Journey of Customers in this Digital Era: Understanding the role of Artificial Intelligence Technologies in User Engagement and Conversion

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ABSTRACT

Purpose- Digital disruption and transformation have greatly influenced the ways of interaction both at the individual and organizational levels, eventually leading to a notable social change. The increasing influence of AI-based technologies, such as chatbots and virtual agents, and their integration with social media in forming customer experience throughout their social customer journey, has changed the behavioural and social aspects of customers. The first research objective is to understand the role of digital (artificial intelligence) technologies on user engagement and conversion that has resulted in high online activities and increased online sales in current times in India. In addition, combined with changes such as social distancing and lockdown due to the COVID-19 pandemic, digital disruption has largely impacted the old ways of communication both at the individual and organizational levels, ultimately resulting in prominent social change. While interacting in the virtual world, this change is more noticeable. Therefore, the second research objective is to examine if a satisfying experience during online engagement and conversion leads to repurchase intention.

Methodology- Using primary data collected from consumers in a developing economy (India), we tested the theoretical model to further extend the theoretical debate in consumer research.

Findings- Deploying artificial intelligence technology has a positive relationship with user engagement on social media. Also, we found that deploying artificial intelligence technology has a positive relationship with conversion. Thirdly, user engagement on social media has a positive relationship with conversion. Lastly, conversion has a positive relationship on a satisfying experience and a satisfying experience has a positive relationship with repurchase intention.

Managerial implications- The results of this study will assist managers in comprehending the behavioural and social effects of a technologically disruptive climate. Managers could use artificial intelligence-enabled social media to forecast trends in customer behaviour. By influencing consumers on social media, the developed framework assists managers to grow sales volume.

Unique contribution- We have empirically tested the theoretical framework and explained how artificial intelligence technologies can enhance user engagement.

Keywords: Industry 4.0, artificial intelligence, digital disruption, user engagement, behavioural and social implications

1. Introduction

Consumer behaviour has been fully transformed as a result of the Covid-19 pandemic. Lockdown, social distancing, and travel restrictions amid this pandemic have resulted in the development of new habits (Sheth, 2020), and the economy has undergone significant changes (Carroll and Conboy, 2020). The rapid response that was required to Covid-19 necessitated the use of digital technologies in all aspects of life (Tuli *et al*., 2020) and, to save themselves, people all over the world have practised preventive behaviour. Individuals' self-efficacy and perceived intensity may be used to track and assess behavioural changes. The pandemic created a transformative environment in which individuals and companies rapidly adopted digitalization: embracing digital technologies can assist in maintaining social distance (Yıldırım *et al*., 2020). During the Covid-19 pandemic, digital and social media played an important role in engaging consumers. As a result of Covid-19, consumer engagement with social media sites has risen (Rather, 2021). Customer engagement refers to the processes, strategies, and technology used to maintain constant communication with consumers through all possible touchpoints. Customer engagement is used by marketers to capture the attention of customers by supplying them with valuable knowledge (Thakur, 2016). Throughout the customer experience, marketers aim to keep their products and services at the centre of the consumer's mind. Social media is one of the most powerful platforms for consumer interaction. Customers should be able to use social media to engage with businesses (Hollebeek *et al*., 2014). Customers who are happy with the products and services will create posts to share on social media. Business organizations may use derogatory consumer feedback on social media to make updates to their existing products and services (Dwivedi *et al*., 2020). We live in a time where smart marketing is the norm.

Artificial intelligence (AI) can be used by marketers to speed up intelligent marketing (De Bruyn *et al*., 2020). Companies may also monitor consumer reviews on social media to create customized promotional campaigns for each customer to convert them, and monitoring consumer behaviour on social media could help increase conversion (from user to a customer) rates (Al-Natour and Turetken, 2020). Digital technologies are transforming the business models. Artificial intelligence enable digital platform helps the organizations to attract the customers (Chawla and Goyal, 2021). The digital revolution has made the business climate

more competitive. Artificial intelligence improves business intelligence and performance (Selen *et al*., 2014). Research is required to determine the impact of social media user engagement on conversion rates. Consumer conversion through social media is a continuous process rather than a one-time occurrence. The exchange rate of customers shows their purchasing intentions. There is a gap in understanding the relationship between conversion rate and consumer buying intentions. The impact of technology on our everyday lives is enormous (Delgosha and Hajiheydari, 2020). In ethical marketing practises, the visibility of social media websites is critical. AI and augmented reality provide both opportunities and challenges for firms (Dwivedi et al., 2020). Companies use AI to predict consumer behaviour as buyers migrate to online shopping platforms to buy goods and services. AI has been a key component of digital transformation, with a substantial impact on consumer decision-making, and AI technologies may be used to encourage customers to make impulse purchases (Duan et al., 2019). The use of AI intensified during the Covid-19 pandemic, and is transforming digital marketing practises at a rapid pace. As a consequence of the rise of big data, it is becoming increasingly important to incorporate AI into business practises. Marketers may develop a more effective and personalized communication approach (Mogaji et al., 2020). A study to measure the impact of AI and digital technologies on social media and customer engagement is missing. Therefore:

> *RQ1: What is the role of artificial intelligence technologies in user engagement in social media websites and conversion?*

Artificial intelligence could be used in engagement marketing that is personalized for each customer. Organizations are pursuing business intelligence insights inability to engage with consumers on social media sites. In today's digitalized era, the market place has transformed into market space (Prentice *et al*., 2020). Customers' behaviour on digital platforms is also being monitored by marketers. On average, consumers spend 5-6 hours a day on social media websites. Marketers require AI technology to monitor consumer behaviour in the digital realm. Artificial intelligence applications allow marketers to completely comprehend and analyse consumer behaviour while also providing personalized customer databases (Chuang, 2020). Digital advertisement is becoming more expensive, although its performance is declining. Instead of bombarding all users with digital advertisements on social media, advertisers should monitor their customers' purchasing habits and maintain records (Fast *et al*., 2020). Advertisers may use artificial intelligence to filter potential customers from social media users, allowing for more personalized ads. For good customer participation, marketers must concentrate on

personalized marketing interaction on digital and social media. Data-driven customer engagement is the need of the hour, and it can be built using a machine learning model. This low-cost data-driven consumer engagement has the power to boost conversion rates (Kaiser *et al*., 2020).

Pantano and Gandini (2018) devised a framework to compare consumer behaviour in both offline and online shopping environments. They highlighted that in the case of online shopping values of behaviour have a greater effect. Customers' buying behaviour and purpose are changing as a result of the Internet of Things (IoT), which is equipped with digital technology and artificial intelligence. Marketers strive to maximize sales volume in the digital era by targeting consumers on digital and social media platforms. Since dissatisfied consumers can quickly raise their voice via various social media platforms, it is important for businesses to treat consumer complaints carefully (Rasool et al., 2020). There is a need for research into how consumers' behaviour is changing as a result of the digital disruption environment.

The digital and AI revolutions have had a tremendous effect on buying behaviour and customers' shopping habits have completely transformed through digitalization (Makridakis, 2017). AI is disrupting companies and reinventing new innovative business models and the ability of humans to make decisions is improved by AI-enabled systems. The use of digital and AI technology is being driven by the growing need for information and data (Duan *et al*., 2019). The growing advancement of AI technologies provides big opportunities to the marketers, and could be used to increase the consumers repurchase intentions by engaging them. As a consequence, a study is needed to assess the effect of AI and digital technology on satisfaction derived during online interaction and buying and further development of repurchase intentions. Therefore:

> *RQ2: What is the impact of conversion on satisfying experience, and how does it influences repurchase intentions?*

The remainder of this paper is organized as follows. The next section presents the customer engagement theory and Section 3 presents the research methodology. The data analysis using PLS-SEM is presented in Section 4 and Sections 5 cover the theoretical and managerial implication, and conclusions are drawn at the end.

2. Literature Review

2.1. Artificial intelligence technologies in online marketing

Most businesses use artificial intelligence and digital technologies to engage their customers. Social media platforms equipped with artificial intelligences are used to convert the customers into consumers (Pansari and Kumar, 2017). Artificial intelligence is based on machine learning model driven by big data (Dubey *et al*., 2020). Artificial intelligence's function in marketing is to improve campaign optimization, improve content marketing efficiency, increase conversion rate optimization, evaluate pattern analysis, forecast sales, and undertake successful market segmentation (Miller, 2019). Artificial intelligence assists in predicting and providing consumers with lifetime value. Google Analytics, Adwords, and search engine optimization are some of the most popular artificial intelligence methods. The efficiency of the content is measured using Google Analytics. It keeps track of what information users are viewing and sharing, assesses the effectiveness of websites based on their content, and offers comprehensive details about the website users. It provides useful information that assists in the formulation of an optimal strategy. Marketers may use Google Analytics to interpret and analyse the results of their websites (Plaza, 2011). Google Adwords is a digital ad service run by Google. It helps in the development of web advertisements that target a large audience. Keywords are the foundation of Adwords. For Google Adwords, keyword research and bidding are important. It is also regarded as a pay-per-click advertising campaign (Kim and Moon, 2020). Another essential method for online marketing is search engine optimization: this supports the improvement of website rankings and improves the consistency and quantity of traffic to websites. Off-page optimization and on-page optimization are the two main components of search engine optimization. Marketers used backlinks to generate traffic on websites in off-page optimization, while they used the content of the websites to generate more traffic on the websites in on-page optimization (Nagpal and Petersen, 2020). Artificial intelligence accelerates digital transformation by enhancing disruptive innovation. (Pillai et al., 2020).

2.2 User engagement on social media websites

Social media engagement gauges sharing, likes and comments of the public towards certain online business initiatives in online social media by firms. People today mostly use Facebook, Instagram and twitter as the three most popular social media sites. These platforms have their own individual ways for users to express their feelings in the form of comments/reviews against some posts, and this can be measured using business analytics tools to generate insights for business decisions. Customer engagement is termed as the behaviour of customers towards an organization and is defined as a satisfying and emotionally attached relationship between a

company and its customers: customers are continuously being engaged by firms. The primary objective of customer engagement is to convince consumers to make impulse purchases and is therefore an essential element of a business campaign. If the goal of firms is aligned with customers, then customer engagement has a positive impact on the overall performance of the firms (Pansari and Kumar, 2017). Customer engagement refers to a customer's psychological state as it relates to their co-creative and interactive experience with firms on social media (Christofi et al., 2018). Customers can now obtain information more easily through social media. Through online reviews, social media allows businesses to learn more about their consumers' likes and preferences (Kannan, 2017). Digital transformation has totally transformed the value creation process (Reinartz et al., 2019).

Customers engage with firms if the relationship is based on faith and personal bonding, and are engaged in a variety of ways. As a result, organizations are designing customized engagement strategies (Pansari and Kumar, 2017). Online display and paid search have significant positive impact on the firm performance and value (Bayer et al., 2020). Social engagement of the people provides measurable values. Social interaction contributes towards meaningful flow of information (Muller and Peres, 2019). Social media provide a platform through which firm's are able to engage the people. Digitalization is a new innovative way of engaging customers (Nöjd *et al*., 2020). Social media and digitalization platform enhances the value co-creation through digital platform (Nadeem and Al-Imamy, 2020). Digital technologies created the digital space where buyers and sellers interact with each other. Digital technologies enhance the capabilities of the companies to engage the customers (Pantano and Vannucci, 2019).

Using social media to engage consumers is a challenging task. It necessitates a thorough understanding of the target markets, high-quality content, and a well-thought-out approach. To reach users on social media platforms, marketers must first understand their target audience (So *et al*., 2021). Understanding the needs and desires of consumers and aligning advertising and campaigns to meet those needs and expectations generates social media traffic. In addition to keeping track of consumers on social media, it is also important to respond to them as soon as possible: it leaves a good impression in consumers' minds (Alalwan, 2018). Organizations should keep in touch with their supporters daily. Following the introduction of digital advertising on social media platforms, the company can use sentiment analysis to monitor customer reviews and feedback. Sentiment analysis assists in the identification of the content that often appeals to consumers, as well as the redesigning of content (Yahia *et al*., 2018).

2.3 Conversion

The conversion rate measures the effectiveness of online marketing. It is the ratio of goal conversion divided by the total number of traffic visited on the digital advertisement or websites. It helps in calculating the return on a digital advertising campaign (Michopoulou and Moisa, 2019). The success of a digital advertisement can be measured using key performance indicators (KPIs). If the conversion rate is low, it indicates that the online advertising programme is ineffective, and it must be redesigned. The primary goal of digital and social media marketing is to increase revenue. The use of appropriate keywords is critical for the conversion rates (Pitt *et al*., 2019), and their selection in content helps to reduce the bounce rate. Only generating online traffic does not help the organization until the visitors are not converting. The same digital advertisement may have different conversion rates on different digital and social media platforms; this also helps to evaluate the suitable digital platform for online promotion activities (Ibrahim and Wang, 2019). Appropriate tactics are required to encourage the customers and convert them: instant conversion is not possible. Therefore, organizations have to engage customers and then try to convert them through effective digital marketing tactics. Effective and efficient customer engagement is crucial for increasing the conversion rate on social media websites (Hollebeek, 2019).

2.4 Satisfying experience

The level of customer satisfaction determines the consistency of the relationship between consumers and businesses (Pansari and Kumar, 2017). Customers' demands have been raised as a result of continued technological growth. Firms aim to involve customers in their digital experience by fulfilling their needs and desires to achieve these expectations. In comparison to traditional marketing, digital and online marketing is less expensive but more complicated (Verhoef *et al*., 2021). Social networking may also be used to convey feedback. People use social media to post both constructive and negative remarks on goods and services. These comments are viewed by many people and have a significant impact on the organization to whom the products and services belong (Nisar *et al*., 2019). Customer support also helps to meet the expectations of the customers. Positive customer experience helps the organization to retain them and enhance the repurchase intentions of the customers; this increases the conversion rate. Negative comments also enable the firm to know where they are lacking and help them improve their strategies (Liu *et al*., 2019).

2.5 Repurchase intention

Customers repurchase intentions are boosted by customer satisfaction. Customers use social media extensively to gain product related information and companies use social media websites to boost the conversion rate of their customers.

Customer retention is crucial for retaining existing customers and persuading them to repurchase (Pansari and Kumar, 2017). Customers that are satisfied post positive comments on social media platforms, influencing the online community. Digital consumers are a very effective medium for social media buzz marketing (Petit *et al*., 2019). Retaining existing customers is much less expensive than attracting new ones. As a result, organizations make a concerted effort to attract their loyal customers by providing them with added services. Improving the customer's repurchase intent is critical in the social media market. It results in lowering the total cost of digital advertising while still increasing the return on investment (Suh and Chow, 2021).

2.6 Stimulus organism response theory and model development

The stimulus organism response model is extensively used to evaluate a customer's engagement with the external environment. The S-O-R theory is based on environmental stimuli that stimulate the organism's cognitive and psychological impact on an individual's mind, resulting in a physical response. This theory can also be used in marketing to determine customer satisfaction and repurchase intent. As a result of digitalization, customers are moving from marketplace to market space. Artificial intelligence technologies are used by organizations as a stimulus to engage customers on digital platforms. Marketers require artificial intelligence technologies to track client purchase intentions on a digital platform. Artificial intelligence is becoming more widely used, which improves the organization's capability. Artificial intelligence technology has opened new opportunities for marketers. Artificial intelligence technology is being utilised to track consumer journeys on online platforms in the digital era. Organizations use artificial intelligence technologies on social media websites to engage customers and increase conversion rates (Perez-Vega *et al*., 2021). Customers' cognitive dissonance was provoked by artificial intelligence, which increased conversion rates. As per S-O-R model, customer engagement on social media act as an organism which increase the conversion rate. Customer engagement is critical for influencing consumers' minds and make favourable purchasing decisions. Customer engagement via social media allows marketers to get consumer input, help the firm to determine the level of customer satisfaction. Consumer satisfaction levels that are higher assist businesses to increase customer repurchase intentions.

Repurchase intentions are the response of the customers as per the S-O-R model (Laato *et al*., 2020).

Based on the above argument the theoretical model is developed and further presented in Figure 1.

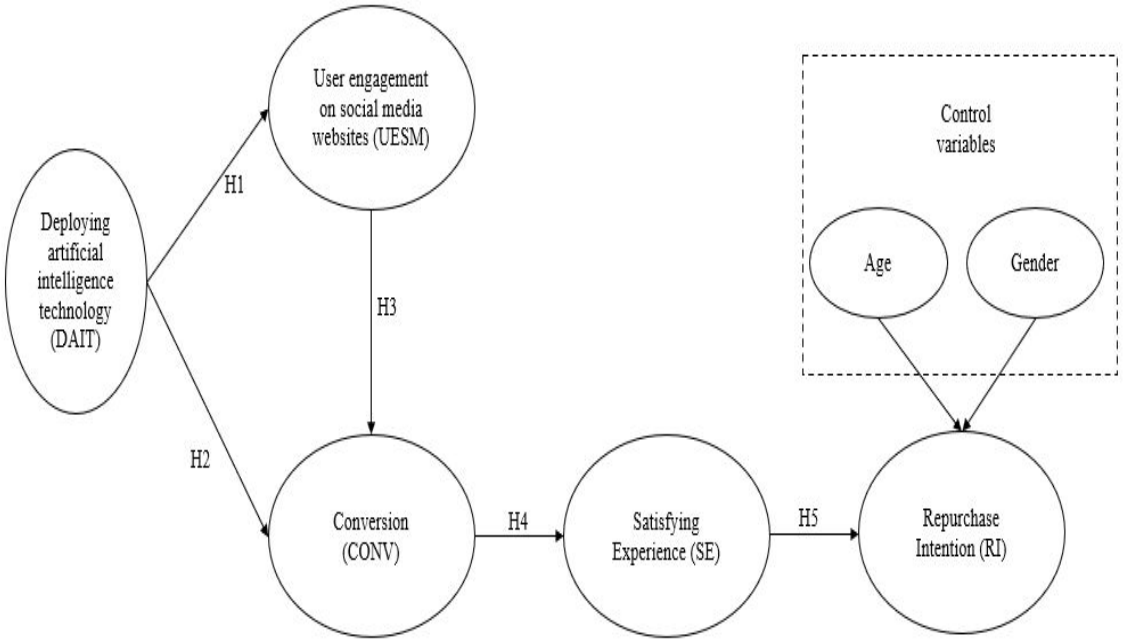

Figure 1: Theoretical model

Source: Devised by the author(s)

2.7. Hypotheses development

The revolutionary changes in artificial intelligence technologies have made a significant impact on the behaviour of customers. The emerging AI technologies provide an interactive personalized experience in the journey of customers on social media websites. Social media websites are changing the shopping environments in a different culture to fulfil the expectations of the customers (Nam and Kannan, 2020). Artificial intelligence technologies for social media marketing can influence and predict the behaviour of users and provides a broad scope of suitable analytics ability to social media users in terms of sensemaking, decision-making and insight generation that help to engage the users (Capatina *et al*., 2020). Artificial intelligence is bringing a total transformation in the marketing activities. AI helps to gather and analyze the information at a subconscious level. Artificial intelligence improves a company's capacity to engage customers via social media websites (Pillai and Sivathanu, 2020). Using social media websites could enhance the dynamic information processing of an organization and accumulate

relevant information to ameliorate social media dexterity. Engaging customers on social media generates more information that is a valuable insight for the firms. Social media bridges the gap between firms and customers (Chuang, 2020), but immoderate information generated through social media is uncomfortable for marketers. To overcome this problem, marketers need the support of artificial intelligence technology to analyse data effectively, reducing the techno-stress of the salesperson who uses social media websites to increase sales volume (Agnihotri, 2020). An automated mining system for information collected through social media enhances the efficiency of social media marketers. Proper understanding of artificial intelligence technology could improve the efficiency of sales management. Marketers use social media websites to engage the users and analyse the generated data through artificial intelligence technology (Perez-Vega *et al*., 2020). Therefore:

> *H1: Deploying artificial intelligence technology has a positive relationship on user engagement on social media websites.*

Deploying artificial intelligence technology on social media websites attracts customers and converts them into consumers. Social media changes the way of doing business on digital platforms. It is one of the most important digital media and a social media campaign supported by AI can increase and improve community relationships and enhance the conversion rate (Allagui and Breslow, 2016). Interaction, conversion, and sharing feedback are all possible on social networking websites, resulting in a faster information interchange. Companies can engage customers through social media marketing efforts (Ray *et al*., 2020). Responsiveness and conversion are the two major forms of customer engagement that have a significant impact on digital marketing. Conversations on social media influence users and motivate them to purchase a product. Responsiveness represents consumer interaction with display advertising on social media websites (Lin et al., 2018). Database marketing is the paramount cause of implementing artificial intelligence technology to interpret the data. Artificial intelligence technology gives an edge in the exploration of the cultural and social implications of social media websites, and AI technology has the potential to resolve the challenges of analysing big data (Di Vaio *et al*., 2020).

Customers' buying preferences have completely changed as a result of internet shopping and they visit online shopping websites for a variety of reasons. As a consequence, it is desirable for marketers to design consumers' behaviour patterns on digital platforms in order to predict future sales (Moe and Fader, 2004). McDowell *et al*. (2016) created a framework that depicts

the relationship between websites and conversion rates; websites that are simple to use can improve conversion rates. Digitalization is pivotal for running a business successfully in the 21st century. Companies are concentrating on customization marketing on social media for a possible segment of consumers. It is crucial to pay attention to the digital transformation to understand the buying behaviour of consumers that use social media websites. Artificial intelligence enhances the capabilities of digital marketers to increase the conversion rate of users on social media websites (Herhausen et al., 2020). Therefore:

H2: Deploying artificial intelligence technology has a positive relationship with conversion.

The emergence of virtual communication on social media has transformed the way of communication. Social media platforms have an impact on users' purchase intentions through the theory of socialization. The socialization process of users on social media influences the attitude of newcomers and has a significant impact on the conversion rate (Wang *et al*., 2019). Social media is fast becoming a marketing tool to influence consumers, and e-commerce companies are building strong teams of digital marketers to attract consumers and motivate consumers towards impulse purchasing. Most companies use artificial intelligence mechanisms to increase the visibility of users on social media (Guesalaga, 2016), and the digital engagement of consumers is also highly dependent on social media. Social media websites make up-to-date information available to users and can influence them and convert them into customers (Voorveld *et al*., 2018). It is beneficial for marketers to design an appropriate social media promotional strategy to engage users for long periods, only then will companies get a positive output. Social media provides a market space where buyers and sellers interact with each other (Akar and Topçu, 2011). Social media websites empower users and technology enable consumers to filter out messages and do a comparative analysis of different products (Malthouse *et al*., 2013). Social media users share the information, images and promotional information that benefits firms. The advancement of technology on social media enhances the value creation for business houses. Users sharing information on social media increase sales volumes through digital media (Hajli, 2014). Therefore:

H3: User engagement on social media websites has a positive relationship with conversion

A customer's experience is valuable for any organization. In the virtual world, customers experience a technology-mediated shopping journey. In the digital space, social media is

shaping a new environment that integrates physical and virtual objects. Engaging customers and providing a unique experience on social media is paramount for marketers. Companies are focusing on the provision of value-added propositions to generate an optimum customer experience in the digital world (Flavián *et al*., 2019). Virtual technologies have a significant impact on customers' experience. Privacy issues are crucial for customers who prefer to purchase products and services through digital media and social media plays a vital role in seeking consistency to integrate customers' experience. It is a requisite for marketers to understand the impact of digital technologies on customers experience (Hoyer *et al*., 2020). Digital marketing attributes have a U-shaped relationship with users' online reviews that vary according to their demographic profile. Positive comments have an impact on the cognitive process of other users, ultimately sharpening the influencing power of online communities (Chen *et al*., 2011).

Different customer engagement practises are expected for different customer segments: customer engagement is critical in the digital age (Eigenraam *et al*., 2018). Marketers need to develop strong social media analytics to understand the segmentation of consumers. The outcome of these analytics indicates the strength of the marketers to influence the consumers and increase the conversion rate through social media platforms, and the conversion has a significant impact on customer satisfaction. Understanding the sentiment of users towards digital media is crucial for companies to enhance their sales (He *et al*., 2015). Therefore:

H4: Conversion has a positive relationship on satisfying experience

An online shopping experience is complex and competitive. Companies need to provide quality products and outstanding services to consumers, helping to retain consumers and create customer loyalty. In addition, to the quality of products, timely delivery influences consumers' satisfaction levels (Javed and Wu, 2020), and consumers' perceived value has a significant positive impact on repurchase intentions. Marketers should work on improving the intrinsic attributes of the digital platform to enhance consumers' repurchase intentions (Wu *et al*., 2014). Customer satisfaction has a positive impact on customer commitment and customer trust; however, this does not mean that satisfied customers always have positive repurchase intentions. Online purchasing is changing the buying behaviour intention of consumers. The quality of the virtual space attracts customers and enhances customer satisfaction (Shin et al., 2013). Repurchase intention is based on customer-oriented theories, for example, hedonic and utilitarian values have a positive connection with repurchase intentions. The accelerated use of

online media has generated extensive information that is very useful for companies that could extract these data to form an appropriate online marketing strategy to retain existing customers. Based on artificial intelligence, a predictive approach boosts the mining of online content (Kim *et al*., 2021). In addition, perceived trust affects the perceived usefulness of repurchase intention, acting as a mediating variable between perceived values and customer repurchase intention. Maintaining a good reputation and enhancing customer value after a first purchase is critical for companies. Satisfied customers become loyal customers and repurchase (Sullivan and Kim, 2018). Therefore:

> *H5: A satisfying experience during online shopping has a positive relationship with repurchase intention*

3. Research Method

A statistical survey followed by structural equation modelling was undertaken for this study. This approach enabled the researcher to test the proposed model and research hypothesis.

3.1. Operationalization of constructs

The items of the study were adopted from published articles. A 5-point Likert scale was used for the survey. This is a standard scale used to measure responses; it constructs the survey and facilitates the coding and analysis of the data (Li, 2013). The survey contained 29 items as follows:

- eight items related to deploying AI technologies, as adapted from Capatina *et al*. (2020);
- a further eight items related to user engagement on social media websites, as adapted from Hollebeek *et al* (2014);
- four items related to conversion, as adapted from Di Fatta *et al.* (2018), and Zhu *et al*. (2016).
- five items for measuring satisfying experience are adapted from Nambisan and Watt (2011).
- lastly, the items for measuring repurchase intention are adapted from Hajli (2014) and Hur *et al*. (2017).

3.2. Sampling strategy

The survey was undertaken in India, and a convenient sampling strategy was adopted for selecting the target respondents. We used a simple thumb rule for calculating the minimum

sample size. There were 29 items in our study and for every item 10 samples are generally required. Therefore, for 29 items the minimum sample size should be 290. This technique is commonly used in social science research.

The minimum sample requirement was checked using WarpPLS software. According to the results using the inverse square root method there were 358 samples, and using a Gamma-exponential method there were 336 samples. We considered significance level of 0.05 and 0.990 as the power level required in this study. The significance level (alpha) is the probability of not accepting a null hypothesis when it is true. Power is the probability of not making a Type II error. Power is 1-beta. The results are presented in Figure 2.

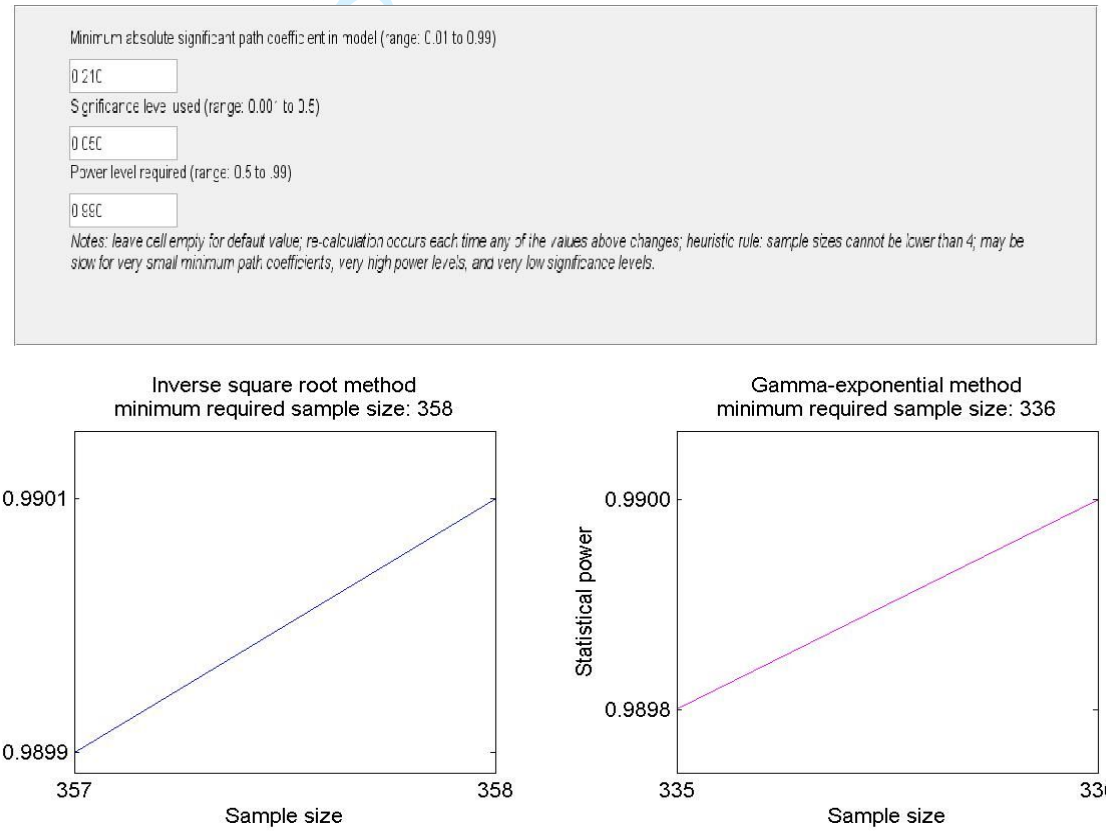

Figure 2: Minimum sample size (WarpPLS output)

Source: Devised by the authors(s)

3.3. Data collection

The questionnaire was developed using Google forms. Respondents were asked to give their feedback on the 5-point Likert scale, where 1 = strongly disagree and 5 = strongly agree. A

pilot survey was first performed to check the model and after observing good results, the research team started the final survey in October 2020. The questionnaire was sent to 650 respondents and after follow-ups a total of 347 responses were received from those who are active users of social media. The response rate was 53.38%.

The demographic profile of respondents is presented in Table 1. The survey questionnaire started with the demographic information of the respondents.

Table 1: Demographic details

Variables	Categories	Frequency	Response (%)
Age	15 – 25	220	63.40%
	26 - 35	62	17.87%
	36 - 45	54	15.56%
	Above 45	11	3.17%
Gender	Male	238	68.59%
	Female	109	31.41%
Income	20K – 29K	52	14.99%
	30K – 39K	32	9.22%
	40K – 50K	57	16.43%
	Above 50K	28	8.07%
	Not Applicable	178	51.30%
Organization	Government	16	4.61%
	Private	137	39.48%
	Business	17	4.90%
	Student	177	51.01%

Source: Devised by the author(s)

3.4. Non-response bias

A non-response bias (NRB) is another problem; this occurs when the survey data are gathered in different phases. We followed the guidelines of Armstrong and Overton (1977) to perform an NRB test. In this study 55 were early responders and considered as "early wave", while 253 were late respondents and considered as "late wave". The research team compared the two waves of responses using a "test of homogeneity of variances" in SPSS to see if the distribution

of our variable differed based on the two waves. Findings did not indicate statistically significant differences of early and late respondents ($p > 0.05$). The NRB test was performed as per the guidelines of Eckstein *et al*. (2015) and Dubey *et al*. (2019).

4. Data analysis

Two Structural Equation Modeling (SEM) methods are available for researchers: covariance-based SEM (CB-SEM) and variance-based partial least squares (PLS-SEM).

A fundamental difference between the two methods is that CB-SEM is based on the common factor model, whereas PLS-SEM is based on the composite model (Hair Jr. *et al*., 2017). The data analysis is performed using PLS-SEM based WarpPLS software. The statistical objective of PLS-SEM is to maximize the variance explained in the dependent variable(s) (Hair *et al*., 2012). We have noticed that past studies have used this same software for hypotheses testing (e.g., Bag *et al*., 2021a, b).

4.1. Common method bias

Literature indicates that method bias can alter validities and reliability aspects of items as well as on the covariance between constructs (MacKenzie and Podsakoff, 2012).

Conditions that can lead to method bias include poor verbal ability, ability or cognitive sophistication; lack of experience thinking about the concept; difficult questions; items are unclear; double-barrelled questions; questions dependent on retrospective recall; auditory-based presentation via telephonic survey or face-to-face interviews (MacKenzie and Podsakoff, 2012).

There are two ways of controlling method biases. The first approach is to statistically control the effect of method bias after data are collected, and the second approach is to minimize the method bias effect by scientifically developing the research design.

To control the method bias, the respondents were assured of anonymity. Since the data were collected through the survey method, a randomization option in the instrument was applied to each respondent in a shuffled manner. Second, Harman's single-factor test was applied with an un-rotated factor solution. The test revealed an explained variance of 19.36%, well below the threshold of 50% suggested by Podsakoff *et al*. (2003). Therefore, the data were not affected by method bias.

4.2. Endogeneity test

Many articles in the marketing domain have recently highlighted problems associated with endogeneity (e.g., Bag *et al*., 2021a). Endogeneity issues are a threat to inferring causal effects; however, if the objective of research is purely predictive, then endogeneity minimization is not required (Papies *et al*., 2017). However, our research objective is both explanation and prediction. Not minimizing the endogeneity can lead to biased results; this is due to drawing the wrong conclusions related to the cause-and-effect relationships of the key concepts (Zaefarian *et al*., 2017; Gretz and Malshe, 2019). The main sources of endogeneity are omission of variables, errors in variables, and simultaneous causality. Different methods are available to check and minimize endogeneity such as instrumental variables (2-stage least squares), instrumental variables (3-stage least squares), instrument free approaches, generalized method of moments, matching method, Heckman 2-step procedure, lagging independent variables, natural experiments and regression discontinuity design (Zaefarian *et al*., 2017).

An instrumental variables technique is used in this study to report endogeneity problems. An instrumental variable goes around the endogenous independent variable but it does not impact the dependent variable directly, rather it impacts indirectly through the endogenous independent variable (Zaefarian *et al*., 2017).

In the model there are five variables. There is variation from DAIT, USEM, CONV that results in RI indirectly through SE. WarpPLS 7.0 software was used to test for and control for in model endogeneity caused by DAIT, USEM, CONV having indirect effect on RI. Therefore, we created an instrumental variable and pointed at RI. First, we selected “Explore” and then “Analytic composites and instrumental variables”. In the next step we selected “instrumental variable” under “what to create”. A single stochastic variation sharing technique was selected while creating the instrumental variable creation mode. The model was drawn in WarpPLS 7.0 and the test was performed. The findings show that the p value is not significant (above 0.01) (see Figure 3) and we can therefore conclude that endogeneity problems are not present in the model.

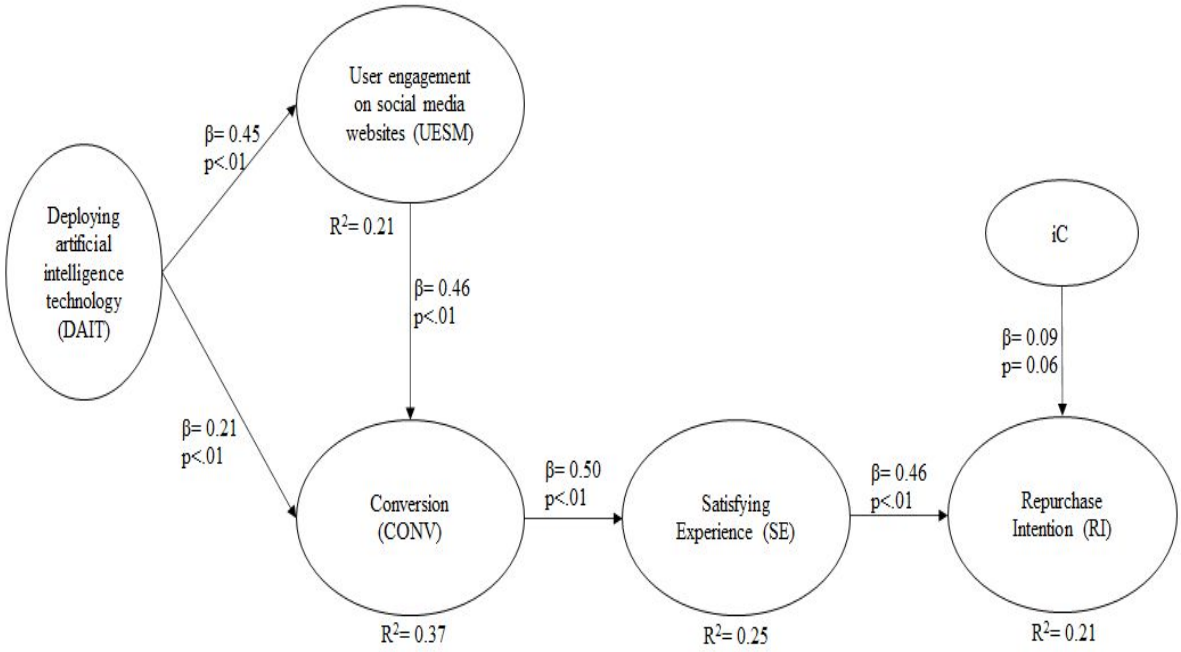

Figure 3: Endogeneity test (using instrumental variable)

Source: WarpPLS output

4.3. Measurement model

There are no missing values in the data. All the items were reviewed to ensure suitability, applicability and relevancy. The research is based on primary data. The design of questionnaire was reviewed and validated with six experts from the digital marketing domain. The indicators and the construct were also checked by these six experts.

We checked the model fit and quality indices as shown in Table 2. We evaluated the indices Average path coefficient, Average R-squared, Average adjusted R-squared, Average block VIF, Tenenhaus GoF, Sympson's paradox ratio and R-squared contribution ratio. It is recommended that the "p" values for APC, ARS and AARS either equals or is less than 0.05 to be significant at the 0.05 level (Kock, 2015). All the indices meet the standard value for model fit.

Table 2: Model fit and quality indices

Index	Value	Interpretation
Average path coefficient (APC)	0.416, P<0.001	Significant when p < 0.05
Average R-squared (ARS)	0.260, P<0.001	Significant when p < 0.05

Average adjusted R-squared (AARS)	0.257, P<0.001	Significant when p < 0.05
Average block VIF (AVIF)	1.635	acceptable if < = 5, ideally < = 3.3
Tenenhaus GoF (GoF)	0.309	small > = 0.1, medium > = 0.25, large > = 0.36
Sympson's paradox ratio (SPR)	1.000	acceptable if >= 0.7, ideally = 1
R-squared contribution ratio (RSCR)	1.000	acceptable if >= 0.9, ideally = 1

Source: WarpPLS output

4.3.1 Structural model

The hypothesis was tested at 1% level of significance. The alpha value of 0.01 is the point of determination for statistical significance. The full structural model is presented in Figure 4.

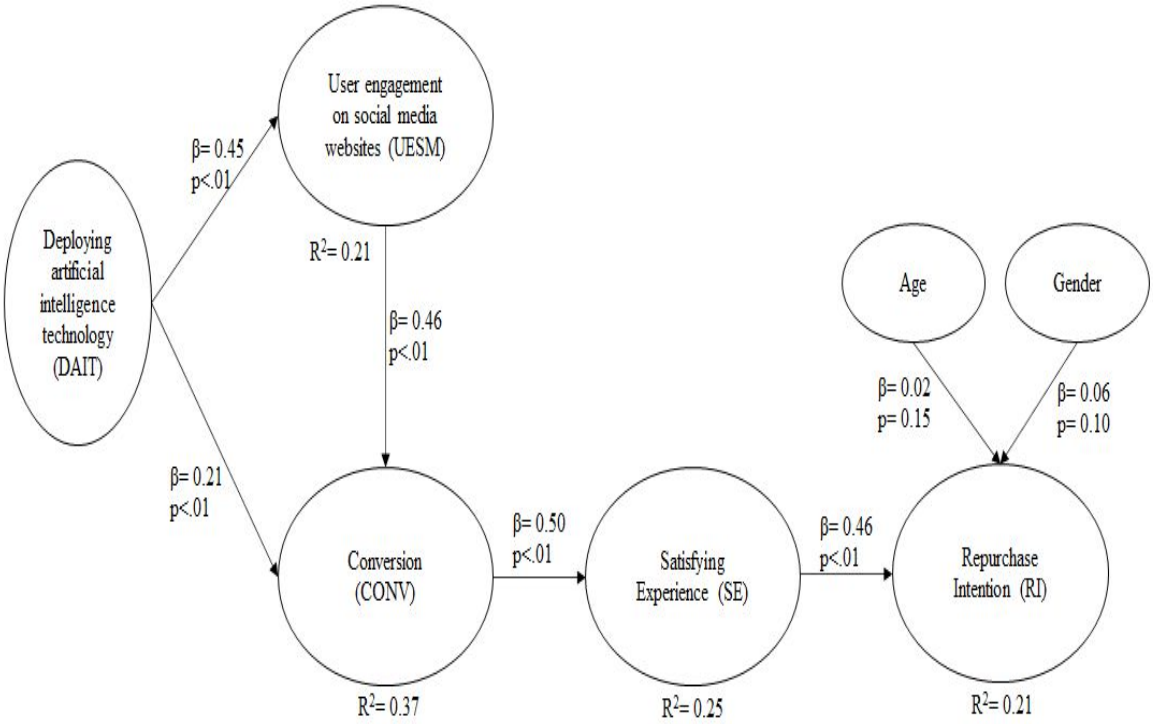

Figure 4: Full structural model

Source: Devised by the author(s)

The hypothesis testing results are shown in Table 3.

Table 3: Hypothesis testing

Hypothesis	Beta and p- value	Supported/Not Supported
H1: *Deploying artificial intelligence technology has a positive relationship with user engagement on social media websites.*	$\beta = 0.45$, $p < 0.01$	Supported
H2: *Deploying artificial intelligence technology has a positive relationship with conversion.*	$\beta = 0.21$, $p < 0.01$	Supported
H3: *User engagement on social media websites has a positive relationship with conversion.*	$\beta = 0.46$, $p < 0.01$	Supported
H4: *Conversion has a positive relationship on satisfying experience.*	$\beta = 0.50$, $p < 0.01$	Supported
H5: *Satisfying experience has a positive relationship with repurchase intention.*	$\beta = 0.46$, $p < 0.01$	Supported

Source: Devised by the author(s)

5. Discussion

This study is based on the assumptions that digital disruption has a significant impact on the social behaviour of both individuals and organizations. In today's digitally disruptive environment, it is very complex to understand the social changes that occur in the behaviour of consumers. The outcome of the study shows that deploying artificial intelligence (AI) has a significant positive impact on conversion and user's engagement on social media. In the digital era, customers are transforming themselves from a traditional to a digital environment that is fuelled by AI (Paschen *et al*., 2020). This study measured the impact of AI on the conversion rate of consumers through social media platforms. In addition, from engaging customers, AI influences impulse buying (Jacobson and Nemesure, 2021). The research also concludes that the conversion rate could be increased by engaging consumers on social media. Social media is one of the most important platforms that help companies to increase sales volume. Artificial intelligence equipped social media deeply penetrate individuals' lives. Digital technology (virtual reality and augmented reality) plays a positive role in the engagement and conversion of customers, which increases the online sales volume in India. Chatbots and virtual agents supported by AI, and their integration with social media, enhance customer experience and have a significant positive impact on the social aspects of the customers. The Covid-19 pandemic has changed consumers' purchasing behaviour, who now prefer to purchase products by maintaining social distancing. In this way, social media provides a better option to the

customers for engagement and purchasing. The study also determined that customers' experiences have a positive effect on their buying intentions. Customers who have had a positive experience with a company are more likely to buy goods from that company and India's economy will benefit from digitalization.

5.1. Theoretical implications

Theories are methodically connected sets of statements that are empirically tested (*Whetten et al*., 2009), and provide a deeper understanding of the underlying structure that can help in predicting and explaining phenomena (Hunt, 1983). Theory development takes us back to the late-1990s when the conceptualization of theory was proposed by Rudner (1966) and further incorporated into the marketing domain by Hunt (1971). Later Hunt (1983) answered the question regarding if a general theory of marketing is possible and what it would explain and predict. In the last two decades, much research work has been done to extend the organization theories. An organization is a combination of individuals, having a bundle of organization processes and operating in a business environment (King *et al*., 2010).

There is a debate on what constitutes a theoretical contribution, but the study of Whetten (1989) clearly indicated that theory must cover some key elements, such as (a) What (which constructs/variables should be used as part of the explanation); (b) How (how are the constructs and variables interrelated); (c) Why (what are the underlying dynamics that rationalize the choice of constructs/variables and the proposed causal relationships). Combined together both 'What' and 'How' establish the realm of the theory; only 'Why' explains. Therefore, these three elements 'What', 'How' and 'Why' are the essential components of a simple theory to describe the framework and explain a phenomenon. Therefore, an important feature in theory is that it focuses on answers to questions 'why', 'what' and 'how' (Whetten, 1989).

Whetten (2009) further argues that there are two types of theoretical contributions: A) theory informing observations, and B) observation informing theory. In this paper we focused on a customer engagement theory to guide the scientific investigation. First, we proposed that deploying artificial intelligence technology has a positive relationship with user engagement on social media websites. Based on the evidence from survey data, H1 is supported.

Customers are being communicated with and engaged through social media. Social media sites emerge as a new market environment to engage customers, and promote goods and services. Marketers use AI to monitor consumer behaviour on social media networks (Wang *et al*.,

2012). During the Covid-19 pandemic, the customer engagement process became more technologically oriented. User engagement practises are mandated by both artificial intelligence technologies and customer action (Morgan-Thomas *et al*., 2020). The findings primary contribution to the theory is that artificial intelligence technologies, such as virtual reality, augmented reality, and chatbots, improve social media's ability to attract and engage customers.

Deploying artificial intelligence technology has a positive relationship with conversion. Therefore, H2 is supported.

According to this study, Weberian social theory needs to be updated in light of digital transformation. Weberian social theory is a multidimensional approach that reflects the wealth, power and status of an individual. This theory has to be updated in the current digital era, where digitalization has profoundly infiltrated people's lives. The study shows that social cultures are evolving into online communities (Ossewaarde, 2019). Artificial intelligence-driven digital technology could be used to detect customers' shopping patterns and manipulate them to make impulse purchases. This assists marketers in improving conversion rates on social media platforms (Stephen, 2016). The study backs up the idea that by effectively using artificial intelligence methods, conversion rates can be increased. User engagement on social media websites has a positive relationship with conversion. Therefore, H3 is supported.

Social media is used to engage customers and develop effective customer relationship management. Customers are engaged and good customer relationship management is achieved by the use of social media (Harrigan *et al*., 2020). At the levels of contribution, development, and use, social media has a positive impact on customer engagement. Consumers' prior buying experiences can also be gleaned from social media; this encourages businesses to enhance their consumer items (Cao *et al*., 2020). The role of customer engagement via social media to improve conversion is highlighted in this study. Conversion has a positive relationship on a satisfying experience. Therefore, H4 is supported.

Marketing practises gain popularity as a component of emerging technology. Marketers' main obligation is to provide customers with high-quality goods and services while simultaneously ensuring that they are satisfied (Vial, 2019). The strengthening of consumers' relational nature during their customer journey gives a strong picture of their experience. In the digital era, digital technologies improve a company's ability to understand its consumers' journey. The

key phase in the customer journey is to have a satisfying experience (Hamilton *et al*., 2021). The research team concluded that it becomes easier for companies to enhance the conversion by maintaining the satisfaction level of existing customers. A satisfying experience has a positive relationship with repurchase intention. Therefore, H5 is supported.

A consumer's past purchasing experience is a crucial factor in their decision-making process, and consumer loyalty is determined by their degree of satisfaction (Karimi *et al*., 2018). Digital marketing is a highly competitive and complex area. A digital platform could be used to collect customer feedback, making nuanced digital marketing more manageable for marketers (Leeflang *et al*., 2014). Customers' desire to use social media and other multimedia channels has increased dramatically as the number of smart phones has risen exponentially. As a result, it is important for marketers to keep track of how people perceive goods and services on social media and other networking platforms (Singh and Jang, 2020). During the pandemic, the use of social media websites skyrocketed as consumers began buying goods and services online (Grover and Sabherwal, 2020). The results of this research found that satisfied consumers are more likely to buy the same products and services again.

5.2. Practical implications

Consumers in India are increasingly turning to social media platforms in the post-Covid-19 period. People prefer not to leave their homes to buy goods and services; they prefer to purchase products and services through digital and social media platforms. Social media creates an opportunity for an organization to increase its sales. Firms could keep track of their customers' social media activity and adjust their communication strategies accordingly. This assists businesses in increasing conversion rates. Companies do not benefit from merely engaging customers on social media; conversion is key. This study aims to apply what has been learned rather than to restrict ourselves to empirical studies.

The results of this study will assist managers in comprehending the behavioural and social effects of a technologically disruptive climate. Managers could use artificial intelligence-enabled social media to forecast trends in customer behaviour. By influencing consumers on social media, the developed framework assists managers to grow sales volume. The outcome of the analysis encourages managers to make full use of their digital technologies and strategies to improve social media conversion rates. Artificial intelligence's integration into social media improves a company's sales and marketing strategy, and could be used to create an automated

digital system that evaluates and analyses a customer's social media journey. Social networking can be used as a global marketplace for the sale of goods and services.

6. Conclusions

The study aimed to answer two important research questions. First, RQ1: What is the role of artificial intelligence technologies in user engagement on social media websites and conversion? Based on the evidence from the survey, we found that H1, H2 and H3 are supported.

Second, RQ2: What is the impact of conversion on a satisfying experience, and how do they influence repurchase intentions? Based on the evidence from the survey we found that H4 and H5 are supported.

In this study, we provide evidence that an association between artificial intelligence and users' engagement on social media is helpful for conversion. The Covid-19 pandemic has changed customers' social and behaviour pattern; they are becoming more dependent on digital platforms to purchase products and services. The major focus is to increase the conversion rate by engaging customers on social media. Deploying AI not only engages consumers but also influences customers towards impulse buying. Social media is a cost-effective tool for marketing. The increased focus on AI and social media has enticed consumers and increased sales volume in the e-commerce business. As a result of the conversion, consumers' average loyalty increases. Satisfied customers are still faithful and have plans to buy from the company again. Consumers' willingness to repurchase is measured by their degree of satisfaction. This raises their intentions to purchase again. When it comes to buying decisions, people are increasingly turning to digital and social media. Artificial intelligence and social media focus on providing tremendous opportunities in India. Consumer satisfaction is critical in convincing them to make repeat purchases. Artificial intelligence is critical to the digitalization process; it can process large amounts of data and instantly segment consumers, allowing businesses to customize their marketing. Indian society is undergoing a digital revolution. This research sought to evaluate the consumer journey in the digital age.

The limitations of this study are, first, that it involves the use of cross-sectional data, and second, the data were collected from only one country. Future studies could be performed using samples from other developing countries to generalize the results. Measuring the impact of digital transformation on consumer behaviour and e-commerce companies will be the future

scope of the study. The role of artificial intelligence and digital technologies become crucial for engaging customers. Studies are needed to determine consequences of artificial intelligence to engage the customers.

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Appendix A

Table A1: Construct Operationalization

Construct	Items	Measurement Construct
Deploying AI technologies (Capatina *et al*., 2020)	DAIT1	Virtual reality (VR) and augmented reality (AR) are used in social media marketing.
	DAIT2	Artificial intelligence (AI) applications on social media marketing are useful for audience, image and sentiment analysis.
	DAIT3	Audience analysis is a fundamental pillar of social media marketing strategies adopted by firms.
	DAIT4	AI technologies use multiple types of customer-related data, such as purchases, sales or behavioural and demographic data.
	DAIT5	AI tools for brand logo recognition open avenues to analyse social media users' interests.
	DAIT6	The employment of automatic image annotation tools may lead to many possible benefits, even for user expectations in social media marketing.
	DAIT7	AI techniques lead to classifications and clusters of user-generated content based on variables such as tone, sentiment, or topic.

	DAIT8	Through the sharing of images, users can also express their sentiments and therefore, social media images can offer a rich and useful resource to identify and value users' sentiments.
User engagement on social media websites (Hollebeek *et al*., 2014)	UESM1	Using social media websites (Facebook, Instagram, Twitter) gets me to think about it.
	UESM2	I think about social media websites a lot when I'm using them.
	UESM3	Using social media websites stimulate my interest to learn more about brands.
	UESM4	I feel very positive when I use social media websites.
	UESM5	Using social media websites sites makes me happy.
	UESM6	I feel good when I use social media websites.
	UESM7	I'm proud to use social media websites.
	UESM8	I spend a lot of time in online shopping using social media websites compared to offline shopping.
Conversion (Fatta *et al*., 2018; Zhu *et al*., 2016)	CONV1	Free shipping of products attracts me for online purchasing through social media.
	CONV2	Free return of products attracts me for online purchasing through social media.
	CONV3	The messages and digital promotion on social media influence me to purchase the products.
	CONV4	Total number of instant messages sent during a given period on social media has a significant impact on me.
Satisfying Experience (Nambisan and Watt, 2011)	SE1	Consumer needs for interactive, collaborative, and personalized interactions have been strongly influenced by the rapid proliferation of social media.
	SE2	Using social media platforms shows the hedonic behaviour of consumers.
	SE3	Using social media platforms shows the pragmatic behaviour of consumers.
	SE4	Using social media platforms shows the sociability behaviour of consumers.
	SE5	Using social media platforms shows the usability behaviour of consumers.
Repurchase Intention (Hajli, 2014; Hur *et al*., 2017)	RI1	Social media gives the information being sought by users.
	RI2	Social media is a credible source for the information.
	RI3	Social media can be used for information sharing intentions.
	RI4	Rating and reviews on social media influence the consumers.