

The Use of Artificial Intelligence in Instagram and Facebook: Opportunities and Perspectives

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ABSTRACT

Aim of the Study: This study investigates users' perceptions, experiences, concerns, and future outlooks on the incorporation of artificial intelligence (AI) on Facebook and Instagram. This study offers significant understanding of the dynamic environment where artificial intelligence intersects with social media, emphasizing the necessity for ethical deliberations, transparency, and ongoing enhancement.

Methodology: The study employed a questionnaire and the collected data was then analyzed using statistical software. A purposive sampling strategy was employed to choose a representative sample of posts, user interactions, and attributes from both social media networks. A questionnaire was designed to collect data from university students. Data was collected from (n=252) students studying in different universities of Rawalpindi and Islamabad.

Findings: The findings indicate divergent viewpoints regarding the integration of AI, with a substantial portion expressing confidence in the present level of integration. Individual user experiences differ, with certain individuals expressing satisfaction with content recommendations while others express dissatisfaction with AI-based chatbots. The prominence of privacy concerns highlights the necessity for explicit data regulations. Anticipating the future underscores a positive outlook on the influence of AI in changing social media. These findings enhance current debates surrounding AI in social media and emphasize the significance of user-centric methodologies and ethical deliberations.

Conclusion: The study indicates the intricate equilibrium between personalization and authenticity, as a substantial number of users have expressed apprehensions over the influence of AI on the genuineness of material and interactions. This aligns with a more extensive discourse in the literature regarding the difficulties of upholding trust in the era of AI-driven personalization. AI is anticipated to have an increasingly significant impact on molding social media experiences in the future.

Keywords: Facebook, Instagram, Social Media, AI tools, Chatbot, User experience, AI Perception.

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1. INTRODUCTION

Artificial intelligence is a broad and inclusive notion that incorporates a range of technologies, including machine learning, computer vision, natural language processing, deep learning, and others. AI technology allows machines to surpass humans in performing specific cognitive tasks. Autonomous vehicles, like self-driving automobiles, utilize AI-powered computer vision systems that can detect obstacles in a way that resembles human perception (Sadiku et al. 2021). This allows the machine to take over the driving task. AI-driven voice assistants like Alexa or Siri possess the capacity to understand your speech in a manner akin to that of a person, and subsequently deliver a response appropriately (Malighetti et al. 2020). Amazon and Netflix employ AI recommendation algorithms to offer you things and films that correspond to your preferences, akin to how a well-informed product or movie enthusiast could make educated guesses (Gerlich et al. 2023). While AI involves diverse complexities, it is important for you to grasp that "artificial intelligence" encompasses a broad spectrum of intelligent technology. One solitary technology driven by artificial intelligence has the potential to greatly impact your marketing career and enhance your effectiveness. The reason for this is because AI spans a broader range of capabilities than automation, although it may include elements of intelligent automation (Benabdelouahed and Dakouan 2020; Yasin & Safdar, 2025; Safdar, 2021).

Artificial intelligence transcends the present state of affairs. These technologies analyze and scrutinize immense quantities of data. However, they go beyond simply carrying out numerical computations. They utilize advanced computer science approaches and extraordinary computing capabilities to extract important insights from data (Waterloo et al. 2018). These observations can be used to generate projections, recommendations, and conclusions. Throughout their operation, advanced AI systems utilize machine learning to augment their capacity for precise forecasting, offer recommendations, and exercise discernment, as they amass further expertise (Mishra 2019). Artificial intelligence is a comprehensive notion that incorporates several technologies, including machine learning, computer vision, natural language processing, deep learning, and others. AI technology empowers robots to do specific cognitive tasks with equal or greater proficiency than humans. Autonomous vehicles, like self-driving cars, are equipped with AI-powered computer vision systems that can identify obstacles in a way that is comparable to human perception (Uygun and Gujrati 2022). This allows the machine to take over the control of the vehicle. Popular voice assistants like Alexa or Siri has the capability to understand spoken language in a manner akin to humans, and subsequently produce suitable responses, all by utilizing artificial intelligence (Mattke et al. 2020; Safdar & Abbasi, 2020).

One solitary AI-driven technology has the potential to greatly impact your marketing career and overall performance. The reason for this is because AI comprises a broader range of capabilities beyond mere automation, although it may include elements of intelligent automation (Malighetti et al. 2020). Artificial intelligence surpasses the present condition. These technologies analyze and scrutinize immense quantities of data. However, they go beyond simply carrying out numerical computations. They utilize advanced computer science techniques and excellent computational resources to extract important insights from data. Consequently, these observations can be employed to provide projections, recommendations, and conclusions (Jeri-Yabar et al. 2019). Throughout their operation, highly advanced AI systems utilize machine learning to improve their capacity for producing precise forecasts, offering recommendations, and making well-informed assessments, with each successive iteration (Sadiku et al. 2021).

Social media has become an essential component of daily existence. Consumers regularly engage with social media platforms. They regularly interact with social media networks such as Facebook, Twitter, LinkedIn, Pinterest, and Instagram. AI can significantly enhance marketers' performance and efficiencies in the social media business. Companies are effectively utilizing artificial intelligence to optimize their use of social media. AI is always gathering and analyzing data on your social media behavior (Benabdelouahed and Dakouan 2020). Currently, social media is being utilized to deduce social behavior and extract patterns, in conjunction with big-data analytic technologies. Instagram is the dominant social

media network, boasting a large user base and a high volume of daily posts across various devices. Instagram additionally incorporates many functionalities such as filters, stories, and chat systems (Ferina et al. 2019). These characteristics appeal to both regular users and photography lovers, as well as enterprises, organizations, and global brands (Gerlich et al. 2023).

Utilizing Instagram as a means of gathering information provides organizations with a plethora of valuable data. Instagram monitors and records search selections and user engagement. Consequently, it provides advertising prospects for organizations aiming to target specific demographic groups. Businesses employ it as a means to engage with prospective customers. Advertisers utilize user data to precisely target an audience that demonstrates a keen interest in a particular product or service. The acquired data may encompass demographic and behavioral information. Instagram, a subsidiary of Facebook, boasts a staggering user base of 1.8 billion (Perea et al. 2021). Facebook utilizes a resilient network of analytics data to accurately tailor advertisements by examining user preferences, the folks they opt to follow, and the material they bookmark. Within the realm of artificial intelligence, natural language processing (NLP) scrutinizes a substantial volume of comments and feedback. Marketers can employ this strategy to elucidate the causes of customer discontentment with a product or service, such as an inadequate interface or inadequate features (Conde and Casais 2023).

Consequently, Instagram is required to offer material that aligns with user interests. Instagram has a daily user base that reaches into the millions. They frequently interact with posts by actions such as liking, sharing, and saving. Instagram retains this data and utilizes it to discern pertinent posts that offer greater value and captivation for consumers (Rejeb et al. 2022). Instagram is evolving into a more accessible and intuitive social networking platform. The incorporation of supplementary data adds complexity to the task of identifying content that is universally advantageous and pertinent to all consumers. Instagram's feed has transitioned from a reverse chronological order to a customized display of posts that users are more likely to appreciate, find intriguing, or stumble into (Saffanah et al. 2023). Machine learning algorithms facilitate the identification of material. Furthermore, it is beneficial to comprehend the particular category of information that individuals have a preference for perceiving (Ferina et al. 2019).

1.1 Research Objectives

The objective of these study questions is to serve as a roadmap for investigating various aspects of the use of artificial intelligence on Instagram and Facebook. The aforementioned aspects encompass the ramifications of algorithms, ethical considerations, influencer marketing, user experience, and forthcoming trends.

- What is the influence of AI-driven content recommendation algorithms on user engagement and filter bubbles on Instagram and Facebook, and how can these algorithms be enhanced to achieve a harmonious blend of personalized content and exposure to a wide range of information?
- The utilization of AI for content moderation on social media platforms, particularly Instagram and Facebook, gives rise to ethical considerations and privacy problems. How can the transparency of algorithms and the level of user control be enhanced in these processes?
- What is the effect of using artificial intelligence in influencer marketing on Instagram and Facebook on the effectiveness of collaborations between brands and influencers, and how can we enhance influencer selection, campaign outcomes, and the overall impact of influencer marketing endeavors?
- How does artificial intelligence enhance the user experience on Instagram and Facebook, particularly in relation to interface design and personalization? What is the impact of AI-driven features on consumers' perception and engagement in shaping their online experiences?
- What are the present and future advancements of AI technology in the context of Instagram and Facebook? How can these platforms utilize advancements in AI, such as natural language processing and computer vision, to predict and handle evolving user demands and technological environments?

2. REVIEW OF LITERATURE

In the era of digital interconnectedness, social media platforms like Instagram and Facebook have become essential components of the worldwide socio-cultural environment. These platforms serve as dynamic spaces where individuals exchange experiences, establish connections with others, and actively shape narratives in real time (Perea et al. 2021). The proliferation of user-generated material is expanding at a rapid pace, and the integration of artificial intelligence is emerging as a potent catalyst capable of driving substantial transformation (Benabdelouahed and Dakouan 2020). These digital ecosystems provide various opportunities and views. The objective of this study is to investigate the intricate realm of artificial intelligence inside the framework of Instagram and Facebook (Waterloo et al. 2018). The aim is to investigate the utilization of intelligent algorithms in enhancing user experiences, influencing material distribution, and transforming the underlying dynamics of social interaction (Gerlich et al. 2023).

The fusion of artificial intelligence and social media is revolutionary, offering distinct possibilities for tailoring, individualization, and effectiveness. Instagram and Facebook, as leading social media platforms, utilize artificial intelligence to analyze user preferences, forecast trends, and generate customized content (Uygun and Gujrati 2022). This study aims to examine the intricate correlation between artificial intelligence and user-centric attributes that define the Instagram and Facebook platforms, employing a perspective that combines technology advancement and social dynamics (Gerlich et al. 2023). This survey examines the potential and viewpoints that emerge from the integration of artificial intelligence and social media. We will explore algorithmic content suggestion, automated moderation, influencer marketing optimization, and the ethical implications associated with utilizing AI in these digital domains (Sadiku et al. 2021). The objective of this research is to provide a valuable contribution to the ongoing discourse surrounding the influence of artificial intelligence on social media. Through analyzing the present condition and forecasting future advancements, it aims to uncover the complex correlation between technology, communication, and human interaction on these platforms, which play a crucial role in contemporary digital culture (Perea et al. 2021).

In their initial phases, social media platforms were perceived as a means to unite individuals and magnify their opinions. Nevertheless, an increasing number of instances substantiate the notion that social media is also being employed to foster divisions within society (Jeri-Yabar et al. 2019). The aforementioned division arises as a direct consequence of the escalating impact of artificial intelligence on social networks. This review offers explicit definitions, categorizations, and historical surveys of social media and artificial intelligence, elucidating their interdependence (Sadiku et al. 2021). Next, we will examine how the merging of social media and artificial intelligence impacts both violent and non-violent behaviour. Ultimately, recommendations and algorithms are provided to tackle the negative parts of AI-powered social media (Mishra 2019).

The incorporation of live streaming technologies across many social media platforms is a growing phenomenon. An investigation was undertaken to delve into this subject more extensively. Studies have demonstrated that the implementation of live shopping can enhance customer involvement, a phenomena that is directly influenced by the degree of confidence customers place in the seller. (Malighetti et al. 2020) conducted a study to determine the characteristics that drive purchasers to utilise live streaming platforms for transactions, whereas (Conde and Casais 2023) demonstrated that the level of audience engagement during a live broadcast influenced their gift-giving behaviour towards streamers. Studies undertaken by (Benabdelouahed and Dakouan 2020; Mattke et al. 2020; Sadiku et al. 2021; Gerlich et al. 2023) have also examined the perceived value and underlying motivations of users when using live streaming services. Nevertheless, additional investigation is required to ascertain the influence of different technological elements on user behaviour in the context of transactions. The significance of user perceptions and live shopping features in human-computer interactions resides in their influence on s-commerce transactions (Rejeb et al. 2022). The IT subsidy concept analyses the technological aspects of livestreaming and customer perception in the context of live shopping. The concept of IT Affordance proposes that the incorporation of social media and e-commerce functionalities has the potential to

incentivize customers to buy products while also enabling them to engage with other users (Uygun and Gujrati 2022). The sub-dimensions of the IT Affordance theory and its impact on human behaviour, ranging from the organisational level to the individual, were identified by (Waterloo et al. 2018; Kweon et al. 2020; Mattke et al. 2020; Rejeb et al. 2022).

In recent years, there has been considerable scholarly attention on the merging of Artificial Intelligence and social media platforms, specifically Instagram and Facebook. This new field of study examines the many impacts of AI technology on user experiences, content dynamics, and the broader social structure within digital settings (Jeri-Yabar et al. 2019). A comprehensive examination of the existing literature reveals several crucial themes, offering valuable perspectives on the potential for substantial transformation and the intricate perspectives associated with the utilization of AI in these prominent platforms (Kweon et al. 2020).

Algorithmic Content Recommendation: Researchers have extensively examined the role of AI algorithms in curating personalized content for users on Instagram and Facebook. The research delves into the complexities of recommendation systems, exploring how machine learning models assess user data to predict preferences and improve content discovery. (Sadiku et al. 2021) study on filter bubbles and the personalized web has greatly influenced subsequent research, leading to investigations into the potential consequences of algorithmic customization on information diversity and the establishment of echo chambers (Gerlich et al. 2023).

Automated material Moderation: The growing volume of user-generated material necessitates robust methods for efficiently filtering such content. Artificial intelligence (AI) methods, including as image recognition and natural language processing, are employed to identify and manage content that breaches the platform's regulations. The study undertaken by (Waterloo et al. 2018) investigates the effectiveness of automated content moderation on Instagram, specifically addressing the challenges of striking a balance between preventing harmful content and avoiding censorship. The growing significance of influencer marketing as a dominant strategy on Instagram and Facebook has spurred researchers to explore how artificial intelligence (AI) might improve the efficacy of collaborations between firms and influencers. The studies undertaken by (Benabdelouahed and Dakouan 2020; Kweon et al. 2020; Uygun and Gujrati 2022) investigate the use of machine learning algorithms to identify suitable influencers, predict campaign outcomes, and enhance the efficiency of influencer marketing efforts.

The examination of ethical considerations and privacy problems is crucial in the context of implementing AI on social media platforms. (Conde and Casais 2023) examine the ethical implications of algorithmic decision-making, emphasizing the significance of transparency, responsibility, and user empowerment in connection to AI-powered functionality. Researchers have examined how AI technologies improve user experiences on Instagram and Facebook through user experience and interface design analysis. The study conducted by (Saffanah et al. 2023) investigates the influence of artificial intelligence (AI) on interface design, emphasizing the importance of user-centered approaches in enhancing user engagement and satisfaction.

Emerging Trends and Future Trajectories: Scholars are currently focused on predicting future courses and identifying novel patterns as the field advances. The research undertaken by (Jeri-Yabar et al. 2019) examines the potential impact of emerging artificial intelligence technologies, such as natural language processing and computer vision, on the future conduct of social media platforms. This review synthesizes information from several sources to build a foundation for understanding the complex interplay between artificial intelligence and social media. This paves the way for future inquiries into the possible benefits and challenges that lie ahead in the constantly evolving domain of Instagram and Facebook (Mattke et al. 2020).

2.1 Research Question

The aim of this study was to analyze the intricate landscape of Artificial Intelligence (AI) integration on Instagram and Facebook, assessing both current opportunities and emerging advancements. The primary objective of this quantitative study is to investigate the extent and approaches by which Artificial Intelligence is utilized on Instagram and Facebook. Additionally, what potential and opportunities does it provide for enhancing user experience, creating content, and improving platform functionality? This investigation aims to assess the frequency, practical applications, and potential outcomes of artificial intelligence (AI) technologies in the dynamic social media environments of Facebook and Instagram.

3. METHODOLOGY

3.1 Research Design

The study utilized a quantitative research methodology to examine the utilization of Artificial Intelligence (AI) on Facebook and Instagram, specifically targeting user experiences and perceptions.

3.2 Sampling and Data Collection

A purposive sampling strategy was employed to choose a representative sample of posts, user interactions, and attributes from both social media networks. A questionnaire was designed to collect data from university students. Data was collected from 252 students studying in different universities of Rawalpindi and Islamabad. The content analysis entailed a methodical examination of the chosen content to detect occurrences of AI integration. Concurrently, a survey tool, containing Likert-scale questions, was given to a varied set of users to gather numerical information on user contentment, apprehensions, and perspectives on the integration of artificial intelligence.

3.3 Data Analysis

Statistical methods were utilized using SPSS to analyze the quantitative data obtained from both the content analysis and the survey. Descriptive statistics were employed to quantify the occurrence of AI characteristics and provide a concise overview of user perspectives. Statistical inference, specifically correlation studies, were utilized to examine the connections between the utilization of artificial intelligence and the overall satisfaction levels of users.

3.4 Ethical Considerations

The study followed established ethical principles by safeguarding the privacy of participants and getting their informed consent. Emphasis was placed on maintaining confidentiality and ensuring data security throughout the content analysis. Additionally, participation in the survey was completely voluntary. The study examined possible constraints and predispositions in the selected techniques for content analysis and surveys.

4. RESULTS AND DISCUSSION

The incorporation of artificial intelligence (AI) into social media platforms, particularly Instagram and Facebook, is progressively more prevalent, influencing the user experience and dynamics of engagement. As these platforms progress, utilizing AI technology offers a distinct chance to improve user interaction, content distribution, and different aspects of platform efficiency. The AI programs of Instagram and Facebook encompass a variety of functions, including personalized content suggestions, automated content generation, and the implementation of intelligent chatbots. This scientific study aims to explore the various possibilities and diverse viewpoints related to the utilization of artificial intelligence in these popular social media platforms. Gaining insight into the prospective advantages and obstacles of incorporating AI into Instagram and Facebook will provide valuable knowledge for both scholars and industry participants as they navigate the dynamic convergence of AI and social networking platforms.

A questionnaire was Adopted from the previous study with few modifications (Levac and O’Sullivan 2010; Uittenhout 2018; Saxena 2020). Google form was developed to collect data and link was distributed to different university heads. Data was collected from 252 students studying indifferent universities in the vicinity of Rawalpindi and Islamabad (Table 1). Results was analyzed using statistical software SPSS version 25.0 for frequency distribution and chi square. There were 124 (49.21%) male and 128 (50.79%) female students. 42% of the participants were from 16-20 age group while 45.24% of the participants were 21-25 age group out of which 67% of the participants use social media and Instagram platforms daily, while 20.47% of the participants several times of the week. It was also observed that most of the participants spent two to three hours maximum on on Facebook and Instagram. For analysis questionnaire was divided into four different categories based on the use of AI tools and user experience such as perception of AI integration, user experience, concerns and privacy off the personal data of users, future prospective of the implication of AI in social media Facebook and Instagram.

Table 1: *Frequency Distribution of Demographic characteristics of selected participants*

Demographic characteristic	Variable	<i>f</i>	%
Gender	Male	124	49.21%
	Female	128	50.79%
Age	16-20	106	42.06%
	21-25	114	45.24%
	26-30	21	8.33%
	>30	11	4.6%
	Daily	169	67.06%
Frequency of Platform Use	Several times a week	51	20.24%
	Once a week	16	6.35%
	Rarely	16	6.35%
	Less than 1 hour	70	27.78%
Duration of Platform Use	2-3 hours	113	44.84%
	4-5 hours	35	13.88%
	More than 5 hours	29	11.51%
Total		252	100%

4.1 Perception of AI integration

Perception of AI integration was assessed by the four questions based on 5-likart chart scale. Results showed in table 2 & 3 that for the question I believe AI is currently integrated into your Facebook and Instagram experiences, most of the participants (30.16 %) Strongly agree meet the statement followed by 25.79% of the participants disagree with the statement. 24.6% participants responded neutral for the statement. It was also observed that most of the participants present their neutrality for the statement that they agree with the AI driven features on Facebook and Instagram or not.

It was observed that 29.76% of the participants does not agree with the AI driven features on Facebook and Instagram. A very few participants agree that Facebook and Instagram should have a dream features. However, 47.62% participants agree that the platform provides sufficient information about how I impact on their user experiences followed by 35.2% of the participants express their neutral response towards statement.

Similarly, 50% of the participants believe that AI do affect the continuity of the content and interaction on Facebook and Instagram. 26.59% of the participants strongly disagree with the statement that EA effects that entity of the content on Facebook and Instagram. These results suggest that most of the participants who are using Facebook and Instagram have on neutral perception of AI integration with these social media platforms. These results suggest that student of the present era belong to different universities have

the same perception specifically for the integration of AI with social media platforms and they believe that integration of AI will affect the information and content on Facebook and Instagram. Our results were in line with the previous studies (Levac and O'Sullivan 2010; Lee Ventola 2014; Salleh et al. 2018; Howell 2022; Wu and Gong 2023). In a study it was suggested that AI tool does not provide authentic information on different social medias. In another study it was suggested that AI driven features on Facebook and Instagram was helpful for the students in their academic activities (Giustini et al. 2018).

The results of a study on students' perspectives regarding the incorporation of artificial intelligence on Facebook and Instagram reveal contrasting opinions regarding the integration of artificial intelligence in social media platforms (Kolhar et al. 2021). Based on the responses, a substantial proportion of pupils hold the belief that AI is now included into their Facebook and Instagram encounters. This aligns with the vast body of literature on user perspectives of AI technologies in social media (Zou et al. 2020). Nevertheless, the diverse range of perspectives among students regarding their happiness with AI-based features underscores the importance of gaining a precise comprehension of user preferences (Liao and Wu 2022). The majority of students raised concerns over the genuineness of information and interactions, underscoring the significance of striking a balance between personalisation and upholding an authentic online experience (Peled 2019; Chen and Xiao 2022). Furthermore, this study emphasises widespread apprehensions regarding the potential impact on privacy, which mirrors ongoing discussions regarding the necessity of open and accountable data policies in artificial intelligence (AI) applications (Barrera-Verdugo and Villarroel-Villarroel 2022; Han 2023). This aligns with the notion that students, as digital natives, are becoming more cognizant of the privacy ramifications associated with incorporating AI into social media (Almutairi et al. 2022). Anticipating the future, the majority of students anticipate that AI will have a more significant impact on moulding social media experiences, aligning with the overall societal pattern of growing AI integration (Henderson et al., 2022). The intricate discourse sparked by these discoveries tackles problems, enhances AI capabilities, and promotes communication to include AI effectively and ethically into students' social media encounters.

4.2 User Experiences

User experience of the students for use of AI in Facebook and Instagram was assessed by constructing 6 questions adopted from the study(Thackeray et al. 2012) it was observed that most of the students believe that they always find AI driven content recommendations on Facebook and Instagram feeds and none of the student disagree with the statement it was also observed that most of the students strongly agree that they can find these content recommendations on Facebook and Instagram accurately and relevant 26.98% of the participants does not agree with the accuracy of content recommendations my AI. 29.37% of the participants were satisfied with AI driven features for content creations such as automatic photo tagging and suggested captions they find these AI driven features very helpful for their daily life activities on social media followed by 26.98% of the participants strongly agree with the AI driven features and its applications in the social media platforms. Conversely, most of the participants does not satisfy with the AI powered chat bot or virtual assistance on Facebook and Instagram. A very few participants agreed with AI powered chatbot application on these social media platforms. It was also observed that most of the participants think that AI does not enhance their overall user experience specifically for Facebook and Instagram however almost 20.63% participants strongly agree with the statement that AI enhances their overall experience similarly 16.27% of the participants also agree with the statement. It was also observed that most of the participants that is 35.32 and 19.84% of the participants have a positive opinion that Facebook and Instagram were positively influenced with AI driven features. The overall results show that most of the party participants have different opinion for their user experiences about AI integration with Facebook and Instagram (see table 2 & 3).

The survey results on students' interactions with AI applications on Facebook and Instagram offer useful insights into the complex nature of their engagement with AI on these social media platforms. Most students constantly experience AI-powered material recommendations in their resources, suggesting widespread use and effectiveness of these capabilities. This aligns with other studies that emphasise the

widespread occurrence and influence of personalised content recommendations on user engagement (Alaslani and Alandejani 2020; Barrera Verdugo and Villarroel Villarroel 2021). Nevertheless, the varying opinions regarding the precision of these suggestions highlight the intricacy of customising AI algorithms to cater to diverse consumer inclinations (Hossain et al. 2021). Furthermore, the satisfaction levels of students with content creation features and AI chatbots differ, indicating the wide range of individual preferences and experiences with these features (Rueda-Gómez et al. 2023). The findings emphasise the significance of consistently improving and adjusting AI apps to fulfil the varied expectations and preferences of student users more effectively. Moreover, a favourable perspective on the influence of AI in structuring social connections and enhancing accessibility for students with various requirements highlights the potential advantages of AI applications in fostering inclusive and captivating social media experiences. These findings enhance our overall comprehension of user interactions with artificial intelligence (AI) on social media platforms and emphasise the necessity for ongoing investigation and advancement to enhance the efficiency and user contentment of AI apps in educational and social settings.

4.3 Concerns and Privacy

Concerns and privacy of the students for use of AI in Facebook and Instagram was also evaluated and analyzed. This shows that most of the participants that is 47.22, 53.57 and 49.21 % participants agreed that they have serious concerns about privacy and typical implications adequately appendix data available and AI powered chatbot interactions respectively. It was also noticed that very few participants do not bother about concerning privacy is on Instagram and Facebook or they believe that AI does not influenced the privacy and 20 authentication of the data on these social media platforms. Our results were in line with the previous studies that suggesting strong influence on concerns and privacies of the users data on different social media platforms. In another study it was adjusted that Facebook Instagram or other social media platforms should provide privacy protection for the users data to be accessible for AI based chatbots (see table 2 & 3).

With the increasing prevalence of artificial intelligence (AI) in the digital realm, there is growing attention on the significant privacy concerns and ramifications, especially in relation to popular social media platforms like Facebook and Instagram. These platforms utilise artificial intelligence technology to enhance the user experience by providing personalised content recommendations, automated interactions, and other intelligent functionalities. Nevertheless, the utilisation of artificial intelligence in these contexts gives rise to apprehensions regarding the possible jeopardy to user privacy and the ethical ramifications linked to data processing (Al-Hail et al. 2023). The intricate interaction between AI apps and user data has sparked a burgeoning discussion over the necessity of clear data policies, informed consent, and measures to prevent potential misuse (Yue et al. 2023). This inquiry seeks to explore the intricacies of the privacy risks and ramifications associated with the integration of artificial intelligence in Facebook and Instagram (Tandon et al. 2020). This research aims to add to the ongoing discussion on striking a balance between technical progress and safeguarding user privacy in the dynamic digital environment by examining user perceptions and attitudes towards the privacy concerns of AI (Freeman et al. 2023).

4.4 Future Perspectives of AI

Results of future perspective of implication of AI in Facebook and Instagram was presented in table one. Most of the students believe that AI has blade a large low role in shaping field book and Instagram experiences in the future. Only 22.62% of the students does not believe that AI can play an integral role in shaping Facebook and Instagram in the future. It was also observed that so most of the students believe that AI features can be advanced in the future for these social media platforms. 53.9% of the students strongly believe for this statement however none of the student disagrees. Similarly, 43.65% and 28.57% of the participants believe that AI features on these platforms enhances accessibility of the users diverse need in the future. On the other hand, only 15% of the participants do not agree with the statement (see table 2 & 3).

The future course of social media platforms, namely Facebook and Instagram, is increasingly connected to the revolutionary capabilities of artificial intelligence (AI). The incorporation of AI into these platforms is expected to revolutionize the dynamics of user experience, content distribution and engagement as they continue to evolve (Al-Ansi et al. 2023). Continued advances in AI technology offer a number of options to improve capabilities, including personalized content suggestions, automatic content generation, and intelligent chatbot interactions (Rueda-Gómez et al. 2023). The convergence of social media with artificial intelligence not only shows the platform's commitment to progress, but also has significant implications for users, businesses, and the overall digital landscape (Malik et al. 2023). This study examines the prospective prospects of artificial intelligence on Facebook and Instagram to reveal the expected role, opportunities and challenges associated with the integration of artificial intelligence (Malik et al. 2023). This study examines the growing influence of artificial intelligence on two highly significant technologies by analyzing consumer perceptions of its growing impact, their acceptance of enhanced features, and expected effects on accessibility. It aims to offer valuable insights into emerging and interacting issues. Considering the future development of social media platforms in the current digital era. Understanding the future potential of AI-driven innovation in social media is critical for stakeholders, researchers, and users (Cebollero-Salinas et al. 2022; Han 2023).

This study findings highlighted divergent perspectives among users about the incorporation of artificial intelligence (AI) functionalities on the Facebook and Instagram platforms. A substantial number of participants are cognizant of the present incorporation of artificial intelligence and hold a strong conviction regarding its prospective role. Although most individuals expressed contentment with the AI's content suggestions, there were varying responses regarding the precision of these suggestions (Emmanuel et al. 2022). Overall, people have diverse opinions regarding AI-based services and exhibit various degrees of pleasure with content production and chatbot interactions. An important discovery is that although most individuals feel adequately knowledgeable about the use of their data, there is a widespread apprehension over the privacy consequences of artificial intelligence (Xie et al. 2020). The favourable sentiment arises from the viewpoint that artificial intelligence has a beneficial influence on social communication and enhances accessibility for users with varying requirements (Obredor-Baldovino et al. 2022). The report emphasises the necessity for platforms to tackle privacy concerns, enhance communication on AI capabilities, and further enhance AI-based capabilities to conform with user expectations and preferences. Collectively, the findings illustrate the intricate user perspectives and emphasise the significance of continuous improvement and openness in incorporating AI into social media platforms.

The study results offer a detailed comprehension of user opinions, encounters, worries, and future outlooks concerning the incorporation of artificial intelligence (AI) functionalities on Facebook and Instagram. A significant number of participants hold the belief that artificial intelligence is presently incorporated into their social media usage, as indicated by the increasing recognition of artificial intelligence's existence on these platforms. Notably, a considerable proportion of participants exhibited a state of neutrality when queried about their endorsement of AI-powered functionalities, indicating a dearth of firm convictions or possibly a requirement for more explicit elucidation of the capabilities offered by AI. There are apprehensions regarding the genuineness of content and interactions, since 50% of participants hold the belief that artificial intelligence has a detrimental impact on authenticity. This emotion may indicate an increasing recognition of the influence of artificial intelligence in influencing online interactions and prompts inquiries regarding the equilibrium between customisation and genuineness.

Regarding user experience, most respondents constantly discover AI-powered content recommendations in their sources, suggesting the extensive acceptance and efficacy of these capabilities (Chukwuere 2021). Nevertheless, there is a divergence of perspectives regarding the veracity of these recommendations, underscoring the necessity for ongoing enhancement of AI algorithms to more effectively align with user preferences (Levac and O'Sullivan 2010). There is a variation in satisfaction levels with content creation

features and AI chatbots, indicating that users generally have negative experiences with these capabilities. The diverse reactions highlight the significance of customising AI functionalities to suit individual preferences and guaranteeing that they improve, rather than diminish, the overall user experience (AKIŞ and AYHAN 2019; Schillinger et al. 2020).

The study results reveal that privacy concerns have become a prevalent topic, with the majority of respondents expressing apprehension regarding the privacy ramifications of AI on Facebook and Instagram. Notwithstanding these worries, many consumers feel adequately knowledgeable about how artificial intelligence utilises their data. This implies that users possess the ability to comprehend the compromises between privacy and the advantages of AI-powered functionalities, emphasising the necessity for platforms to engage in clear and open communication. In the future, respondents anticipate that artificial intelligence will have a more significant impact on shaping their social media experience. Users' desire to embrace technological advancements is demonstrated by their receptiveness to increasingly sophisticated AI capabilities and their belief in the good influence of AI on social connections and accessibility. However, this acceptance is contingent upon addressing issues related to privacy and authenticity (Levac and O'Sullivan 2010; Chen and Wang 2021).

Table 2: *Frequency distribution (%) of constructs based on Likert scale responses*

Constructs	SDA	DA	N	A	SA
Perceptions of AI Integration					
I believe AI is currently integrated into my Facebook and Instagram experience.	8.33	25.79	24.60	11.11	30.16
Do you agree with the AI-driven features on Facebook and Instagram?	7.54	29.76	47.22	7.94	7.54
I think the platforms provide sufficient information about how AI impacts my user experience.	9.92	1.19	35.32	47.62	5.95
I think AI affects the authenticity of content and interactions on Facebook and Instagram.	26.59	1.19	13.49	50.00	8.73
User Experiences					
I always find AI-driven content recommendations on my Facebook and Instagram feeds.	0.00	0.00	14.68	58.73	26.59
I find these content recommendations accurate.	7.14	26.98	14.68	19.44	31.75
I am satisfied with AI-driven features for content creation, such as automatic photo tagging or suggested captions.	7.54	19.44	16.67	29.37	26.98
I am satisfied with AI-powered chatbots or virtual assistants on Facebook or Instagram.	15.87	30.95	25.79	9.52	17.86
I think AI enhances my overall user experience on these platforms.	9.92	22.62	30.56	16.27	20.63
In my opinion, AI has positively influenced my social connections on these platforms.	29.76	5.16	8.73	35.32	19.84
Concerns and Privacy					
I am concerned about the privacy implications of AI on Facebook and Instagram.	22.22	7.14	13.10	47.22	10.32
I feel adequately informed about how AI uses my data on these platforms.	18.25	3.97	14.68	53.57	9.52
I am satisfied with the AI-powered chatbot interactions.	15.48	7.54	16.67	49.21	11.11

Future Perspectives					
I believe AI will play a larger role in shaping my Facebook and Instagram experience in the future.	22.62	10.32	3.97	50.00	13.10
I am open to more advanced AI features being integrated into these platforms in the future.	0.00	14.29	23.02	8.73	53.97
I believe AI features on these platforms enhance accessibility for users with diverse needs.	0.00	15.48	12.30	28.57	43.65
I am satisfied with the usefulness of AI-driven content creation features.	7.54	19.44	16.67	29.37	26.98

Table 3: *Chi Square test based on age group and gender against 5-Likert-scale responses of all constructs*

Constructs	Male	Female	Total
Perceptions of AI Integration:			
I believe AI is currently integrated into your Facebook and Instagram experience	0.000	0.000	0.000
Do you agree with the AI-driven features on Facebook and Instagram?	0.002	0.000	0.000
I think the platforms provide sufficient information about how AI impacts your user experience.	0.097	0.002	0.001
I think AI do affects the authenticity of content and interactions on Facebook and Instagram.	0.064	0.013	0.001
User Experiences:			
I always find AI-driven content recommendations on your Facebook and Instagram feeds?	0.073	0.016	0.000
I find these content recommendations accurate.	0.000	0.000	0.000
I am satisfied with AI-driven features for content creation, such as automatic photo tagging or suggested captions.	0.000	0.000	0.001
I am satisfied with AI-powered chatbots or virtual assistants on Facebook or Instagram.	0.001	0.000	0.000
I think AI enhances my overall user experience on these platforms?	0.000	0.000	0.000
In my opinion, AI has positively influenced my social connections on these platforms.	0.001	0.000	0.000
Concerns and Privacy:			
I am concerned about the privacy implications of AI on Facebook and Instagram.	0.000	0.005	0.000
I feel adequately informed about how AI uses your data on these platforms?	0.093	0.015	0.000
I am satisfied with the AI-powered chatbot interactions.	0.001	0.002	0.000
Future Perspectives:			
I believe AI will play a larger role in shaping myFacebook and Instagram experience in the future.	0.000	0.000	0.000
I am open to more advanced AI features being integrated into these platforms in the future.	0.000	0.000	0.000
I believe AI features on these platforms enhance accessibility for users with diverse needs.	0.000	0.000	0.000

I am satisfied with the usefulness of AI-driven content creation features.	0.000	0.000	0.000
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5. CONCLUSION

Ultimately, an extensive examination of users' attitudes, encounters, apprehensions, and forthcoming outlooks surrounding the incorporation of artificial intelligence (AI) on Facebook and Instagram yields vital insights into the intricate dynamics of these platforms. The survey results provide a detailed and complex understanding of user sentiment, revealing a notable level of knowledge about the integration of AI and a wide range of opinions regarding its effects. An optimistic perspective towards the future impact of AI, combined with a willingness to accept enhanced functionalities, suggests a dynamic and progressive user community that is eager to adopt technological improvements. The user experience identifies achievements and areas for enhancement using AI-driven functionalities including content suggestions, content generation, and chatbots. While content recommendations are generally accepted, issues regarding accuracy and variable levels of satisfaction with other aspects underscore the necessity for ongoing improvement and customization to cater to diverse user tastes. The emergence of privacy concerns has highlighted the necessity for transparent data practices and sophisticated communication approaches to effectively address consumer apprehensions and cultivate confidence.

The survey also indicates the intricate equilibrium between personalization and authenticity, as a substantial number of users have expressed apprehensions over the influence of AI on the genuineness of material and interactions. This aligns with a more extensive discourse in the literature regarding the difficulties of upholding trust in the era of AI-driven personalization. AI is anticipated to have an increasingly significant impact on molding social media experiences in the future. This will be driven by a user base that is eager for ongoing innovation and receptive to enhanced functionalities. Nevertheless, it also emphasizes the obligation of platform developers and policymakers to tackle privacy problems, enhance communication, and guarantee that the incorporation of AI is in line with user expectations. Analyzing these matters enhances the ongoing scholarly discourse on the convergence of artificial intelligence and social media. This underscores the necessity of adopting an ethical and user-centric methodology in the creation and execution of artificial intelligence.

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Conflict of Interest

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