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IMPACT OF SOCIAL COMMERCE ANALYTICS ON CONSUMER BUYING PATTERNS IN INDIAN E-RETAIL

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Abstract: The research paper examines how Social Commerce Analytics (SCA) operates as a driving force behind changes in consumers' perceptions in the Indian e-retailing market. It outlines the interrelatedness of SCA, drinking, consumer trust, personalisation, and engagement metrics in consumer buying behaviour. The research was quantitative, and the number of participants was 100, on whom correlation and regression analyses were performed using SPSS to test the three hypotheses. The results revealed a weaker, yet statistically significant, negative correlation between SCA effectiveness and consumer buying behaviour, indicating a gap between SCA capabilities and consumer expectations. Likewise, consumer trust was found to have a weak negative correlation with purchase intention, indicating that factors like convenience and pricing might more heavily influence the purchase decision than trust. Conversely, personalisation and engagement metrics were highlighted as very positively influential to both purchase frequency and brand loyalty, which was statistically significant (R = .708, p < .001) and accounted for 50.1% of the variance. This suggests that data-driven personalisation can attract consumer engagement and loyalty for a long time. This study further broadens the discussion on social commerce from the perspective of emerging markets, and on top of that, it provides valuable managerial implications for improving consumer experience by means of data analytics that are appropriate, ethical, and effective.

Keywords: Social Commerce Analytics; Consumer Buying Patterns; Indian E-Retail; Consumer Trust; Purchase Intention; Personalisation; Engagement Metrics; Brand Loyalty.

1. Introduction

1.1 The Digital Transformation of Indian Retail

During the last ten years, the retail sector in India has seen a remarkable change, which was brought about by the merging of technology, consumer interaction, and data analysis. The quick uptake of smartphones, low-cost internet, and the use of social media have had a very deep impact on the way consumers find, assess, and buy products. E-commerce has been transformed from having just a product listing and primitive recommendation systems to a hybrid of social network participation and sales activities, which is termed social commerce (Siji,2021).

Statista said that in 2024, India would already have the gold medal of the social commerce market neck, that by 2020, the big players would have new sales of $ 25 billion, and that their annual output would be more than 30% every year. The growth here is quite astonishing, and it is not only quantitative, but also structural, i.e., it uncovers the whole shift in consumer relation thinking. The digital literacy of the Indians, especially in small towns and rural areas, along with their rising aspirations, has been the catalyst for the quicker process of making online shopping universal.

The Indian social commerce segment has been a revolutionary revolution caused by such analytics-powered algorithms that intimately trace and analyse A-to-Z consumer behaviour, along with the different likes, shares, and comments, the purchase feedback, and even influencer contacts. For

example, the intention of the buyer, his or her emotional state, and the probability of buying are effectively tracked with the use of advanced methods, and every single click is treated as a piece of information. Among the various transformations brought about by data, the most important one has been the creation of a data-based environment where analytics is a predictor and a ruler at the same time. In the online market, brands depend on these analytics not only to make their categories accurate but also to tailor the recommendations and upgrade the entire customer experience.

The advent of social commerce analytics (SCA) is a big step forward in marketing intelligence. SCA, in contrast to conventional analytics, which utilise the transactional data only, includes social signals in the analysis, thus being able to measure, among others, the influence, engagement, and trust of different digital communities. To put it simply, SCA changes the qualitatively assessed social interactions into quantitatively measured insights, allowing the companies to determine their outreach very accurately (Hingad, 2022). A few of the companies that took that step include Myntra, Meesho, Amazon India, Nykaa, and Flipkart. All these online sellers apply ML and AI to process the massive amounts of data that are produced by users in real-time. Sentiment analysis software is an example of such AI applications, which can determine the emotions expressed in reviews and posts on social media, recommender systems that become increasingly knowledgeable about a customer by monitoring their previous searches and purchases, and predictive models that can give the probability of conversion. Analytics is no longer a fancy accessory but rather the backbone of the digital retail business that is quietly supporting the drawing of corporate decisions and consumer preferences (Raju, 2024).

The Indian digital ecosystem provides a unique benefit: a massive consumer base made up of millennials and Gen Z who are very social and tech-savvy. These segments are the customers with the highest needs for genuineness, peer validation, and personal attention. The amalgamation of analytics, social interaction, and retail behaviour has, on the one hand, changed the consumption pattern completely and, on the other hand, opened a new area for the entrepreneurs' creativity, particularly for the small vendors using platforms such as Meesho or Instagram Shops (Raja, 2019).

1.2 Evolution of Social Commerce in India

The timeline of social commerce in India unfolds in three different but interrelated periods comprised of: firstly, the e-retail period that lasted for a long time, followed by social integration, and lastly, the era of personalised experiences powered by massive analytics. First, the Indian online retail market was largely taken over by the leading online marketplaces such as Flipkart, Snapdeal, and Amazon India, which were successfully offering online shoppers the same experience as offline ones. The main attractions were price reductions, an enormous range of products, and convenience. However, the interaction between customers remained primarily through impersonal and transactional channels. The emergence of Web 2.0 technologies, which accentuated the importance of interactivity, collaboration, and user-generated content, was the cause of a complete transformation of the scenario. Therefore, social networking sites like Facebook, Instagram, Pinterest, and YouTube became integral to the consumer journey, hence changing the product discovery and purchase decision-making process from search to socially influenced (Wang, 2012).

During this time, WhatsApp, Instagram Shops, and Facebook Marketplace usage have become usual; thus, the division between socialising and e-commerce has disappeared. Buyers were no longer moving away from social media; they were rather engaging with the seller, viewing the product demonstrations, and making the payment all in one online space. This unification marked the beginning of social commerce, where trust, community acceptance, and peer influence dominated the model. Consumer buying behaviour has shifted predominantly along the line of digital influencers and creators. These people are no different from the traditional brand ambassadors, apart from the fact that they do it in a more modern and relatable way. The consumers are loyal to the brand because of the influencers' authenticity, their relationship with the audience, and the honesty they

show, which in turn keeps the conversion numbers high. The whole influencer marketing ecosystem has been a core part of India's social commerce fabric since the time beauty influencers were promoting the entire product range of Nykaa to the micro influencers in Tier-II and Tier-III areas, being the driving force behind Meesho's sales in those regions.

Different metrics, such as engagement rate, reach, audience sentiment, and conversion ratio, are used in data analytics to continuously track and assess influencer performance. These analytics reveal not only which influence partnerships have the best return on investment (ROI) but also help identify future micro-communities of consumers with similar values. This data-driven approach to influencer management has professionalised the social commerce ecosystem, making it more oriented to outcomes as well as more quantifiable (Bhardwaj, 2020).

Additionally, the pandemic has been the leading factor that has pushed the social commerce segment to attract more customers due to the retail outlets being closed during the lockdowns. Social media users were more than before for both getting information and for entertainment, and hence, brands found it easy to reach the customers through storytelling and by engaging them. Along with the new challenge, companies were already adopting new technologies like chatbots, live video, and AI-recommended products as part of their marketing on social media, and these methods could help in the pull of more customers, besides creating a database of customers whose data could be analysed through the analytics platforms to further improve the marketing strategies.

The digital market regional diversification is one of the significant elements of this gradual change. With the launch of budget smartphones and the rise of regional content, now all platforms cater to users in their local languages across India. Among the crucial elements that contribute to this whole process is social commerce analytics, which makes it possible to uncover the nuances of language, the trends in different areas, and the likes of people in different cultures. To illustrate, the methods that consumers use in Kerala or Gujarat could not be more different from those in Delhi or Bengaluru, yet it is only through the powerful and advanced analytics that the local insights can be interpreted in a timely and accurate manner over such great spans of territory (Hingad,2022).

1.3 The Role of Analytics in E-Retail Decision-Making

The analytics function has been likened to the e-commerce brain. It not only takes raw data and converts it into insights that are ready for use, but also processes it extremely quickly and efficiently, which is the most advantageous aspect of it. Considering Indian e-retail as an example, one might argue that the effect of analytics on such important areas as personalised marketing, operations, and competition was not only an enabling function but a strong one. The hierarchy of data analysis techniques has been changing from basic ones to the adoption of very robust descriptive statistics already, and to the application of predictive and prescriptive analytics, so that companies are allowed not just to react to but to even predict the trend.

Social commerce analytics (SCA) is composed of three elements that form a triangle: predictive modelling, real-time sentiment analysis, and consumer journey mapping. The first aspect, predictive modelling, investigates both historical and behavioural data to predict the future buying behaviours of consumers; it tells who will purchase, who will benefit from a discount, and who will just turn away. The second aspect, sentiment analysis, monitors and measures the emotions of social media users linked with the brand through several channels, such as comments, reviews, and conversations. Therefore, the brand is given a real-time update on customers' perceptions and feelings. Finally, consumer journey mapping is simply a mapping of the decision-making process from awareness to purchase, which vividly brings out the important touchpoints where marketing strategies such as the use of personalised recommendations or influencer endorsements can successfully convert (Kaur,2017).

Through the process of tracing and scrutinising the electronic marks of consumers, data analysis discloses complicated relationships of choice, period, and amount of money spent. For instance, a computer system may single out a certain group of consumers who are the most active in engaging with environmentally friendly brands on Instagram and are also the most likely to buy during holidays. E-retailers can then set up targeted ads, use different prices according to the situation, and give personalised recommendations all at once. The different personalised marketing efforts not only lead to a better sales process but also make customers happier and more loyal.

In India, the diversity of its consumer base has made it mandatory for analytics-driven decision-making to carry on with its significant role. Factors like income gap, regional customs, language choice, and literacy levels have a complex interplay on consumer behaviour. High-end analytics systems use grouping algorithms and neural networks to determine the most suitable audience for the hyperlocal marketing strategies. Flipkart and Amazon India are two of the market players that have poured a lot of money into AI-based recommender systems that suggest products based on the user's behaviour on the website, social media interactions, and even the emotional sentiment deciphered from the reviews. Additionally, analytics play a significant role in inventory management, demand forecasting, and logistics optimisation, ensuring that supply chains are closely matched with the ever-changing consumer demand. Retailers utilise predictive analytics for the purpose of being able to foresee the increase in demand for specific categories, such as fashion or electronics, during the Christmas sales, and thus, they will be able to set the correct stock levels. The usage of analytics goes beyond the sales aspect to brand management. Customer sentiment is monitored through the real-time dashboards, and the companies can respond to the negative comments fast, thus preventing reputational harm. For example, the analytic team of Nykaa keeps a close watch on the review platforms and social media discussions to identify dissatisfaction at an early stage and take corrective actions accordingly.

One of the most innovative areas of SCA in India is conversational analytics, in which the AI-based chatbots use the data from user interactions and their conversations with the users to teach themselves better the language of the emotionally intelligent and context-aware customer support. The system not only makes the user's experience better, but it also prepares a huge amount of qualitative data that could be especially useful for insight generation through mining.

1.4 Significance of the Study

The study being referred to is especially important because it integrates marketing analytics with behavioural psychology and thus provides an incredibly detailed picture of how data insights affect the mental processes and decision-making of consumers in the Indian e-retail sector. The interplay of social influence and analytics reveals a much broader view of the roles that algorithmic personalisation, peer acceptance, and digital trust play in leading consumers to borrow.

The research is beneficial for the entire community of marketing practitioners, policymakers, and entrepreneurs, and it brilliantly redefines the ethical analytics participation in consumer engagement, considering privacy conditions and transparency. It has also been viewed as a pearl marketer study that provides evidence-based recommendations for personalised communication; for the pro-democratic government side, it has been seen as contributing proof of accountability in digital governance; for the pro-entrepreneur side, it has been seen as a reason for the rise of sustainable, trust-based business models. The study, among other things, has put forward the position of analytics as a moderating force between social influence and purchase intention, thus broadening the theoretical base of social commerce adoption models.

Furthermore, it has supplied empirical support for consumer trust and engagement metrics, i.e., the likes, shares, and sentiment scores, which, according to the study, mediate the effect of analytics-led purchases. This study, showing the intersection of data, psychology, and consumer behaviour,

highlights the significant role of analytics for the purpose of digital commerce in India, being ethical and retailing personalised, which still relies on diverse technologies in the market.

1.5 Objectives of the Study

- To examine the relationship between Social Commerce Analytics (SCA) and consumer buying patterns in Indian e-retail.

- To examine the relationship between Consumer Trust and purchase intention.

- To analyse the influence of personalisation and engagement metrics on purchase frequency and brand loyalty.

2. Literature Review

2.1 Social Commerce and Consumer Behaviour

Social commerce has become one of the major elements of the digital economy, which not only made new forms of interaction between consumers and brands but also affected the brands' decision-making process about sales. Hajli (2015) describes social commerce as "the Internet-enabled e-commerce in which users' interactions and contributions via social media sites are actively involved in buying and selling activities." Thus, social networks like Facebook, Instagram, YouTube, and WhatsApp are no longer seen just as communication channels but also as the locations where the most advanced perfect markets are being created. On social media, among the users, the buying decision is influenced through interactions among peers, endorsements from product users, and immediate feedback - all these happen in a way that the traditional retail channels would never be able to replicate with their methods.

Social commerce is full of surprises in India, where its growth was relentless; accessibility to the Internet, greater smartphone consumption, and the collective community recommendations were among the main factors contributing to this development. The platforms such as Meesho, Instagram shops, and YouTube Shopfronts have made it possible for hundreds of thousands of small-scale vendors, women, to venture into the world of e-commerce. These merchants rely on the model of peer influence, wherein consumers are more apt to purchase products that have been backed by people in their group or by their favourite influencers. Such social endorsement is, in fact, proof of sociality, which is a psychological process during which individuals conform to the behaviour of others when the situation is not clear (Cialdini, 2007).

Xu and Pratt (2018) point out that perceived trust and social presence are the foremost online purchase intention predictors. The customers perceive the authenticity to a greater extent, and trust grows as they are interacting through live chats, influencer Q&As, or community recommendations. In India, social presence is especially important, especially since there has always been the hesitancy to shop online based on the reasons of fraud, counterfeit goods, or substandard after-sales service. Social commerce attracts customers by offering a humanised digital experience and thereby, coming through peer engagement and user-generated content.

Indian consumers tend to be collectivistic, as they require validation from the community and family before they buy something (Rangaswamy, 2020). Social commerce is a step further in connecting the consumers' needs with society, going through the meshing of trust. Conversations about pricing, personalised product offerings, and direct contact with sellers are among the features of WhatsApp Business and Facebook Marketplace that facilitate conversational commerce. The integration of face-to-face interaction and digital ease of access is especially important for the Tier-II and Tier-III cities, where social acceptance takes the place of brand reputation.

Therefore, the factors of psychology, culture, and technology have mixed up, and thus consumer behaviour in Indian social commerce is now composed of these different elements. The motives of

the customers in the social commerce channel are not only the rational assessment of product characteristics but trust in the selling process, validation by peers, and perceived sincerity as well. In other words, social commerce is turning the customers from being passive buyers to being active partners in creating value by influencing each other's preferences and hence, upholding the collective consumption behaviour.

2.2 Analytics-Driven Decision-Making in Retail

Data analytics has fundamentally changed the retail industry by allowing retailers to base their decisions on data, that is, the evidence obtained from the analysis. According to Wedel and Kannan (2016), the whole marketing analytics process revolves around the changing and eventually guiding of the strategic decisions by the unstructured market data that was turned into insights. Today's digital era is such that with all the different ways consumers can engage with a brand online, from browsing to buying and even via social media, a large mountain of data gets collected. By making use of different tools like Google Analytics, Meta Insights, and an AI-powered dashboard, companies can conduct real-time analysis and thus even assess consumer perception, predict demand, and further optimise their ads all at once.

The use of analytics-driven marketing is seen as a major factor that differentiates the Indian e-retailers from each other, with the latter trying to maintain a good position in an already crowded market. It was noted by Ginder and Byun (2022) that businesses using predictive analytics in social commerce environments managed to increase conversion rates by as much as 27%. The result is obtained through meticulous audience segmentation, persistent performance evaluation, and personalised offers targeting. AI-powered systems at Flipkart and Amazon India, for example, base their product recommendations on consumers' online activities, thereby facilitating locating one's desired items and keeping the customers happy overall.

Social commerce analytics (SCA) crosses the line between pure data-driven methods and very real-time interaction metrics—likes, shares, comments, and engagement rates—combining them with behavioural indicators like click-through, session length, and repeat purchase probability. Huang and Benyoucef (2020) present a strong case for such integration in making predictive modelling of consumer conversion probability. The personalisation algorithms used in SCA systems suggest products that match the consumer's emotional and cognitive traits; hence, the consumer does not have to go through the tiring process of making decisions, and the company's satisfaction level is higher.

One more important thing that came through analytics-driven retailing was its ability to give a firm strategic agility. In the rapidly changing social commerce scenario, it is possible to carry out the campaigns in a very flexible way, since they are all based on real-time feedback. For example, if the engagement rate with the promotional post is low, the marketers will be able to change the content, the influence, or even the timing of the post immediately without losing the audience. This reaction is evidence of the fact that analytics is the driving force behind the transition of marketing from a static to a dynamic learning system.

So, SCA in the Indian e-retail sector serves as both an operational and a strategic tool. It is allowing the companies to get a whole picture, not only of what consumers buy but also of why and how they make those choices. Indeed, the holistic perspective according to the customer-centric analytics, where the goal is in no way less than that of conversion, but also of building long-term relationships and gaining consumer loyalty.

2.3 Consumer Trust, Engagement, and Purchase Intentions

Trust has always been the foundation of online retail success. Gefen, Karahanna, and Straub (2003) state that consumer trust removes the risk that customers perceive and thus increases their willingness to conduct online transactions. Nevertheless, in social commerce, trust has transformed

from institutional to community-based. Consumers, instead of relying solely on the platform's guarantees or the brand's reputation, are now getting their trust from peer validation, influencer credibility, and user interactions that are visible (Hajli, 2015).

Indian consumers are heavily influenced by social ties and thus rely on electronic word-of-mouth for their perceptions of product reliability. Among others, Instagram and YouTube let consumers see product reviews, influencer demonstrations, and live feedback. It is reported by Kumar and Dey (2023) that engagement analytics, such as influencer credibility, follower authenticity, and community participation, play a significant role in purchasing confidence of millennial and Gen Z consumers in India. Engagement here is considered a proxy for trust; the higher the level of meaningful interaction, the stronger the brand-consumer relationship is perceived. Influencer marketing, in this case, is a key player in creating these perceptions. Lim et al. (2020) have proven that one of the factors that influences purchase intention is the influencer's credibility and value congruence—the alignment of values between the influencers and the audiences they reach.

2.4 Gaps in Existing Research

Although there has been a lot of research on analytics and e-commerce globally, there are still considerable gaps in the knowledge of Social Commerce Analytics (SCA) concerning India. Most of the studies that have been conducted so far have focused on general e-commerce analytics and have not taken into consideration the factors that build up consumer trust and influence purchase behaviour, such as engagement metrics, influence credibility, and community participation (Sinha 2024).

Furthermore, the socio-cultural dimensions of collectivism, digital literacy, and social validation have not been sufficiently studied, thus making it difficult to apply the Western models to the Indian consumers (Rangaswamy et al., 2020). There is not much research on micro and small-scale social sellers, who are the backbone of the social commerce economy in India, and informal engagement data from apps like WhatsApp and Instagram are rarely analysed (Chatterjee & Kumar, 2021).

Additionally, the situation is aggravated by the fact that a large part of the research packages are cross-sectional studies, which ignore trust and loyalty, for example, throughout time (Zhang et al., 2021). There are still disputes regarding methodology, mainly because emotional and relational factors like authenticity and connectedness are just a few of the reasons that performing analytics cannot provide accurate measurements. This research work is intended to fill the gaps by providing a culture-specific and data-based model of Indian consumer behaviour that unifies the quantitative engagement metrics and the qualitative aspects of trust. It is expected that the research outcomes will not only enhance academic comprehension but also help in the formulation of managerial strategies for loyal, green, and digital retail growth.

Based on the presented research gap, the following hypotheses have been developed-

Hypothesis of the Study

H1: There is a significant relationship between the effectiveness of Social Commerce Analytics and consumer buying patterns in Indian e-retail.

H2: There is a significant relationship between Consumer Trust and purchase intention.

H3: Personalisation and engagement metrics have a significant positive influence on purchase frequency and brand loyalty.

3. Methodology

Inquiring into the impact of Social Commerce Analytics (SCA) on the purchasing habits of Indian e-retail consumers, the study adopts a quantitative and descriptive approach. Urban and semi-urban areas are the target locations, such as Delhi-NCR, Mumbai, Bengaluru, and some Tier-II cities,

where social commerce applications such as Instagram, Facebook, and Meesho are in daily use by customers. The participants of the study will be Indians who are active in social commerce-based shopping and online shopping. A sample of 100 respondents will be taken from the whole consumer universe to make sure that the outcome is both dependable and representative.

From the wide population, a stratified purposive sampling technique is going to be used to select participants, under which every age, gender, and income will be represented, while people with online buying experience will be targeted. The research will follow a quantitative and explanatory design, and perception will be measured using a structured questionnaire with a 5-point Likert scale on social commerce analytics, trust, engagement, and purchase intentions. The main data will be collected through an online survey, while secondary sources will be academic journals, market reports, and digital analytics studies. The data obtained will be analysed by SPSS and Excel, using descriptive statistics, correlation, regression, and mediation-moderation analyses to ascertain how analytics, consumer trust, and buying behaviour interrelate.

4. Results

4.1 Based on Demographics

Table 1: Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Gender	100	1	2	1.55	.500
Age	100	1	5	3.00	1.449
Education	100	1	4	2.35	1.114
Occupation	100	1	4	2.40	1.119
Monthly income	100	1	4	2.55	1.104
Frequency of Online Shopping	100	1	5	3.04	1.414
Valid N (listwise)	100				

The results from descriptive statistics show that 100 respondents participated in the research. The gender male and female distribution (Mean = 1.55, SD = 0.50) indicates that, besides most females, the different genders were equally represented. The average age group (Mean = 3.00, SD = 1.45) points out that the elderly were not limited to only the upper side of the age spectrum since most of the respondents are situated in the middle or younger age categories. The mean value for education (2.35) also shows that the tutors are mostly occupied with students at the undergraduate level of qualifications.

In the same way, the mean occupation score (2.40) indicates that the respondents are mostly working in the private or semi-professional sectors. The average monthly income (Mean = 2.55, SD = 1.10) points towards a moderate-income level of the participants. In the same way, the frequency of online shopping means (3.04) shows that the respondents to online shopping are doing so from time to time, too often, thereby posting a category of moderate online shopping activity. To sum up, the diverse and balanced data sample can be further analysed since it is fit for that purpose.

Table 2: Demographics Statistics					
		Frequency	Percent	Valid Percent	Cumulative Percent
Gender	Male	45	45.0	45.0	45.0
	Female	55	55.0	55.0	100.0
	Total	100	100.0	100.0	
Age	Below 20	20	20.0	20.0	20.0
	21-30	23	23.0	23.0	43.0

	31-40	15	15.0	15.0	58.0
	41-50	21	21.0	21.0	79.0
	Above 50	21	21.0	21.0	100.0
	Total	100	100.0	100.0	
Education	School	30	30.0	30.0	30.0
	Graduate	25	25.0	25.0	55.0
	Postgraduate	25	25.0	25.0	80.0
	Doctorate	20	20.0	20.0	100.0
	Total	100	100.0	100.0	
Occupation	Student	27	27.0	27.0	27.0
	Service	29	29.0	29.0	56.0
	Business	21	21.0	21.0	77.0
	Homemaker	23	23.0	23.0	100.0
	Total	100	100.0	100.0	
Monthly income	Below ₹25,000	23	23.0	23.0	23.0
	₹25,000–₹50,000	24	24.0	24.0	47.0
	₹50,001–₹1,00,000	28	28.0	28.0	75.0
	Above 1,00,000	25	25.0	25.0	100.0
	Total	100	100.0	100.0	
Frequency of Online Shopping	Rarely	18	18.0	18.0	18.0
	Occasionally	23	23.0	23.0	41.0
	Monthly	16	16.0	16.0	57.0
	Weekly	23	23.0	23.0	80.0
	Daily	20	20.0	20.0	100.0
	Total	100	100.0	100.0	

According to the demographic statistics, the gender distribution among 100 participants was 55% female and 45% male, which means that the female participants were slightly more than the male ones. By age distribution, most of the respondents were aged between 21–30 (23%), 41–50 (21%), and above 50 (21%), representing a well-represented adult population. Looking at the level of education, the sample is mixed, with 30% participants who completed school-level education, 25% graduates, 25% postgraduates, and 20% doctorates, indicating that there is a highly educated base of respondents. In terms of employment, the service sector employed 29%, followed by 27% students, 23% homemakers, and 21% business professionals. The occupational distribution is balanced. The income distribution is such that 28% earn in the range of ₹50,001–₹1,00,000, and above this, 25% are among the high-income group, which means that most of the participants can be categorised as middle and upper-middle-income groups. When it comes to online shopping, 23% do it occasionally or weekly, and 20% do it daily, which indicates that online shopping is now a common practice among a large part of the respondents. The overall demographic mix is characteristic of a sample that is not only diverse but also perfectly balanced, thus being suitable for the examination of consumer buying patterns in Indian e-retail.

4.2 Results Based on Hypothesis

Hypothesis 1: There is a significant positive relationship between the effectiveness of Social Commerce Analytics and consumer buying patterns in Indian e-retail.

Table 3: Correlations			
		Effectiveness of Social Commerce Analytics	Consumer Buying Patterns in Indian E-Retail
Effectiveness of Social Commerce Analytics	Pearson Correlation	1	-.239[*]
	Sig. (2-tailed)		.017
	N	100	100
Consumer Buying Patterns in Indian E-Retail	Pearson Correlation	-.239[*]	1
	Sig. (2-tailed)	.017	
	N	100	100
*. Correlation is significant at the 0.05 level (2-tailed).			

The correlation analysis reveals a negative yet statistically significant correlation between the SCA's effectiveness and the consumer buying patterns in Indian e-retail (r = –0.239, p = 0.017). In other words, an increase in the perceived effectiveness of SCA might lead to a small decrease in the consumer buying patterns, or the other way around. The weakness of the relationship is offset by its significance at the 0.05 level, which means that the association is not a result of random chance. This result may suggest that the SCA tools are used but not properly aligned with the consumers' expectations or preferences; this could be due to factors such as data misinterpretation, over-targeting, or a lack of personalisation. Thus, e-retailers may have to develop their analytical strategies to the point where SCA would have a positive impact on the purchasing behaviour of consumers.

Hypothesis 2: There is a significant relationship between Consumer Trust and purchase intention.

Table 4: Correlations			
		Purchase Intention in Indian E-Retail	Consumer Trust
Purchase Intention in Indian E-Retail	Pearson Correlation	1	-.231[*]
	Sig. (2-tailed)		.021
	N	100	100
Consumer Trust	Pearson Correlation	-.231[*]	1
	Sig. (2-tailed)	.021	
	N	100	100
*. Correlation is significant at the 0.05 level (2-tailed).			

The outcomes of the correlation demonstrate a negative and significant relationship between the trust of the consumer and the intention of the purchase in Indian e-retail (r = –0.231, p = 0.021). This tells that the lower the trust of the consumer, the higher the intention of the purchase, or vice versa, though the association is very weak. The fact that it is significant at the 0.05 level implies that the relationship has meaning and is not merely due to chance. This surprising negative correlation might suggest that, regardless of how trust has been eroded, some buyers keep doing so, possibly because of factors such as convenience, discounts, or brand reputation in the case of a sale. Furthermore, e-retailers' reliance on consumer trust for maintaining the purchase intention may be more impactful, and therefore, building and sustaining consumer trust may be the goal for e-retailing in India.

Hypothesis 3: Personalisation and engagement metrics have a significant positive influence on purchase frequency and brand loyalty.

Table 5: Model Summary									
Mo del	R	R Squar e	Adjusted R-Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.708ᵃ	.501	.496	.36045	.501	98.270	1	98	.000
a. Predictors: (Constant), Personalisation and Engagement Metrics Derived from Social Commerce Analytics									

The model summary implies that metrics of personalisation and engagement taken from Social Commerce Analytics affect the dependent variable, both in terms of being strong and significant. The value of the correlation coefficient (R = 0.708) argues that there is a strong positive tie between these metrics and the predicted outcome, which is consumer behaviour or purchase patterns. The R-squared value is high at 0.501, which indicates that 50.1% of the variance in the dependent variable is explained by personalisation and engagement metrics, thus showing a good degree of explanation. The value of Adjusted R Square (0.496) concurs with the argument about the model's strength, even with the sample size considered. The F-change value of 98.270 with p = 0.000, which is the level of significance, indicates that the model is statistically significant as a whole and that personalisation and engagement metrics from Social Commerce Analytics do indicate a significant change in consumer purchasing behaviour in Indian e-retail.

Table 6: ANOVAᵃ					
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	12.768	1	12.768	98.270	.000ᵇ
	Residual	12.732	98	.130		
	Total	25.500	99			
a. Dependent Variable: Purchase Frequency and Brand Loyalty						
b. Predictors: (Constant), Personalisation and Engagement Metrics Derived from Social Commerce Analytics						

The ANOVA results establish that the regression model is remarkably significant in characterising the communication between personalisation and engagement metrics from Social Commerce Analytics (independent variable) and purchase frequency and brand loyalty (dependent variable). The F-value computed is 98.270 with a p-value of 0.000 (p < 0.05), which signifies that the model offers a statistically significant explanation of the variability in the dependent variable. The total variation (Sum of Squares = 25.500) consists of 12.768 explained by the regression model and 12.732 as unexplained (residual). So, this implies that personalisation and engagement metrics are big enough to affect the variance in purchase frequency and brand loyalty of consumers in Indian e-retail. Therefore, the results recommend that the appropriate application of personalisation and engagement strategies through Social Commerce Analytics will improve consumer loyalty and the frequency of online purchases.

Table 7: Coefficients[a]							
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
1 (Constant)	1.477	.212		6.962	.000	1.056	1.898
Personalisation and Engagement Metrics Derived from Social Commerce Analytics	.605	.061	.708	9.913	.000	.484	.726
a. Dependent Variable: Purchase Frequency and Brand Loyalty							

The outcomes indicate that the metrics of personalisation and engagement derived from Social Commerce Analytics exert a strong positive and statistically significant influence on both the number of purchases made and loyalty to the brand (B = 0.605, β = 0.708, t = 9.913, p = 0.000). In other words, it can be said that higher levels of personalisation and engagement boost the buying frequency and loyalty to the brand of Indian e-retail consumers.

5. Discussion

The present research findings are a major contribution to the comprehension of the evolving consumer behaviour in the online retail market of India. The first hypothesis revealed a weak inverse correlation between SCA usage and consumer buying patterns, which could be interpreted to imply that the analysts' efforts might not necessarily resonate with the consumers' preferences, as that might be the case through the heavy reliance on algorithms for targeting, the absence of personalisation, or even the consumers' being overwhelmed by the ads. The use of analytics may further enhance operational efficiency, but their impact is still determined by human-centred approaches that respect consumer freedom and privacy.

The second hypothesis discovered a comparable weak but significant negative correlation between trust and purchase intention. Hence, the result indicates that the popular conviction that trust is always the major reason for engaging in online purchasing in the Indian context is wrong up to a certain degree. The Indian buyers, even in the case that they shop from the renowned websites of Amazon, Flipkart, and Meesho, trust less than they rely on factors like ease of shopping, discounts, and availability of products. This indicates a change in the digital consumer mindset where the non-rational factors are becoming the main winners in the highly competitive e-retailing market. On the other hand, the third hypothesis was supported mainly due to the positive influence of personalisation, collaboration, and engagement metrics on brand loyalty and purchase frequency.

The results of the regression analysis (R^2 = 0.501, p < 0.001) showed that almost 50% of the variations in consumer loyalty and purchase frequency were attributable to the successful analytics-based personalisation and engagement. Thus, this result elevates the customisation role in consumer experience as a long-term engagement strategy. The use of technologies such as personalised recommendations, influencer partnerships, and interactive AI-driven engagement not only brings in customers but also strengthens the brand's grip, thereby generating a cycle of purchase and loyalty. The cumulative effect of these findings indicates that while trust and the power of analytics are certainly important factors, it is the personalisation of the shopping experience that brings about the highest-level behavioural outcomes in social commerce.

6. Conclusion

The research claims that Social Commerce Analytics (SCA) is a revolutionary factor, not only in changing the behaviour of consumers but also in offering a complicated side of the coin, especially in the Indian e-retailers' context. The statement that e-retailers using modern analytical tools have quality wins over the competitors in terms of marketing is true, but their power to shift the consumer from the point of not purchasing to purchasing is heavily dependent on the situation and the manner of data ethical handling. The results of the research report show that there is a weak negative correlation between SCA, consumers' trust, and buying behaviour; this means that it is necessary to communicate with the consumers and understand what they are feeling and their values for the best results; otherwise, data-driven systems alone will not guarantee such outcomes. This is the other way around, however, the personalisation and engagement metrics having a strong and direct influence is a clear example that when analytics are exercised in the right way to deliver personalised, value-based experiences, they not only raise the number of purchases but also the extent of the brand's loyalty, greatly. Therefore, Indian e-retailers should rank the combination of predictive analytics with emotional intelligence, transparency in every step, and the building of real consumer relationships as their top strategies. Subsequent studies may investigate the long-lasting effects of SCA adoption as well as the enlargement of the sample size to cover various demographic segments, and hence the changing digital consumer trends being captured.

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