning by understanding the real market scenario. Which will reduce unnecessary layoffs and save the cost of production. Supply chain management can be handled expertly if we can utilize ChatGPT in analyzing demand and supply. This will be a fruitful and economical operation of production and supply chain management.

ChatGPT can be used by architectures for drawing an architectural design by evaluating necessary constraints and considering the facilities to ensure there. To save our world and keep it green, ChatGPT's expert knowledge can provide suggestions and plans for how it can be kept clean and green at a comfortable temperature. Ultimately it will be blessings for all of us.

2.2. Application of ChatGPT in Different Industries

The tree dendrogram presented in the following Figure 1 encapsulates a wide range of applications of ChatGPT in different business industries and functions such as healthcare industry, education industry, finance and banking sector, production and supply chain, customer relationship management, e-commerce and digital marketing, and legal services, media & entertainment.

2.2.1. Healthcare industry

George et al. (2023) stated that Artificial intelligence (AI) is a tool that may be used to analyze medical imagery, identify disorders, and provide treatments. Language translation, individualized advice, and medical diagnosis and treatment have all been accomplished with ChatGPT (Hariri, 2023). Artificial intelligence can also handle tedious processes of inputting data or scheduling appointments. By responding in a way that feels natural and real, this may make it simpler for virtual agents to communicate with patients and increase their effectiveness. People can get communicate without queue. Through ChatGPT-enabled virtual assistants patient care is also possible (George et al., 2023). George et al. (2023) also mentioned that, ChatGPT may have a big influence on telemedicine services like virtual real-time consultations with doctors or nurses utilizing video conferencing platforms like Zoom or Skype. In addition to that, George and George (2022a) mentioned that AI can help to get medical guidance without visiting a doctor or hospital, and make educated decisions regarding their general health and well-being. ChatGPT, an AI chatbot capable of responding to follow-up inquiries, admitting errors, challenging faulty premises, and rejecting unethical requests (Taecharungroj, 2023). Munir (2023) approached that, by analyzing large amounts of medical data, ChatGPT helped to develop a model that can detect medical disorders and prescribe relevant remedies. Hariri (2023) described as, ChatGPT's virtual health assistants is capable to understand and respond to patients' queries including: Diagnostic support, Predictive analytics, Personalized medicine, Imaging analysis, Drug development, Telemedicine, and support in surgical procedures. ChatGPT may offer better and accurate assistance to the Physicians and support patients to manage the health conditions. ChatGPT has the capacity to reduce workload of issuing discharge summaries, medical records during hospital stay, manage their individualized recommendations and counseling, such as food programs or medication reminders (Hariri, 2023). ChatGPT can assist medical practitioners in analyzing symptoms to diagnosis the history for an advice and treatment plan. According to Ray (2023) ChatGPT can be employed in medical and healthcare domain to assist (i) Medical Education (ii) Diagnosis and understanding urgency (iii) treatment recommendations and personalized treatment plans (iv) mental health counseling and (v) store the clinical data for future reference and development of new treatment.

2.2.2. Education industry

Medical research becomes easier with the advanced ChatGPT features. According to Khan et al. (2023) the ability of ChatGPT to assist with research reviews and data analysis finds significant results that will facilitate medical researchers' efficient use of the vast quantity of data available online. It can be said that, its capacity to create interpretations, explanations, and summaries may also be utilized to assist learners in understanding difficult instructional material. Ray (2023) mentioned that, ChatGPT may be used to build systems that help educate healthcare practitioners and patients by providing data on medical conditions, diagnosis suggestions and treatment recommendations. ChatGPT's AI service is very close to humans in clinical settings in terms of managing patient data and providing assistance and treatment recommendations based on symptoms and medical history. This not only has the ability to assist students in improving their clinical reasoning abilities but also to assist instructors in developing relevant, attractive and interactive resources to support learning in actual clinical settings (Khan et al., 2023).

ChatGPT can be utilized in educational institutions as an automated virtual assistant that can respond to general inquiries without human assistance. Using an AI-powered system, teachers may create lesson plans for each student and can provide quick feedback. Teachers may save time in assessing student work when it is submitted via a chatbot interface (George et al., 2023). A ChatGPT model trained on a massive dataset of academic texts that provides a detailed major point and structure of the requested article. Hariri (2023) identified that ChatGPT can deliver specialized and relevant knowledge, be able to find factual answers and write essays on a variety of areas such as science, history, business, health, and technology. According to Iskender (2023), ChatGPT can produce text like natural speech, and could be used to score written assignments, freeing up instructors' time for higher-level duties like feedback and research may also be used to produce practice questions for exam preparation. ChatGPT assists students in developing innovative ideas and critical thinking capabilities without difficulties and effort. ChatGPT can be used in the education and training industry as a real-time feedback and support system which creates a new experience in learning. Ray (2023) mentioned, ChatGPT leads an interactive sessions, adaptive environment and constructive real time feedback that takes the teaching-learning to a new height of instructional practices and academic engagement. According to Taecharungroj (2023), ChatGPT has positive impact on teaching and education specially in lesson planning, writing assignments and essays. It is capable of producing relevant, high-quality information automatically.

2.2.3. Finance and banking sector

Using ChatGPT, the finance and banking businesses may become more productive, as it might save time and money by providing quick and accurate information via automatic conversations (George et al., 2023). ChatGPT can increase productivity in the banking and financial sectors. ChatGPT may provide consumers personalized guidance and recommendations based on their financial objectives and needs. George and George (2022b) mentioned that, this might increase client retention and faith in banking and finance. ChatGPT can assist in reducing risks by

detecting and preventing fraudulent transactions by evaluating patterns of consumer contact. According to Hariri, (2023) the use of ChatGPT has equipped the virtual financial advisors with the power of providing tailored investment advice and recommendations based on clients' financial goals and risk tolerance. ChatGPT may help business to grow by evaluating financial data and delivering financial performance. ChatGPT may employ in business with a set of potential applications including: handling customer query and complaints, analyzing and identifying market patterns and forecasting trends, assist in financial analysis and investment management including decision supports, detect suspicious transactions, identify financial crimes and develop techniques to mitigate managerial risks (Ray, 2023).

2.2.4. Production and supply chain

ChatGPT-based AI-driven predictive models can help to reduce material waste, optimize energy and water use, and boost operational efficiency and sustainability. It may be used to give automated customer service, recommend the most effective and fastest directions through the production procedure, and offer helpful guidance on manufacturing processes (Rathore, 2023). It will assist businesses in streamlining their manufacturing procedures and creating customized shopping recommendations for customers. According to Rathore (2023) ChatGPT may assist businesses in customizing the shopping experience by offering clients custom recommendations for the best clothing options based on their fashion preferences and size. George et al. (2023) mentioned that, the CrhatGPT platform assists in transforming the business processes, in understanding the qualities that various groups and businesses demand, helps firms make better strategic planning judgments, and offers potential future development and strategies to improve operations, which raises ROI.

As denoted by Rathore (2023) ChatGPT can play a valuable role in enhancing the production process within the textile industry through various means. Firstly, it can undergo training using data from the production line to identify any irregularities or modifications in the process that may result in defects. This enables timely alerts to be sent to personnel, contributing to waste reduction and product quality enhancement. Secondly, based on its analysis of historical usage patterns, ChatGPT can offer recommendations regarding product features or methods to speed up production. This empowers manufacturers to make informed decisions that optimize the overall production process. Thirdly, ChatGPT can aid in detecting early indications of product failure, allowing manufacturers to implement preventive maintenance measures and enhance equipment performance. Fourthly, by analyzing customer feedback and interpreting complaints, ChatGPT can identify common issues related to specific products and propose solutions to improve quality and workflow. Lastly, leveraging customer sentiment analysis, ChatGPT can predict product trends and provide recommendations for new designs or features.

Artificial intelligence is now being utilized in supply chain management to optimize inventory levels, cut costs, and increase efficiency. Chowdhury (2023) has addressed that AI algorithms may help organizations make better decisions and cut waste by accessing data on inventory levels, delivery schedules, and other factors. Supply chain in the textile industry has unique features and expertise to the composition of its item, which consists of several stages of manufacturing, raw material sources, and distribution channels. According to Rathore (2023) in supply chains ChatGPT provides opportunities for creativity and innovation, beginning with the collection of raw materials and ending with ensuring items are supplied to end-users in a timely and cost-effective way via efficient manufacturing procedures.

2.2.5. Customer relationship management

George et al. (2023) opinioned, ChatGPT can access numerous data sources within small processing times and can provide more comprehensive response to clients with a minimum human involvement. Faster response times and effective assistance are the unique features of ChatGPT, make the customer care agents more productive in answering the general queries. ChatGPT will allow clients to rapidly contact with customer care agents through chatbot interactions without having to wait on hold or spend time on the phone with customer support representatives (George et al., 2023). Chowdhury (2023) pointed that, chat AI has the capacity to create a competitive advantage by providing round the clock excellent customer care at a minimum cost. ChatGPT's automated regular client contacts may increase efficiency, lower expenses, and improve customer experience. Chatbots has the ability to understand human language and can manage personalized consumer enquiries and support requests (Hariri, 2023). Though the adoption of ChatGPT will increase productivity, the improved performance on repeated tasks will be create unemployment.

2.2.6. Marketing sector

2.2.6.1. E-commerce and digital marketing

By utilizing ChatGPT's automated chatbot capabilities, e-commerce companies can respond quickly with an improved user experience in a cost savings manner (George et al., 2023). It is also reported by George et al. (2023) individuals can get answers quickly without waiting on a human professional, and businesses can provide control over what messages their clients receive and how those messages are delivered, which is extremely difficult to achieve manually by a human. They don't have to worry about having too many requests to fulfill at once because they lack the resources (George et al., 2022). George et al. (2023) mentioned that, with ChatGPT ecommerce businesses may able to receive information about how consumers behave, giving them greater control over how they personalize offerings based on user data acquired during discussions. ChatGPT can only reply to what is thought. In the event of a mislead, it will create a bogus statement. E-commerce buyers look for reviews of products prior to making a purchase decisions, however, customer trust is eroded when false testimonials originate from e-commerce sellers themselves, who exchange favorable ratings of their items and negative reviews of competitors (Perez-Castro et al., 2023). Fraudulent evaluations are now on the rise, with a strong presence in several areas of e-commerce and identifying fake reviews is now an emerging field of inquiry.

ChatAI collaborates closely with its partners to reach new clients and promote its services. Chowdhury (2023) identified the target

advertising, social media marketing, and content marketing are the three main components of ChatAI's marketing plan. According to Ray (2023), Applications of ChatGPT in Sales and Marketing domain may include: Lead generation, Trend analysis and forecasting, customer service and sales management. By analyzing data on its target customers, ChatGPT may help with content generation by creating social media posts, email campaigns, and advertising material.

2.2.6.2. Search engines

According to George et al. (2023), ChatGPT, the powerful Artificial Intelligence (AI) system understands user questions, can translate natural language conversational queries, making it easier for users to locate what they're searching for and provides correct responses. Every time we search for anything new, we'll be able to see better accuracy while browsing through vast quantities of data more quickly than ever before and receive personalized results. The advanced Microsoft Open AI's ChatGPT technology-based search engines will make the online business search much more productive (George et al., 2023). To thrive in the contemporary business landscape, establishing a pervasive presence in search engines is imperative for marketers. Notably, comprehensive keyword research precedes webpage creation (Chris, 2023). Taecharungroj (2023) highlights ChatGPT's potential in aiding marketers to discern the keywords customers are actively searching for on the internet, thereby enabling the generation of content that fosters heightened customer engagement.

2.2.6.3. Social media marketing

The consistent creation of social media posts is indispensable for digital marketers to maintain customer engagement and brand recollection (Iskender, 2023). ChatGPT proves advantageous in this regard by facilitating the automatic creation of social media posts and responding to customer comments (Haleem et al., 2022; Iskender, 2023). Additionally, as underscored by research conducted by Chowdhury (2023) and Hariri (2023), ChatGPT can function as a chatbot, delivering instantaneous customer support and addressing frequently asked questions. Furthermore, Hariri (2023) posits that integrating ChatGPT with a website or social media platform can enhance customer service and response times, thereby augmenting customer satisfaction and fostering loyalty.

2.2.6.4. Content marketing

The text-generation ChatGPT model can produce high-quality content for websites in a variety of formats including blog posts, product descriptions, social media captions, and advertising campaigns (Hariri, 2023). Using predetermined input criteria and stylistic choices, it may automatically produce material for articles, blog posts, and online social forums postings. According to Ray (2023) ChatGPT can be utilized in content creation and creative writing domain to produce blog entries and creating social media content with song and story writing by suggesting words and melodies. ChatGPT can produce, edit, translate, and summarize documents that might be useful for facilitating conversation between persons from different backgrounds and cultures. Hariri (2023) mentioned as this system can recognize the intricacies of multiple languages and give context-specific translations. According to Halaweh (2023) ChatGPT can be quite beneficial by facilitating in the rapid development of texts that would otherwise need substantial time and effort by people. ChatGPT may produce original, creative, unique, and personalized responses (Taecharungroj, 2023). The automatic language translator can provide high-quality responses to natural language questions, interpret complicated sentence structures, idiomatic phrases, and summarize large text passages, which improves organizational efficiency. Furthermore, alternate Artificial Intelligence (AI) tools, including copy.io, tome.io, and others, also find application in content creation (Farno, 2022).

2.2.6.5. Tourism and hospitality

ChatGPT's unique capacity to understand individual interests and preferences regarding trips, events, and leisure activities is creating new dimensions to generate individual offers and marketing plans to attract tourists. Iskender (2023) described, ChatGPT may help with trip planning by producing suggestions for locations, events, and lodging alternatives and may offer specific proposals for trips, events, and leisure activities.

2.2.7. Legal services, media and entertainment

ChatGPT has the ability to provide prompt and accurate legal replies, simplifies difficult legal language, facilitates information exchange and synthesize and summarizes legal texts. According to Ray (2023) the legislation domain may employ ChatGPT, which can assist legal practitioners to analyze and review legal data to provide insights and recommendations for legal research, review contracts and identify potential legal issues, assist to respond legal queries and providing personalized recommendations, drafting legal briefs, contacts and documents.

According to Hariri (2023) ChatGPT has the ability to create a unique and interesting narrative experiences. Using ChatGPT Users may develop personality tests to assess personality characteristics or preferences or discover more about themselves and evaluate their findings in relation to others. In the Media and entertainment domain ChatGPT can be utilized to creating content includes writing dialogue and stories for films, television shows, and video games, content curation includes recommending movies, TV shows, and music based on user preferences and voice acting offers suggestions and ideas for character voices, accents and inflections (Ray, 2023). In order to assist authors and filmmakers to produce more interesting and attractive material, ChatGPT may be utilized to review stories for films, television episodes, and video games.

2.2.8. Software industry

ChatGPT becomes useful tool to software developers to review code and bug fixing (George et al., 2023). ChatGPT may consider as a central tool for developer to handle any challenging debugging jobs as it has the ability to make it perfect. George et al. (2022) simplified that, it may display sample code structures which can saves developers time to identify syntax errors or other issues brought on by faults in manual coding. ChatGPT's natural language processing features can be beneficial in developing human-readable descriptions of programming problems and produce code to resolve and review with a high level of accuracy (Hariri, 2023). It's powerful language processing capabilities may

be employed to produce high-quality text that is clear and more accessible. Computer program developers can use ChatGPT to generate, debug and review programming codes by following the standard coding structure, which make it understandable clear and concise (Ray, 2023). In addition ChatGPT may be used to translate code between programming languages like Python and Java, among others (Hariri, 2023).

2.3. Problems and Challenges Associated with Using ChatGPT

Potential to transform the customer service industry and provide businesses with a competitive advantage. ChatGPT has drawn a lot of criticism for producing poor, incorrect, or misleading scientific writing (Hariri, 2023). ChatGPT does not have the same level of contextual awareness as a person. The following table 2, summarizes challenges and problems that are close interlinked with using ChatGPT. Hariri (2023) has focused to Ccntinuous study and improvement in this area is essential to reduce biased and harmful language patterns and take use of ChatGPT's potential benefits in natural language processing.

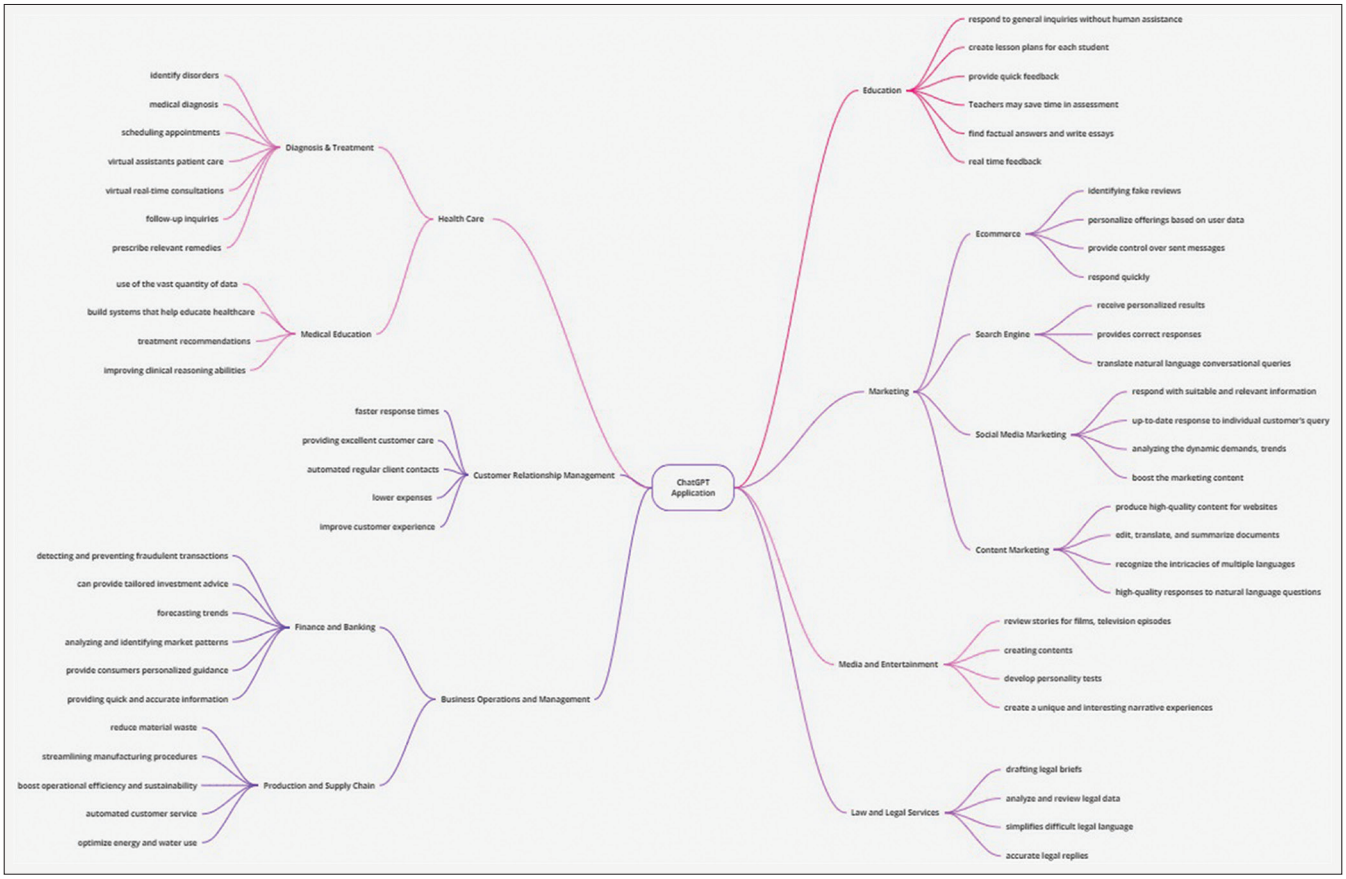
3. CHALLENGES AND LIMITATIONS

On the basis of the challenges while utilizing ChatGPT in different sectors in this above table, this is clearly visible that the fundamental challenge appearing is "ethical concern". However, biasness and privacy are also significant issues to be dealt with. Using this table as input, the author produced the following word-cloud presented in Figure 2, to cross-verify their understanding regarding the challenges of using ChatGPT. Hence, the authors suggest future researches to address the issue of how to deal with this ethical concern regarding uses of ChatGPT.

ChatGPT is a man-made algorithm. It suggests only depending on the contents available to him or taught to him. The success of it depends on real, accurate, relevant, and timely data. If data is wrong, inappropriate, irrelevant, or outdated; the decision or outcome will not be fruitful in use. So, using ChatGPT is may not a success if the data validity is not confirmed. It's the user's responsibility and ethical issue, how it will be used. Even, there may be miscommunication in handling this machine-based algorithm therefore, forecasting or decisions based on the provided data and instructions may misguide us. On the other hand, the real scenario may be changed, and if the new scenario is not taken in the measures the result will not come into action or be effective for a decision taken. Thereby, upon critical analysis of the good amount of previous research, the authors classify the challenges and limitations of using ChatGPT in the following 4 groups:

This Figure 2, a word-cloud, depicts the most common challenges faced while using ChatGPT. It is clearly visible that ethical-issues and bias are the main dominant challenges of using ChatGPT, which again confirms that subjective understanding of the authors is true regarding the challenges of using ChatGPT. On other hand, the issue of privacy and data-vulnerability are also major considerations.

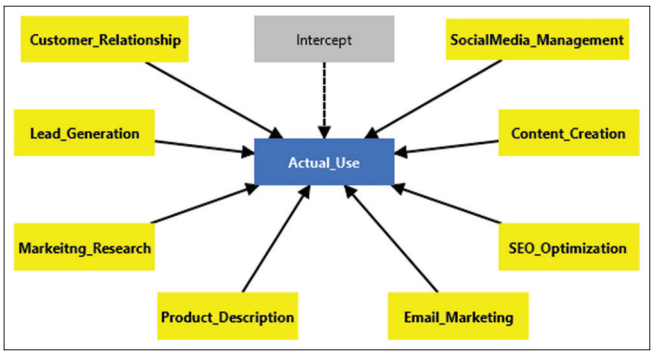
Figure 1: Concept map of ChatGPT application in different industries (For clear picture, separate segments are included in the Appendices section)



a) Bias and inappropriate language: ChatGPT is trained on huge amounts of text data, such as online forums, social media postings, and news items, which may contain biased language and destructive assumptions, therefore ChatGPT's responses may tend to reproduce hate speech or other undesirable language patterns (Hariri, 2023).
b) Lack of Understandability: ChatGPT might not be able to comprehend the context completely and give a proper answer. ChatGPT is trained on vast quantities of text data, but it lacks the same level of contextual awareness as humans (Sohail et al., 2023) and might not be able to understand the context of the question and provide a detailed response (Hariri, 2023).
c) The responsiveness standard: ChatGPT might be used to create and spread propaganda or false information (Camilleri, 2024) since it might produce text that copies human writing, making it seem more reliable and trustworthy than content created by automated systems. According to Hariri, (2023) several participants continued to praise ChatGPT as an efficient virtual assistant offers acceptable and dependable replies despite its relatively low error rate.
d) Fairness, Privacy and ethical consideration: Ethical issues concerning privacy, racism, science, and hate language patterns must be taken into account like with other cutting-edge technology (Camilleri, 2024). In order to spread misinformation or manipulate public opinion, ChatGPT may be programmed to produce content that is difficult to distinguish from human-generated material (Hariri, 2023). When utilizing ChatGPT, a number of ethical issues need to be taken into mind and developers and users must have to be aware of it and act to reduce any potential harmful effects. Although ChatGPT claims that it doesn't collect user data, it may still gather certain data, such as conversation logs, which might be shared without the user's permission or used for unlawful purposes (Tafesse & Wien, 2024). As discussed by Hariri, (2023) developers are responsible for ensuring that user data is safeguarded and handled ethically in compliance with applicable privacy laws and users should also be aware of the possible privacy issues connected with ChatGPT and take precautions to safeguard their personal information. According to Iskender, (2023) When using AI in education, there are ethical and social concerns about data privacy and security because students' personal information may be collected and used without their consent. privacy issues are growing concern while the ChatGPT model is used to collect and analyze sensitive customer data in the tourism and hospitality industries (Iskender, 2023). Perez-Castro et al., (2023) mentioned that, the ChatGPT models are pre-trained on a lot of unstructured textual data which can rapidly produce and deliver to natural language-based applications with little fine-tuning and practically it's impossible for human eyes to differentiate between authentic and fraudulent statements.

Figure 2: Challenges faced while using ChatGPT

Figure 3: Conceptual Framework of the study



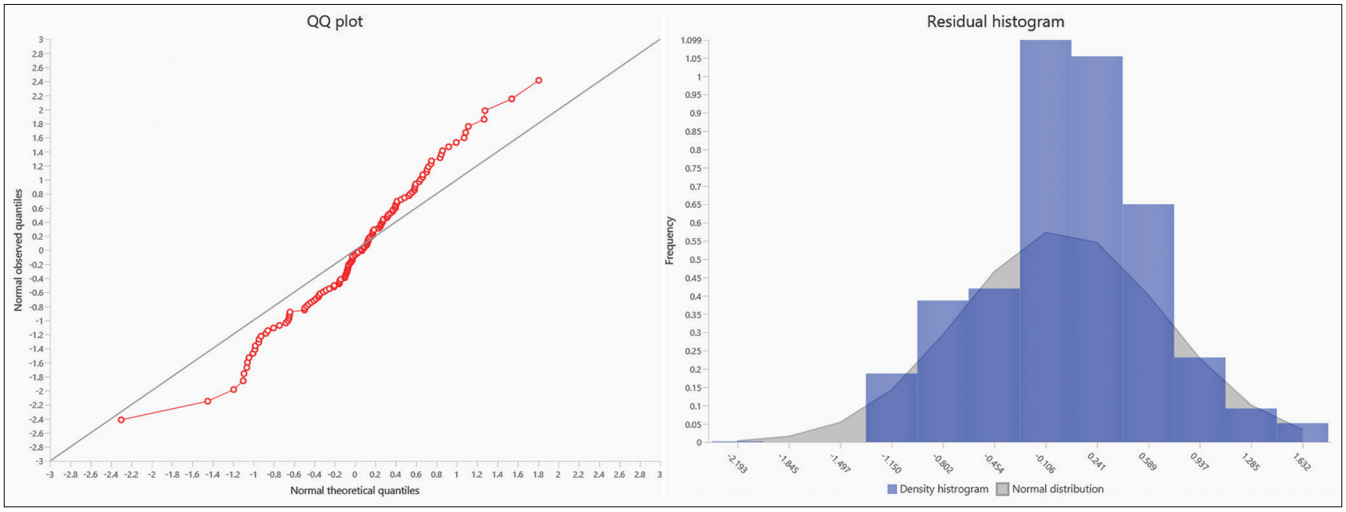
Source: Author

3.1. Variable Identifications, Hypothesis and Conceptual Framework Development

From the literature review it is evident that ChatGPT is being used by digital business in many different forms. Keeping consistency with the other domain, digital marketers have also started capitalizing the benefits of generative artificial intelligence (AI) such as ChatGPT. Different articles mentioned different factors that motivate digital marketers to adopt ChatGPT for devising their marketing strategies and marketing tactics. To illustrate further, Raj et al. (2023) have mentioned that ChatGPT can be used for content creation and lead generation and marketing research. Similar findings are also supported by the researches of (Guler et al., 2024; Javaid et al., 2024). In addition to that, studies of Javaid et al. (2024) and Shabbir et al. (2024) has further identified SEO opitmization, Social meida management, supproting customers, customer relationship management also found to influence utilzation of ChatGPT. Moreover, privacy issue, technological structure, marketing research, product description, email marketing are the factors that were claimed as influenceing factor to capitalize the power of ChatGPT by digital marketers (Abdelkader, 2023; Cooper, 2022; Wilendra et al., 2024).

After carefully reviewing the previous literatures, the authors have aimed to study the impact of the following variables as demonstrated in the Figure 3, in determining the usage intention of the ChatGPT: Content_Creation, SEO_Optimization, Customer_Relationship, Email_Marketing, Lead_Generation, Socialmedia_Management, Product_Description, and Marketing_Research. In addition to that following conceptual framework is developed for the study.

Figure 4: QQ plot and Residual Histogram for determining the data distribution



Source: Authors' analysis

3.2. Research Hypothesis

The following hypotheses are considered to be tested in this study.

- H_1: Usage of ChatGPT for Content_Creation does not significantly impact actual use behavior of digital marketers.
- H_2: Usage of ChatGPT for SEO_Optimization does not influence use behavior of digital marketers.
- H_3: Usage of ChatGPT for writing Product_Description does not motivate digital marketers to use the technology.
- H_4: Usage of ChatGPT for Email_Marketing does not motivate digital marketers to use the technology.
- H_5: Usage of ChatGPT for Lead_Generation does not influence the use behavior of the technology of the digital marketers.
- H_6: Usage of ChatGPT for maintaining Customer_Relationship does not motivate digital marketers to use the technology.
- H_7: Usage of ChatGPT for SocialMedia_Management does not encourage digital marketers to use the technology.
- H_8: Usage of ChatGPT for Markeitng_Research does not motivate digital marketers to use the technology.

4. METHODOLOGY

This research employed a mixed method approach which further integrates a descriptive research design. In order to achieve the 1st objective (to determine how ChatGPT is being used in different business sectors) a subjective qualitative review is conducted on previous research. By contrast, in order to achieve 2nd objective (to identify what factors influence marketers to use ChatGPT in Bangladesh), a descriptive research design is employed with the suggestion of Malhotra et al., (2010) where the author mentioned to identify the relationship between different variables this research design is suitable. Primary data collection was administered with an online survey questionnaire. Furthermore, the online survey questionnaire has been developed in google form and administered with email, facebook chat, what's app to the respondents (Bhattacharyya, 2006). In addition to that, descriptive research design and online survey questionnaire is also recommended and employed in previous similar studies but conducted on a different context (Haefner et al., 2021; Ray, 2023; Verma et al., 2021).

The population of this study are the marketing executives employed in different organizations. Convenience sampling technique is employed with a view to select the respondent. The justification of using convenience sampling technique is that marketing executives become extremely difficult to select with any probability sampling techniques. In addition to that selecting marketing executives based on the authors previous relationship with the executives and finding more executives from the websites of different organizations. The well pretested questionnaire was delivered to the 260 marketing executives from various industries operating in Bangladesh. Unfortunately, the response rate did not exceed 60% rather only 143 responses were received within the specified time period. In addition to that, after data cleaning for the missing values and other problems only 126 cleaned responses (48%) were kept for the data analysis. However, as of the situation of the research dictates that 126 responses are good enough for deducing an initial picture on the topic. However, since the sample size is not very high as well as the sampling technique applied is not probability based, the result generated by the research should not generalized to the overall population and be limited to the scope of this study. Contrarily, being affected with the limitation of not generalization, this study offers a valuable insight in to the utilization of ChatGPT from Bangladeshi perspective.

As of statistical procedures, multiple regression analysis is employed in this research with IBM SPSS software, in addition to that QQ plot is generated by Smart-PLS software to estimate the normality of the data collected from the sample.

5. ANALYSIS, FINDINGS AND DISCUSSIONS

5.1. Descriptive Analysis

Table 3 presents the descriptive analysis and the respondent profile in terms of experience and age of the marketing executives.

For descriptive analysis merely, as demonstrated in Table 3, two (2) relevant variables – Experience and Age -- have been taken

Table 1: Applications of ChatGPT as identified by different authors.

Reference	Title	Journal Name	Research type/ Method	Major Findings
George etal., 2023	A Review of ChatGPT AI's Impact on Several Business Sectors	Partners Universal International Innovation Journal(PUIIJ)	Review	1. ChatGPT enables the clients to receive an efficient service without physical interactions and improves a profitable relationship with a set of competitive advantages. 2. This technology has the potential to be utilized in customer service applications and to develop virtual assistants for both voice and text-based exchanges. 3. ChatGPT offers various functionalities, including topic recognition, emotion detection, and sentiment analysis, which aid users in gaining a deeper understanding of their conversational counterpart.
Haleem etal., 2022	An era of ChatGPT as a significant futuristic support tool: Astudy on features, abilities, and challenges	Bench Council Transactions on Benchmarks, Standards and Evaluations	Review	1. ChatGPT, based on generative Artificial Intelligence(AI), uses deep learning method to analyze human-produced natural language data that is characterized by "high Volume" and produce suggestive text. 2. ChatGPT could help produce convincing writing quickly and adapt it in response to feedback to make it more suited for the task.
Ray, 2023	ChatGPT: Acomprehensive review on background, applications, key challenges, bias, ethics, limitations and future scope	Internet of Things and Cyber-Physical Systems	Comprehensive review	1. ChatGPT is a conversational Artificial Intelligence(AI) model associated with ethical issues, have remarkable attention in a variety of industries and research fields and shows potential in terms of increasing efficiency, facilitating collaboration and innovative. 2. This article mainly concentrates on the how ChatGPT improved scientific research. In addition to that, customer service chatbots, personal assistants, language translation tools, mental health support and counselling is also mentioned as the application of ChatGPT.
Khan etal., 2023	ChatGPT-Reshaping medical education and clinical management	Pakistan Journal of Medical Sciences	Communication paper	1. The journey with ChatGPT can help to improve medical education and clinical management by providing personal assistance to medical professionals and students and making clinical management more comfortable, such as paperwork, patient care, and communication. 2. Automated scoring is a notable application of ChatGPT, whereby it can evaluate student papers and essays, analyzing aspects such as sentence structure, vocabulary, grammar, and overall clarity of the written content. 3. ChatGPT finds applications in clinical management. Primarily, it can assist in generating clinical notes, summaries, and other documentation, thereby optimizing time and minimizing the potential for human mistakes. 4. Additionally, ChatGPT can offer support and treatment recommendations based on patient symptoms and medical history. Nonetheless, it is crucial to emphasize that the ultimate authority for any medical decision should always rest with a healthcare professional. 5. Lastly, ChatGPT can generate automated responses to patients' inquiries concerning appointment scheduling and medication management.
Perez-Castro etal., 2023	Efficiency of automatic text generators for online review content generation	Technological Forecasting and Social Change	Qualitative review	1. The quality and authenticity of the produced scripts are dependent on the training delivered, and creativity may mislead or result in fraudulent feedback caused by a lack of knowledge or insufficient data. 2. This article found that artificial text generators, like GPT-2, can be a problem for online review systems because they can create misleading reviews that deceive consumers. 3. The researchers also created two models to tell the difference between generated reviews and reviews written by people. The results showed that GPT-2 can produce text similar to what it was trained on, and the more creative the generated reviews are, the harder it is for the models to identify them as fake. 4. The study suggests that platform operators and governments need to work together to stop the spread of fake reviews and misinformation online. They mention that the EU's Artificial Intelligence Act could help by setting rules for AI use and development and making sure those rules are followed.

(*Contd...*)

Table 1: (*Continued*)

Reference	Title	Journal Name	Research type/ Method	Major Findings
Rathore, 2023	Future of Textile: Sustainable Manufacturing and Prediction via ChatGPT	EDUZONE: International Peer Reviewed/Refereed Multidisciplinary Journal	Review	1. Textile firms may use ChatGPT technology to investigate strategies for reducing waste production, enhancing product quality, achieving sustainability, improving client satisfaction, and making their services more efficient, cost-effective, and timely. 2. The system can undergo training using data from a production line to identify any abnormalities or alterations in the process that may result in defects. It can then alert the appropriate personnel about these issues. 3. On the customer-facing aspect, ChatGPT can offer individualized support and guidance to shoppers, tailored to their specified preferences and previous interactions. 4. Additionally, the system has the capability to generate relevant recommendations based on customer preferences, thereby enhancing the shopping experience by making it more enjoyable and convenient.
Iskender, 2023	Holy or Unholy? Interview with Open AI's ChatGPT	European Journal of Tourism Research	Qualitative Research: Interview	1. It admits that ChatGPT platform can help the tourist and hospitality sectors with personalized services, students may use it to generate ideas and teachers can use it to delegate tedious jobs like grading and concentrate to other analytical functions, but dependency on ChatGPT may reduce critical thinking skills and it cannot be a substitute for human creativity and intellectuality.
Hariri, 2023	Unlocking the potential of ChatGPT: Acomprehensive exploration of its applications, advantages, limitations, and future directions in natural language processing	Journal of Badji Mokhtar University	Review paper	1. The AI based Natural Language Processing(NLP) influential tool can interact like human and has the potential to improve interaction and collaboration(information sharing and answering questions) in a variety of areas ranging from healthcare and education to business and entertainment. 2. ChatGPT can be used to develop chatbots that can provide medical advice, mental health support, and educational resources to users and chatbots that can assist with financial planning, investment advice, and customer service in the banking and finance industry. 3. In addition to that ChatGPT can be used to develop chatbots that can detect and respond to security threats in real-time by analyzing user behavior patterns and to perform tasks such as image captioning, object recognition, and scene understanding in conjunction with computer vision techniques.
Chowdhury, 2023	Unlocking the Power of ChatGPT: An In-Depth Look at ChatAI's Business Model	Journal of the Chongqing University of Posts and Telecommunications	Review	1. The powerful advanced artificial intelligence model providing a range of conversational services that support automated customer interactions, provide automated customized services that helps to improve productivity, customer satisfaction, and cut costs. 2. Additionally, ChatAI supports automated repetitive operations like appointment scheduling, data input, order processing and sales assistance.
Taecharungroj, 2023	"What Can ChatGPT Do?" Analyzing Early Reactions to the Innovative AI Chatbot on Twitter	big data and cognitive computing	Primary data collected from tweets analyzed with Latent Dirichlet Allocation(LDA) model.	1. The advanced AI chatbot is able to response like a human and will replace the human jobs especially white-collar and creative professionals even AI coders, trainers, and analysts are also in risks. 2. It highlights the diverse range of practical applications for ChatGPT, such as creative writing, essay writing, prompt writing, code writing, and answering questions. 3. The study further reveals three primary subjects of discussion on Twitter related to ChatGPT: news, technology, and people's reactions.

(*Contd...*)

Table 1: (*Continued*)

Reference	Title	Journal Name	Research type/ Method	Major Findings
Lim etal., 2023	Generative AI and the future of education: Ragnarok ¨ or reformation? A paradoxical perspective from management educators	The International Journal of Management Education	Critical analysis	1. Generative artificial intelligence(AI) provides automation to expand the accessibility and quality of education as well as an elevator for acquiring and organizing learning. 2. Education based on AI may reply like a human and can help with rigorous critical thinking. It may assess and grade a student's proficiency in the particular skill sets required to address difficult problems.
Chui etal., 2022	Generative AI is here: How tools like ChatGPT could change your business	Quantum Black, AI by McKinsey	Review	1. The article discusses the potential of generative AI and other foundation models to transform businesses by increasing efficiency and productivity, reducing costs, and opening up new opportunities for growth. 2. It also highlights how these tools can take assistive technology to a new level, reduce application development time, and bring powerful capabilities to nontechnical users.
Peres, 2023	On ChatGPT and Beyond: How Generative Artificial Intelligence May Affect Research, Teaching, and Practice	International Journal of Research in Marketing	Editorial	This editorial discusses the impact of generative artificial intelligence, specifically ChatGPT, on research, teaching, and practice. 1. It highlights two important updates(1) AI cannot be considered a co-author due to lack of accountability, and(2) authors cannot use output 1:1 from ChatGPT in their manuscripts without proper citation as it is considered plagiarism. 2. The editorial also emphasizes the need for responsible use of AI technologies and encourages further research on their potential applications and ethical implications.
Dwivedi etal., 2023	So what if ChatGPT wrote it?" Multidisciplinary perspectives on opportunities, challenges and implications of generative conversational AI for research, practice and policy	International Journal of Information Management	Review	1. ChatGPT, the transformative artificial intelligence tool undoubtedly provides opportunities in various industries, businesses, and services to boost productivity. The huge benefits of ChatGPT explore the smart use of technology and provide opportunities to be more successful in business operations and research. 2. Privacy and security issues and consequences of biases, misuse, and misinformation may cause for limitations in its use.
Roose, 2022	The Brilliance and Weirdness of ChatGPT.	The NewYork Times	Newspaper	1. ChatGPT a simple but brilliant Chatbot is flexible in continuous learning can participate in conversation freely like human. 2. It has the ability to suggest, assist and guide on the basis of request and learnings as trained not on web search.

into consideration. As assumed and suggested by the literature review, marketing executives who have a moderate level experience (0-2 years and 2-5 years) shows more inclination towards the usage of this new technology (6.38 and 6.33) respectively. This also corresponds with the variable age, marketing strategist whose age lies within the frame of 20 to 30 years depicts higher inclination toward the usage of the ChatGPT technology (6.36). Surprisingly, respondent who are under 20 years should have depicted higher usage rate of ChatGPT, since they fall under generation Z group and theoretically generation Z are more tech savvy. But this is not supported in the findings rather they show comparatively lower score (6.07) in ChatGPT usage compared to the generation Y counterparts. However, this lower score can be attributed two probable reasons; respondent participated from this pool in this research is significantly lower (only 4.7%) or it may happen so because this age group falls under "fresher" in terms of experience; hence this can be inferred they have not received enough institutional training yet to become conversant with the technology especially in marketing sector. In addition to that, people who are over 40 years shows negative (3.87) and people who have more than 10 years of experience in marketing strategies shows neutral response (4.22). This negative and neutral response of older and higher experience people can be explained by their tendency towards accepting this new change. Rather they feel comfortable with the older marketing tactics.

5.2. Regression Analysis

Data normality is one of the significant assumptions of regression analysis. The qq plot presented in Figure 4, shows that the does

Table 2: Problems and Challenges in ChatGPT Usage

References	Challenges identified or limitations
Haleem etal., 2022	Issues related to bias, accuracy, and ethical concerns are mentioned here.
Peres etal., 2023	It highlights the potential for AI-generated work to be considered plagiarism if not properly cited, and the lack of accountability when AI is used as a co-author. It also notes that there are ethical implications to consider when using AI in research, teaching, and practice
Ray, 2023	Maintaining the context of a conversation can pose challenges for conversational AI models, particularly when the conversation extends over multiple exchanges. When confronted with ambiguous queries, AI models may offer unsatisfactory or irrelevant responses. Improving ChatGPT's capacity to identify ambiguity and ask for clarifications would enhance its usefulness and enhance the user's experience. Conversational AI models often exhibit a deficiency in comprehending common sense or applying logical reasoning to problem-solving. Enhancing ChatGPT's common sense reasoning abilities would result in more precise and beneficial responses. Enhancing ChatGPT's capacity to detect and address users' emotions can improve its effectiveness in communication and foster a more empathetic user experience.
Khan etal., 2023	Limitations include a lack of human-like comprehension and the absence of data input beyond 2021. Consequently, there are instances where ChatGPT may disregard the prompt's context, resulting in the generation of irrelevant text or ideas that are not genuinely unique or original. Moreover, while ChatGPT can serve as a helpful tool in medical education and clinical management, it cannot be regarded as a substitute for human expertise and knowledge.
Perez-Castro etal., 2023	The article discusses various limitations and challenges. The article also mentions challenges such as the requirement for classifiers that can combat the new wave of language models, ethical concerns surrounding the use and potential applications of these models, and the competitive race between operators and participants of opinion platforms to leverage the latest technology for gaining an edge over one another.
Rathore, 2023	The textile industry encounters a challenge related to the growing amount of waste generated globally, attributed to advancements in technology and improved manufacturing practices. To address this issue, ChatGPT can offer suggestions on reclaiming and transforming this waste into usable materials using innovative methods such as upcycling and recycling. Moreover, the article proposes that research efforts in the textile industry could concentrate on investigating the underlying architecture, algorithms, and strategies employed by ChatGPT specifically within the textile context, assessing their effectiveness and efficiency.
Hariri, 2023	ChatGPT can be biased towards certain groups or perspectives based on the data it is trained on and can be vulnerable to attacks such as adversarial examples, which can cause it to produce incorrect or harmful responses. In addition to that, ChatGPT may collect and store user data, which raises concerns about privacy and data protection.
Taecharungroj, 2023	The report highlights several important concerns. One such concern is the transformation of job roles, as certain industries may witness the replacement of human workers by AI chatbots. Another significant challenge pertains to the pursuit of artificial general intelligence, which refers to the capability of AI systems to perform various tasks that are not explicitly programmed. Moreover, there exists a dilemma surrounding the ethical implications of progress in AI, as it necessitates a careful balance between potential benefits and societal concerns.

Table 3: Descriptive analysis

Variables	Categories	Response count (percentage)	Mean of Actual_Use
Experience	Fresher	13(10.3)	5.98
	0-2years	46(36.5)	6.38
	2-5years	42(33.3)	6.33
	5-10years	17(13.5)	5.72
	More than 10years	8(6.4)	4.22
	Total	126(100)	6.26
Age	<20years	6(4.7)	6.07
	20-30years	79(62.6)	6.36
	31-40years	36(28.6)	5.85
	More than 40years	5(4.1)	3.87
	Total	126(100)	6.26

Table 4: Result of regression analysis

Model	R	R square	Adjusted R square	Std. error of the estimate
1	0.666[a]	0.444	0.406	0.719

Table 5: ANOVA

Model	Sum of squares	df	Mean square	F	Sig.
1					
Regression	48.276	8	6.034	11.660	0.000[b]
Residual	60.550	117	0.518		
Total	108.825	125			

follow close to normal distribution since it follows the diagonal line. And the residual histogram further confirms this and shows that the data distribution has a normal shape but slightly positive skewness is also present. However, although data do not follow strictly normal distribution still, in order to identify the impact of the variables, the analysis is run without the objective of generalizing the results to the large population. In fact, this is one of the major limitations of the research.

5.3. Regression Model

The following equation is considered as the regression equation;

Usage of ChatGPT for Digital Marketing (Actual_Use) = $\alpha + \beta 1$ (Content_Creation) + $\beta 2$ (SEO_Optimization) + $\beta 3$ (Product_Description) + $\beta 4$ (Email_Marketing) + $\beta 5$ (Lead_Generation) + $\beta 6$ (Customer_Relationship) + $\beta 7$ (SocialMedia_Management) + $\beta 8$ (Markeitng_Research)

In this model, this is assumed that the actual use of ChatGPT by digital marketers will be influence by all the independent or

Table 6: Coefficients[a]

Model	Unstandardized coefficients		Standardized coefficients	t	Sig.
	B	Std. error	Beta		
1					
(Constant)	2.786	0.820		3.398	0.001
Content_Creation	0.346	0.060	0.417	5.753	0.000
SEO_Optimization	0.196	0.049	0.290	3.960	0.000
Product_Description	0.140	0.051	0.198	2.724	0.007
Email_Marketing	−0.027	0.041	−0.047	−0.656	0.513
Lead_Generation	−0.153	0.045	−0.241	−3.381	0.001
Customer_Relationship	−0.189	0.126	−0.105	−1.500	0.136
SocialMedia_Management	0.064	0.084	0.054	0.762	0.448
Markeitng_Research	0.050	0.043	0.084	1.151	0.252

[a]Dependent variable: Actual_Use

predictor variables. In order to identify the impact of each variable first of all over all model needs to be evaluated.

Table 4 presents the result of the regression analysis, which expresses that there is good level of positive correlation between Actual_Use and all the other predictor variables (R=0.666). In addition to that, the variability in the responses for Actual_Use can be explained around 40.6% (adjusted $R^2 = 0.406$) by considering the variability in all the independent variables (Content_Creation, SEO_Optimization, Product_Description, Email_Marketing, Lead_Generation, Customer_Relationship, SocialMedia_Management, Markeitng_Research) together. However, this signifies that the model does not poses very good amount of explaining capability. Still, the authors would like to verify whether this 40.6% explaining capability of the regression model is statistically valid or this is just mere because of sampling error. For making this conclusion, the following ANOVA analysis is conducted.

The null hypothesis for the test is H_0: $\beta_1 = \beta_2 = \beta_3 = \beta_4 = \beta_5 = \beta_6 = \beta_7 = \beta_8 = \beta_9 = 0$. In other words, all the coefficient of independent variables are not different from 0 at the same time. The result of the ANOVA, presented in Table 5, states that at confidence interval 5% the model is statistically valid (Sig = 0.000). This means that, the null hypothesis claiming all the coefficient of all the predictor variables are 0 concurrently in not true which in turn means that the model is fit and the claim the model poses (40.6% explaining capability) is statistically valid.

However, although the combined effect of all the predictor variables is found statistically significant, the individual effect of each variable needs to be identified in order to suggest marketers to focus their marketing strategies on the basis of the result. Thus, the following Table 6 illustrates the individual impact of each explanatory variables on the regressed variable (Actual_Use).

The information presented in table 6 corroborates that the influence of the Content_Creation is found statistically significant at 5% significance; hence the null hypothesis (H_1: $\beta_1 = 0$) is not accepted. In addition to that, the impact of the variable to the usage of ChatGPT is 34.6%. This result is also supported by the previous literatures such as Perez-Castro et al. (2023). Following, Content_Creation, SEO_Optimization variable is also found to be statistically significant at the level of 5% significance and the null hypothesis (H_2: $\beta_2 = 0$) is also not accepted and the influence of the SEO_Optimization on the Actual_Use of ChatGPT is 19.6%. Similarly, at the 95% confidence interval the influence of writing Product_Description is also found significant and the null hypothesis (H_3: $\beta_3 = 0$) is also not accepted. This result can be justified by the recent growth of e-commerce in Bangladesh. And Bangladeshi marketers are taking help of ChatGPT for writing the product description of their ecommerce website.

Contrarily, the analysis shows that both Email_Marketing and Customer_Relationship exerts a level of negative relationship (−0.027 and −0.189 respectively) on the Actual_Use of ChatGPT by digital marketers. Which means that the null hypotheses (H_4: $\beta_4 = 0$) and (H_6: $\beta_6 = 0$) both are accepted. However, both of these hypotheses are not statistically significant since they are not valid at 5% significance level (0.513 and 0.136) and this in turn means that this result is merely because of sampling error; and in the population there may be an actual impact of these two variables as well on the Actual_Use of ChatGPT.

Surprisingly, Lead_Generation exerts a level of negative influence on the Actual_Use of ChatGPT (−0.153) and this has found significant at 5% significance level (0.001). In other words, the null hypothesis (H_5: $\beta_5 = 0$) is not accepted. This necessarily mean that, when ChatGPT users utilize ChatGPT for lead generation, this generates negative results. Hence, digital marketers in Bangladesh should be more careful regarding the usage of ChatGPT for lead generation purpose.

Although, previous literatures such as Chris (2023); Javaid et al. (2024); and Peres et al. (2023) mentioned that ChatGPT are being used for managing social media. However, this research has found otherwise, that is ChatGPT usage for SocialMedia_Management and Marketing_Research do not find to exert any significant influence on the Actual_Use of ChatGPT. In other words (H_7: $\beta_7 = 0$) and (H_8: $\beta_8 = 0$) both are accepted since the differing impact generated by this analysis (0.064 and 0.050 respectively) are found statistically not significant at 5% significance level (0.448 and 0.252 respectively).

6. LIMITATIONS, IMPLICATIONS, FUTURE RESEARCH DIRECTIONS AND CONCLUSIONS

In future studies, as proposed by Rathore (2023) the exploration of ChatGPT's potential in the textile industry may revolve around its

application in optimizing the production process, automating and enhancing customer support services, and creating personalized recommendations for shoppers. George et al. (2023) on the other hand mentioned that future research efforts should prioritize enhancing the precision and effectiveness of ChatGPT AI models, discovering novel applications for the technology, and examining ethical implications associated with its utilization. Furthermore, the article highlights the necessity for additional research to evaluate the long-term effectiveness of ChatGPT AI solutions across different industries. Peres et al. (2023) have argued that additional research is necessary to gain a better understanding of how plagiarism detection tools used by universities can effectively identify AI-generated content. They also suggest exploring the potential of AI in conducting literature reviews and identifying gaps in existing research. Ray (2023) has mentioned that future researches can incorporate effective methods for handling inappropriate requests and providing personalized feedback and concentrate on investigating ways to mitigate bias in the model's training data and ensure that it produces accurate and reliable results. (Hariri, 2023) specifically mentioned exploring ways to incorporate multimodal inputs such as sound, images, or videos into ChatGPT in future researches. In addition to that he also proposes to deal with the problem of biasness.

The findings of this paper have the potential to greatly impact researchers, practitioners, and businesses who are eager to delve into the possibilities of using ChatGPT for digital business. Through an extensive review of existing literature, the paper offers a detailed examination of prior research in this field, highlighting the transformative effects that ChatGPT has had on various industries, including business. Additionally, the paper identifies areas where current research falls short and proposes future research directions to further explore the capabilities of ChatGPT in the realm of digital business. In summary, this paper can be a valuable source of information for anyone seeking to comprehend and harness the potential of ChatGPT for digital business.

REFERENCES

Abdelkader, O.A. (2023), ChatGPT's influence on customer experience in digital marketing: Investigating the moderating roles. Heliyon, 9(8), e18770.

Bhattacharyya, D.K. (2006), Research Methodology. India: Excel Books India.

Chowdhury, N.A. (2023), Unlocking the Power of ChatGPT: An In-Depth Look at ChatAI's Business Model. p1-9.

Chris, A. (2023), What Is SEO And Why Is It Important? Available from: https://www.reliablesoft.net/what-is-search-engine-optimization-and-why-is-it-important [Last accessed on 2023 Apr 13].

Chui, M., Roberts, R., Yee, L. (2022), Generative AI is here : How tools like ChatGPT could change your business. London, England: Quantum Black, AI by McKinsey. p5.

Cooper, H. (2022), 11 Ways to Use ChatGPT to Create Content and Save Time. Anyone Can Write Online. Available from: https://medium.com/anyone-can-write-online/11-ways-to-use-chatgpt-to-create-your-content-and-save-you-hours-of-time-6c91d462b181 [Last accessed on 2023 Apr 12].

Dwivedi, Y.K., Kshetri, N., Hughes, L., Slade, E.L., Jeyaraj, A., Kar, A.K.,… Wright, R. (2023), "So what if ChatGPT wrote it?" Multidisciplinary perspectives on opportunities, challenges and implications of generative conversational AI for research, practice and policy. International Journal of Information Management, 71, 102642.

Farno, K. (2022) Quick overview: How to use CHATGPT for content creation, Gutenberg Hub. Available at: https://gutenberghub.com/chatgpt-quick-overview/ (Accessed: 15 May 2024).

George, A.S., Baskar, T., George, A.S.H. (2022), A comparative analysis of India's development of electronic marketing during the pandemic of covid 19. Partners Universal International Research Journal, 1, 45-53.

George, A.S., George, A.S.H. (2022a), A review of moonlighting in the IT sector and its impact. Partners Universal International Research Journal, 1, 64-73.

George, A.S., George, A.S.H. (2022b), Data sharing made easy by technology trends: New data sharing and privacy preserving technologies that bring in a new era of data monetization. Partners Universal International Research Journal, 1, 13-19.

George, A.S.H., Hameed, A.S., George, A.S., Baskar, T. (2022), Study on quantitative understanding and knowledge of farmers in Trichy District. Partners Universal International Research Journal, 1, 5-8.

Guler, N., Kirshner, S.N., Vidgen, R. (2024), A literature review of artificial intelligence research in business and management using machine learning and ChatGPT. Data and Information Management, 8, 100076.

Haefner, N., Wincent, J., Parida, V., Gassmann, O. (2021), Artificial intelligence and innovation management: A review, framework, and research agenda. Technological Forecasting and Social Change, 162, 120392.

Halaweh, M. (2023), ChatGPT in education: Strategies for responsible implementation. Contemporary Educational Technology, 15(2), ep421.

Haleem, A., Javaid, M., Singh, R.P. (2022), An era of ChatGPT as a significant futuristic support tool: A study on features, abilities, and challenges. BenchCouncil Transactions on Benchmarks, Standards and Evaluations, 2(4), 100089.

Hariri, W. (2023), Unlocking the potential of ChatGPT: A Comprehensive Exploration of its Applications, Advantages, Limitations, and Future Directions in Natural Language Processing. Available from: https://arxiv.org/abs/2304.02017

Hetler, A. (2023) What is chatgpt? everything you need to know: TechTarget, WhatIs. Available at: https://www.techtarget.com/whatis/definition/ChatGPT (Accessed: 16 May 2024).

Iskender, A. (2023), Holy or unholy? Interview with open AI's ChatGPT. European Journal of Tourism Research, 34, 3414.

Javaid, M., Haleem, A., & Singh, R. P. (2024). A study on ChatGPT for Industry 4.0_ Background, potentials, challenges, and eventualities. Journal of Economy and Technology, 1(August), 127–143.

Khan, R.A., Jawaid, M., Khan, A.R., Sajjad, M. (2023), ChatGPT-reshaping medical education and clinical management. Pakistan Journal of Medical Sciences, 39(2), 605-607.

King, M.R. (2023), A conversation on artificial intelligence, chatbots, and plagiarism in higher education. Cellular and Molecular Bioengineering, 16(1), 1-2.

Lim, W.M., Gunasekara, A., Pallant, J.L., Pallant, J.I., Pechenkina, E. (2023), Generative AI and the future of education: Ragnarök or reformation? A paradoxical perspective from management educators. International Journal of Management Education, 21(2), 100790.

Malhotra, N.K., Nunan, D., Birks, D.F. (2020), Marketing Research. United Kingdom: Pearson.

Munir, I. (2023), Artificial intelligence ChatGPT in medicine. Can it be the friend you are looking for? Journal of Bangladesh Medical Association of North, 2, 2-5.

Peres, R., Schreier, M., Schweidel, D., Sorescu, A. (2023), On ChatGPT

and beyond: How generative artificial intelligence may affect research, teaching, and practice. International Journal of Research in Marketing, 40, 269-275.

Perez-Castro, A., Martínez-Torres, M.R., Toral, S.L. (2023), Efficiency of automatic text generators for online review content generation. Technological Forecasting and Social Change, 189, 122380.

Raj, R., Singh, A., Kumar, V., Verma, P. (2023), Analyzing the potential benefits and use cases of ChatGPT as a tool for improving the efficiency and effectiveness of business operations. BenchCouncil Transactions on Benchmarks, Standards and Evaluations, 3(3), 100140.

Rathore, B. (2023), Future of textile: Sustainable manufacturing and prediction via ChatGPT. Eduzone: International Peer Reviewed/Refereed Multidisciplinary Journal, 12(1), 52-62.

Ray, P.P. (2023), ChatGPT: A comprehensive review on background, applications, key challenges, bias, ethics, limitations and future scope. Internet of Things and Cyber-Physical Systems, 3, 121-154.

Roose, K. (2022), The Brilliance and Weirdness of ChatGPT. New York Times. Available from: https://www.nytimes.com/2022/12/05/technology/chatgpt-ai-twitter.html

Rowley, J. (2008). Understanding digital content marketing. Journal of marketing management, 24(5-6), 517-540.

Shabbir, A., Rizvi, S., Alam, M.M., Su'ud, M.M. (2024), Beyond boundaries: Navigating the positive potential of ChatGPT, empowering education in underdeveloped corners of the world. Heliyon, 10(16), e35845.

Shaji George, A., Hovan George, A.S., Gabrio Martin, A.S. (2023), A review of ChatGPT AI's impact on several business sectors. Partners Universal International Innovation Journal, 1(1), 9-23.

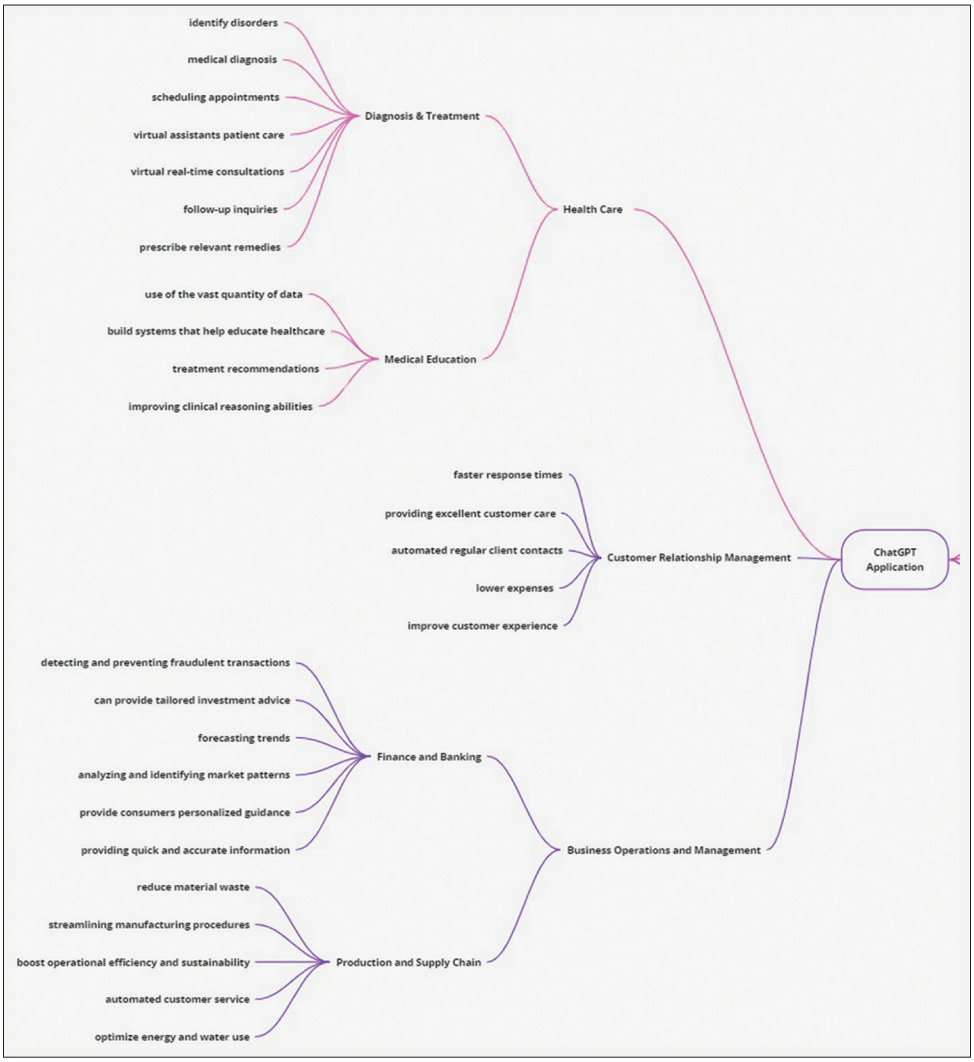
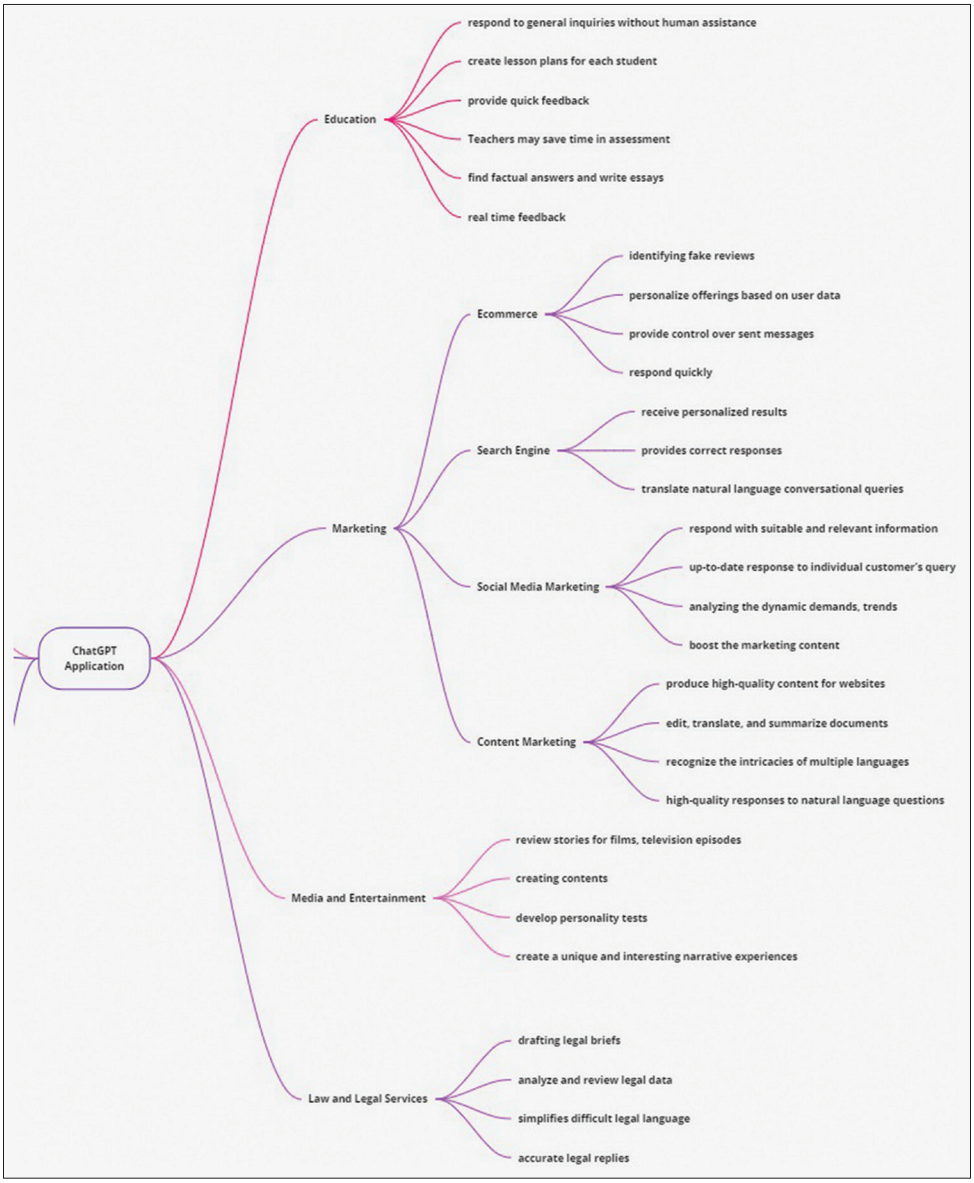
Taecharungroj, V. (2023), "What can ChatGPT Do?" Analyzing early reactions to the innovative AI chatbot on Twitter. Big Data and Cognitive Computing, 7(1), 35.

Verma, S., Sharma, R., Deb, S., Maitra, D. (2021), Artificial intelligence in marketing: Systematic review and future research direction. International Journal of Information Management Data Insights, 1(1), 100002.

Wilendra, W., Nadlifatin, R., Kusumawulan, C.K. (2024), ChatGPT: The AI game-changing revolution in marketing strategy for the indonesian cosmetic industry. Procedia Computer Science, 234, 1012-1019.

APPENDICES

Appendix A1: Clear picture of the left side of Figure 1



Appendix A2: Clear picture of the right side of the Figure 1