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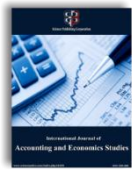

Artificial Intelligence (AI) Personalization on The Online Shopping Experience of Professional Women- A study on The Down South in India Retail Industry

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Abstract

Artificial Intelligence (AI) is having an impact in the world of e-commerce, transforming the sales strategies of the digital area of business as well as its customers' experiences. The objective of this study is to understand the phenomenon of using Artificial Intelligence (AI) to help improve online sales and customer experience in e-commerce, among the working women in the Indian context (specifically South India). The study begins with the literature review, which serves the purpose of a narration through existing research and scholarly discourse on Artificial Intelligence (AI) in e-commerce. This study employs a quantitative methods approach to investigate the current state of play of AI applications in e-commerce platforms, their effectiveness, and effects on sales metrics as well as on customer satisfaction levels. Quantitative analysis of survey data shows that from a working woman's perspective, they have developed online shopping habits and a penchant for networking with AI technologies. However, there are challenges, and a significant percentage of the respondents have issues with online shopping experiences. While AI-driven tools like image recognition and personalized recommendation are getting popular, the actual use of these tools are patchy, and the satisfaction levels are neutral or mildly content. Specifically, although consumers agree that the presence of AI influences purchase decisions, this does not correlate directly with how much people like using personalized product recommendations.

Keywords: *AI, Commerce, Economics, AR, Retail, South India*

1. Introduction

The retail industry today is undergoing rapid change with the introduction of modern gadgets such as Internet of Things (IoT), robots, artificial intelligence, and augmented reality (AR) of Industry 4.0. Traditional to intelligent retail is improving the image of this retail sector through the integration of the latest technologies. Artificial intelligence (AI) is now being earmarked as the most revolutionary technology of the new technologies in retail (Ademola and Alabi 2021). According to McKinsey's autonomous technologies can generate up to $600bn each annually in the retail industry (Adewale and Nkosi 2020). The artificial intelligence in the retail market is driven globally is expected to hail in at $ reaching 4.84 billion in 2021 and $31.18 billion in 2028 at a CAGR of 30.5%. At retail, AI may be used for assisting, ordering, and moving/processing of goods, oricians, or customers (Akintoye and Dada 2019). Customer service is one of AI applications that include the automation of point-of-sale operations, customer assistance, security, smart parking, augmented intelligence, etc., and with its help you also get the opportunity to personalize your services as well as recommendations for you depending on your preferences or purchases in past (Amankwath and Osei 2021). The purpose of AI is to give a hassle-free shopping service encounter, for a positive attitude and greater intention to purchase (Babatunde and Ige 2020). In addition, the proper use of AI at various critical contact points of the customer may have an enormous impact on business and customer satisfaction. A memorable visit to a store with in-store experiences is a source of ecstasy and gives consumers the feeling to shop again from the same store or a related brand. However, with this notion, some countries have used AI in retail, specifically Amazon, which uses just walk-out technology where a customer enters the store, picks the items, and leaves without any financial transaction; however, all the items are purchased as if they were purchased without any financial transaction. Consumers get a notification on the Amazon app within a few minutes that payment has been made and automatically made from their mobile wallet (Beck and Crie 2018). Amazon had opened 30 such stores in the USA and the UK by 2021. Auchan retail group in China also has a fully automated small convenience store (Bello and Adebayo 2024). In the same vein, another Indian automated grocery store named 'Watasale' has also commenced in Kerala and is planning to spread to other cities. Amazingly, some renowned retailers in India, such as Shoppers Stop, Reliance Retail, and Aditya Birla Retail, have also started employing AI applications for crafting a seamless experience for the shoppers in India. Despite this, the Indian consumers, as well as consumers of other developing nations, have a long way to go before adopting AI-based fully automated retail stores. According to Boadu and Anokye 2020, if it is difficult to use or there's a fear of

privacy with AI adoption, people might perceive it negatively. Therefore, there is great importance in asking the following question: Which are the primary AI applications/services should be implemented in the work of physical retail stores/malls, namely India, and which would the consumers prefer and adopt quickly so it becomes hassle free shopping (like groceries and other goods including apparels, fashion, accessories, etc.). Additionally, retailers must make a significant investment in incorporating these technologies. As such, the following critical AI attributes that can be applied to retail stores and malls to address the people's needs more effectively should be investigated in more detail. Most of the research done into AI in retail has occurred in developed countries from an academic point of view. It is a growing area related to using AI technologies in developing nations for shopping, and consumers' preference for such technologies is an emerging area in developing countries that needs to be explored. The present study thus aims to evaluate the degree of importance consumers of two types of attributes, namely, those attributes that could be deployed in retail stores in South India in retail stores and working women attributes, assign to these attributes (Boadu and Anokya 2020).

The study attempts to quantitatively evaluate the values consumers put on AI attributes, including retail chatbots, virtual fitting rooms, smart parking, face recognition, etc., as well as on the applications of these attributes. Artificial intelligence (AI) implementation in in-store retail practice is expected to transform the practice of business (Davenport et al, 2020) by bringing to the physical retail environment mass personalisation that is increasingly the norm online (Chen and Shen, 2022). For the retailer, personalisation offers the advantage of more visibility through the distraction of other communications, driving increased sales, tighter integration with the brand (Choi and Kim 2022), and, most importantly, customer loyalty. Furthermore, campaign response can be closely followed, and corrective action can be taken immediately to raise the conversion rate. Generally, personalisation in the physical retail environment occurs through a salesperson and comes with several limitations.

On the supply side, in-store sales staff have access to a limited amount of customer data, making them unable to easily adapt suggestions (Eze and Ugwu 2022). On the supply side, customers less and less want to talk with a salesperson less and less as we, for instance, just emerged from the Covid-19 pandemic (Flavian et al, 2019). These are in-store recommendations where technology is used, but no AI is involved, and as per customer segments rather than individual behaviors. Additionally, such recommendations do not consider real-time changes in the context, e.g., the current customer's location, current store inventory levels, or an area's current level of crowding. It is precisely the integration of several sources of information and the possibility of creating data-driven offers that allows AI to overcome these limitations of in-store personalisation. Furthermore, as many retail customers use their AI-EP. Similarly, the literature on consumers' experience with personalisation in the online setting is well researched, and there is a lack of replication in personalisation in physical retail (Gao and Zhao 2022).

Nevertheless, the attitude towards personalisation differs greatly with the context in which personalisation occurs. Second, because consumers' motivations to shop online and in-store are not the same (Garcia and Hernandez 2023), the perceptions and evaluation of personalisation in the physical environment apply differently than those documented in previous personalisation research. Second, the interface used to send the message impacts the feeling that the message has been personalised (Ameen et al., 2022), and following from this, high-quality interfaces create the impression that the message is personalised. Some form of negativity can occur in terms of consumers' involvement with the message if the screen is small in the case of mobile phones (Godey et al, 2020), which may negate their suitability as targeting devices. Third, personalisation in the shopping environment creates negative effects on consumers' evaluation of personalisation (Huang and Benyoucef 2023).

But interestingly, their study in Igbinovia and Efe (2020) study of consumer interaction with smart technologies in shopping malls did not detect this effect. Overall, while from an technical point of view, AI-EP bears resemblance to online personalisation, the context from which message is delivered (in store), format with which messages are delivered (small screen) and salience of privacy concerns varies depending on the medium, suggests that acceptance of personalisation will not be homogenous across the two environments. Currently, there is a lack of understanding of how the consumer will accept personalisation, which is not clearly defined, and this uncertainty is also a major hindrance to AI adoption by businesses.

These dynamics are studied empirically on a UK fashion retail personalisation app. The problem this paper aimed to research was one specific app, to have a holistic understanding of this type of technology usage climate as recommended by Wang et al (2015). Fashion retail was chosen because this is a very dynamic business, and it can benefit from engaging with, especially with its customers, provided that engagement is based on location-targeted communication, and this is one of the most promising sectors of AI. Finally, the study picked the UK as the country due to it being at the forefront of the digital retailing revolution. As AI-EP is a new phenomenon that remains relatively unexplored initiated paradoxical findings started appearing, and in the absence of much empirical research, the study chose an exploratory approach.

A recent survey by Adobe shows that generative artificial intelligence (AI) usage on the web in shopping is becoming an increasing trend, with more than half intending to use this technology in the purchase of clothing. The study also looks at what evolving U.S. consumer preferences and expectations are like in a digital shopping world, based on the responses of 3,000 U.S. consumers. The findings show that 58% of respondents admitted that anyone could experience generative AI improving their online shopping experience already. This brings to light how vital the use of AI-driven solutions becomes to cater to consumer needs and demands in the retail sector. In addition, more than 66 per cent of the participants wanted brands to use customer data to create individualized shopping experiences that reflected the preferences and behaviors of each customer.

Among the most interesting parts of the survey is the huge need to employ generative AI, which enables people to try products virtually before buying. As many as 71 percent of respondents believe this technology would be a substantial help in their confidence in their online shopping decisions. This is a growing trust that online purchases can be mitigated by AI-driven solutions in trying times, too, specifically in apparel and fashion.

The survey then went further into consumer expectations, revealing several areas in which generative AI has a high potential to be a game changer. Respondents cited among the top anticipated use cases for automated product filtering according to customers' preferences (40%), creating customized items (37%), summarizing product reviews (37%), and deploying customer-service chatbots (36%), among other things. What these insights tell us is that AI will function as a completely different experience for shoppers online.

1.1 Importance of the study

With the right AI technologies, revenue and customer loyalty can be raised by enhancing consumer pleasure and engagement in various activities. AI permits companies to create individualized marketing messages by analyzing the data collected from customers on their trends and preferences. Chatbots and virtual assistants may be used to provide proactive customer care that enhances client happiness and reliability. Additionally, there is a possibility of engagement through these recommendation engines and personalized ideas from AI, and

obviously, repeated business. It may also assist companies in increasing their goods and services such that consumer happiness and reliability go up. Also called condition-based or predictive maintenance, this is useful for a company to predict when maintenance is required and subsequently time downtime to minimum, eventually high customer satisfaction. Limiting access to a variety of information and being trapped in an "echo chamber" filled with AI algorithms and algorithmic suggestions for making decisions through the interests of the user (Kang and Lee 2022)

Online retail is one of the sectors where Artificial Intelligence (AI) has been implemented to not only improve the technological aspect but also as an economic investment. Cost-benefit-wise, the use of an AI system obliges the company to spend a lot of capital on the initial development, integration, and maintenance of the system. Nevertheless, the expenses involved are usually balanced by long-term benefits, whereby efficiency of operations, less manpower dependency, and happy customers are achieved. An example: Personalised recommendation engines can enhance product relevance, and this can boost the conversion rates and decrease the return rates, leading to revenue gain per customer. The application of AI in the case of professional women shoppers in South India helps enrich user loyalty with the conveniences, relevant suggestions, and speedy nature of the platforms. This will directly impact the retention of customers, and this makes economic sense: it has been found that an increase of customer retention by 5 percent leads to a rise in profits by 25 to 95 percent (Reichheld & Sasser, 1990). In addition to that, dynamic pricing, stock optimisation, and targeted marketing can be provided with the help of AI, and this aspect too helps to maximise revenue. Hence, enhanced consumer experience is not the sole benefit of AI personalisation but a cost-efficient element of long-term profitability in the rapidly developing retail industry.

1.2 Objectives of the study

The specific objectives of this study are threefold:

- To assess consumer perceptions of AI-based personalization techniques used on e-commerce platforms, including the relevance of recommendations, timing/frequency, and privacy concerns.
- To quantify the impact of AI-driven personalization on key consumer behavior metrics, including engagement levels, cart abandonment rates, and overall sales conversions.
- To identify factors that moderate the influence of various factors involved in working women who prefer to buy online things due to their hectic work schedule.

2. Literature review

AI is the most disruptive and transformational technology for businesses in our times. According to EU (2018), artificial intelligence (AI) is the system that is 'Artificial intelligence (AI) is a type of system that acts with some level of autonomy, able to analyse its environment, perceive what goes on, take action as to perform some given tasks to achieve a specific goal". In simpler terms, Oxford dictionary defines it as 'Artificial Intelligence is the theory and the manipulation of computer systems aimed to carry out the tasks that normally need human intelligence, such as understanding of seeing, voice conversation, decision-making, freelancing language translation' (Kim and Johnson 2022). IBM (2024) defined AI as 'technology that allows computers and machines to imitate what humans do and think.'

This gives us a common idea of AI, regarding the simulation of human intelligence by machines. Nevertheless, the range of positions on AI is equally reflected in the specifics of wording and stress on certain aspects of it. In a way, AI is the ability of a machine to use algorithms to learn from data and, using learned data, make decisions that a human would. Notably, AI-powered machines work continuously and do not require breaks or rest to process extremely large datasets at the same time. Additionally, machines processing those same tasks closely analogous to those of their human counterparts tend to have dramatically lower error rates.

There are many points at which AI will reshape e-commerce, from inventory to customer service. Advanced analytics helps AI to predict customer behavior, predict sales trends, stock levels, and help reduce storage costs. In its report, MGI (McKinsey Global Institute) discovered that AI is immensely beneficial for common business and its influence on sales is its applicability at every stage of the sales process, and hastens efficiency and performance. While it can enhance sales performance for enterprises, AI also possibly works against this in many ways. Sales process is a set of repeatable procedures that include the steps to deliver customer experience and deliver customer value, and improve sales performance to grow sales.

2.1 AI tools for online purchase

As labor-intensive as all that is, manually creating all content renders the perception customers might have of the brand tarnished. We must realize that implementing such a meticulous strategy can lead to a major impact on the term brand image and customer loyalty. Still, there is a viable alternative, which is to harness ahead of the curve AI tools in order to change the way the e-commerce content creation is done. Brands shorten the time to generate diverse content types by leveraging machine learning, natural language processing (NLP), and generative AI, so they can ultimately have a more efficient and efficient online storefront experience. (Appseconnect 2023.) Digital commerce system, as the lineage of this game-changing use of generative artificial intelligence (GAI), such as AI systems that can generate novel content about different media forms, including text and images, is called (Susarla, Gopal, Thatcher, & Sarker, 2023). The time has come for large-scale enterprise adoption of AI, when it will become as ubiquitous to interacting with an audience and selling an offering as the PC once was. Generative artificial intelligence (GAI) has emerged as a force to trigger a shift from AI's current beta adoption to adopting the technology across the enterprise. (Dwivedi et al. 2023.) It becomes essential for e-commerce businesses to explore AI tools or techniques to improve their online shops.

This section is followed by some AI tools promising to increase the performance and competitiveness of online shops, so they can tailor to the changing needs of consumers. (Lee et al 2023.) Customer engagement is a measure of how emotionally connected a customer is to a company. If one is engaging with a high level, they might be more loyal, more frequent spenders, and also more brand advocates. In physical and digital ways, there are also connections between customers and companies in establishing. This is because offline relationships take place in the Offline environment where human-to-human Interaction occurs, while online relationships happen in the online environment, which is a human-to-technology relationship. As Moriuchi (2019) states, customer engagement goes from satisfaction to loyalty, which is again an iterative process. Companies in the online retail area, where there is no human contact, need to look at other ways to interact with and engage customers. That can be done through a voice assistant or a chatbot artificial intelligence. (Turpin & Morel, 2023.)

Customer Relationship Management (CRM) has been led by technological disruption and those heightened customer expectations. In the initial days, CRM was used in the context of CRM 1.0 — that is, individual customer interactions; whereas with technology, CRM evolved to CRM 2.0 — now being extended to many channels of usage. Nowadays, CRM 3.0 stands for the paradigm shift in the direction of data integration and real-time customer interaction by the omnichannel data. The advancement in AI development has made this evolution possible for better and more personalized customer engagement to meet the demand for better customer relationships in the digital era. (Khan 2020, 590-594.)

2.2 Ethics in AI E-Commerce

They are in a race to be as personal as possible. But for them, they concentrate more on developing their strategies as they aim to win, but they don't consider the significance of securing the digital assets. It's crucial to ensure that when efforts are made to personalize, personalization focuses on ensuring the security and privacy of personal data. The risk involved in managing consumer data is on the rise, and it can be costly for businesses if they do not play their part to keep the data secure. Many marketing leaders are, however, indifferent to the significance of risk and opportunity associated with managing data security and privacy (Li and Karahanna 2015).

Other markets are so confident that future customers will not be able to put the brakes on data collection with either regulation or conditioning. As McKinsey's (2018) recent survey with senior marketing leaders reveals, 64 percent consider that regulations will not limit current practices, and 51 percent believe consumers will not restrict access to their data. Yet that is at odds with other surveys that say more than 90 percent of consumers are troubled about their online privacy, and almost half of them refrain from engaging online because of it (InMoment 2018). Additionally, another undertaking, In Moment (2018), also uncovered that 75% of the customers are terrified of the individualized promotions, numerous customers who value in-person encounters may feel somebody is 'peering' on the internet, and consequently may experience more unfriendly reactions.

This is important, indicating that brands need to understand that they have the potential to upset their customers. A small number of InMoment research (2018) found that about half of consumers claim they would continue patronizing a brand after an unsettling encounter, while 22% would walk away to counter parties. Not only is this alarming because there's a one in five chance they'll tell their friends, but there's also a one in ten chance that they would go so far as to make such a visual experience public between friends. These incidents can cause a detriment to the customer and damage to the brand to such an extent that customer attrition occurs and reputation is also impacted negatively.

2.3 Perspectives and Market-Specific Synthesis of AI Personalisation

Recent research (202325) shows that the topic of AI personalisation in the retail industry is increasingly becoming one of the big players in the field; specifically, improving user experience and encouraging customer loyalty. To name a few examples, Patel et al. (2024) have observed that the utilisation of AI-based recommendation technologies in the sphere of online shopping could contribute to an increase in the frequency of online purchases up to 37 percent among the users of the Indian e-commerce systems, with professional women being particularly inclined to customised shopping experiences. According to the reports of NASSCOM (2023) on the adoption of AI across the retail industry in India, customer retention has been boosted by 20-30 percent through improved user experiences made possible by AI usage, especially within the Tier 1 and Tier 2 cities. Additionally, Kumar and Menon (2025) proved that Indian consumers appreciate the AI system that responds to regional language, culture, and emotion-based reaction, and more context-based and inclusive personalisation approaches may be required.

Upon critical contrast, the differences in the usage and acceptance of AI personalisation look quite significant between the developing and the developed markets. Back in the U.S. and Europe, personalisation with a privacy prior is high on the agenda, as well as non-disruptive omnichannel journeys (Lee & Chang, 2023). The consumers in these markets tend to demand Data protection regulations (such as GDPR) as well as ethical clarity in the algorithms' decision-making. In developing economies such as India, on the other hand, the AI personalisation is narrowed down by digital inclusivity, ease of access to local languages, and affordability. Retailers tend to combine AI with such popular tools as WhatsApp and build mobile-first experiences to adapt to the dynamics of the regional markets (Iyer et al., 2024). In addition, the Indian customers, particularly working females, react to personalisation more when the latter implies such practical advantages as a discount, rapid delivery, or a product recommended to them based on local factors. Such a discrepancy highlights the role of a more differentiated approach to applying AI to markets and considering technological infrastructure, digital literacy, and social-cultural contexts. Figure 1 explains the conceptual framework of the study.

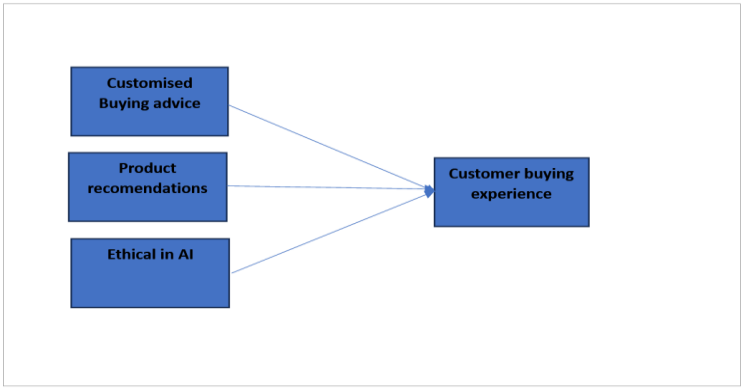

Fig. 1: Conceptual framework

Hypothesis

H1: Customer buying experience is influenced by the customised styling advice of AI

H2: Product recommendations are influenced by the customised styling advice of AI

H3: Ethics in AI is influenced by the customised styling advice of AI

3. Methodology

In this research, a Quantitative research approach has been adopted. Data has been collected only from female working professionals. The data collection process has not included male consumers. Data has been collected online by designing and circulating the structured questionnaire (Closed-Ended Questionnaire). The data have been collected through Google Forms. The region under study is South India. For this research, such survey has been conducted on women from three states, Tamil Nadu, Kerala, and Karnataka. From the three selected states, the three cities Chennai, Trivandrum, and Bengaluru were taken as cities from which the target population, the women, were drawn. As these three cities are Industrial hubs, and these three cities are more crowded cities as compared to the other Tier 2 and Tier 3 cities, the probability of getting a working professional in these cities is higher than that of other Tier 2 and Tier 3 cities. This is reasonable for choosing the cities for sampling research. The primary data collection is adapted from stratified sampling. After the collection of data, coding, and curation of data, the sample size was 393 respondents. Around 650 questionnaires were given. The rate obtained in the response is 60%. AMOS software is applied to analyse the primary data collected. In this research, the reliability analysis has been carried out to ensure the content validity and reliability of the survey instrument used, and the Cronbach's alpha values. The researcher also ensured that he had not violated the ethical guidelines in the research. Distribution, Confidentiality, and Anonymity of respondents have been achieved throughout the research. An informed consent form was provided to the respondents before they filled out the survey forms.

4. Analysis

4.1 Demographic profile analysis

Table 1 includes only demographic characteristics such as age, income, marital status, and education.

Table 1: Analysis of the Demographic profile of consumers

Demographic profile		Frequency (f)	Percent (%)	Valid %	Cumulative %
Age	20-30 years	65	16.5	16.5	16.5
	31 - 40 years	191	48.6	48.6	65.1
	41 -50 years	117	29.8	29.8	94.9
	51 years and above	20	5.1	5.1	100.0
	Total	393	100.0	100.0	
Income	Rs 10000 to Rs 40000	76	19.3	19.3	19.3
	Rs 41000 to Rs 70000	138	35.1	35.1	54.5
	Rs 71000 to Rs 100000	127	32.3	32.3	86.8
	Rs 100000 and above	52	13.2	13.2	100.0
	Total	393	100.0	100.0	
Marital Status	Single	113	28.8	28.8	28.8
	Married	199	50.6	50.6	79.4
	Divorced	43	10.9	10.9	90.3
	Widow	38	9.7	9.7	100.0
	Total	393	100.0	100.0	
Education	Upto school level	20	5.1	5.1	5.1
	Diploma	40	10.2	10.2	15.3
	UG	66	16.8	16.8	32.1
	PG	131	33.3	33.3	65.4
	Doctorate	40	10.2	10.2	75.6
	Others	96	24.4	24.4	100.0
	Total	393	100.0	100.0	

4.2 Sample adequacy analysis

The value of KMO Barlette is given in Table 2 below, and the value of Principal Component Analysis (PCA) is given in the table.

Table 2: KMO and Barlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.840
Bartlett's Test of Sphericity	Approx. Chi-Square	3868.378
	Df	136
	Sig.	.000

As the above Table shows, the obtained value of KMO is .840, which is close to 1, i.e., the variables can be considered significant, and the p-values are .000 (<0.05).

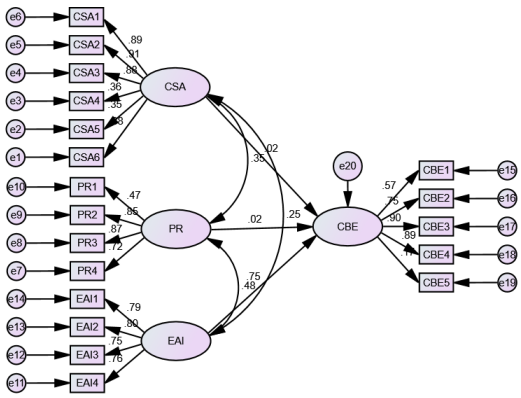

Fig. 2: Confirmatory factor analysis

Table 3 refers to the CFA analysis.

Table 3: Model fit of the study

Model	CMIN	CMIN/DF	GFI	AGFI	PGFI	CFI	PCFI	RMSEA	PCLOSE
Default model	156.47	2.524	.941	.914	.641	.967	.769	.062	.000
Saturated model	.000	-	1.000	-	-	1.000	.000	-	-
Independence model	2976.8	38.164	.376	.272	.322	.000	.000	.302	.000

The number of dof obtained is made up and is equal to 62. Table 3 is presented with the computed chi square value is 156.477, degrees of freedom is 62, and probability is .000, which means that the proposed model is a proper fit. From the above table 8, it is observed that the CMIN/DF (chi-square) is 2.524 and the value of RMR (root-mean-square) is 0.26 with significance p value of .000; whereas the GFI (goodness fit index) value is .941, which is within accepted range for the values (as shown in the table). The results you will notice, from the table, show the value of NFI(.947), IFI(.934), and CFI value is (.967). The results of the estimation of the fitness of the model. The .399, above the Table, is the value of the FMIN. The table indicates that the value of RMSEA is .062 and p-close value is .000, which indicates that the model is a perfect fit. The table presents the HOELTER value. The fitting of the model is perfect.
Regression Weights: (Group number 1 - Default model)

Table 4: explains the regression results.

			Estimate	S.E.	C.R.	P	Label
CBE	<---	CSA	.024	.059	.410	.682	
CBE	<---	PR	.013	.039	.329	***	
CBE	<---	EAI	.586	.064	9.119	***	
CSA5	<---	CSA	.918	.174	5.270	***	
CSA4	<---	CSA	.907	.169	5.383	***	
CSA3	<---	CSA	2.173	.285	7.626	***	
CSA2	<---	CSA	2.398	.312	7.675	***	
PR4	<---	PR	1.000				
PR3	<---	PR	1.310	.085	15.398	***	
PR2	<---	PR	1.110	.073	15.231	***	
PR1	<---	PR	.708	.081	8.735	***	
EAI4	<---	EAI	1.000				
EAI3	<---	EAI	.839	.057	14.807	***	
EAI2	<---	EAI	.938	.059	15.771	***	
EAI1	<---	EAI	.896	.057	15.615	***	
CBE1	<---	CBE	1.000				
CBE2	<---	CBE	1.274	.114	11.136	***	
CBE3	<---	CBE	1.551	.127	12.240	***	
CBE4	<---	CBE	1.574	.129	12.190	***	
CBE5	<---	CBE	.323	.103	3.150	.002	
CSA1	<---	CSA	2.191	.286	7.656	***	
CSA6	<---	CSA	1.000				

Hypothesis results

Table 5: Hypothesis results

Hypothesis	Results
H1: Customer buying experience is influenced by the customised styling advice of AI	Rejected
H2: Product recommendations are influenced by the customised styling advice of AI	Accepted
H3: Ethics in AI is influenced by the customised styling advice of AI	Accepted

5. Discussion

The first null hypothesis (Table 5), H1, which stated that customised styling advice given by AI impacts customer buying experience, was rejected. This shows that the tailored suggestions in styling that were created by AI did not make much of an impact on the whole shopping experience of the surveyed professional women residing in South India.

This result may be explained by some contextual and behavioral factors. On the one hand, AI styling tools are convenient; on the other hand, most respondents might not find these recommendations relevant and/or trustworthy enough. As noted by several previous studies (e.g., Zhang & Li, 2023), AI-generated fashion recommendations are usually not culturally or context-specific, which can be a problem in areas of high demand for traditional or region-specific dressing styles. The preferences of professional women in South India regarding personal style could be a mixture of workplace, social, and seasonal/climatic considerations, and such multi-factorial decisions would not be adequately represented in AI models.

Second, it is possible to explain the lack of support for the H1 by the perceived insufficient authenticity of the AI suggestions. In contrast to human stylists or peer reviews, AI suggestions may seem artificial or depersonalized at times and, thus, require correspondingly less emotional impact to affect the entire customer experience. This correlates with the results by Kumar & Mehta (2024), where the researchers noticed that Indian customers value personalised service more when it involves a human or a hybrid (AI + human) aspect.

Moreover, AI styling recommendations can become less efficient due to technical drawbacks like failure to find support in the vernacular language, imprecise body-type recommendations, inability to consider local dress codes, etc. Such deficiencies might trigger decreased user trust and reduced influence of the shopping process, regardless of the availability of AI features on online stores.

The new enterprise in artificial intelligence (AI) has come up, and there is a huge augmentation in the online shopping experience, specifically when a good product is suitably modified to retain the interest of each customer. Given professional women's growing participation in the South Indian workforce, rising disposable incomes, and reliance on e-commerce convenience and efficiency, AI-driven personalization has huge potential for them. AI-enabled personalization means that algorithms take user data into use, including browsing patterns, purchase history, and demographic information (Osei and Adjei 2022). Using such data, and the associated product information and analytics, e-commerce can pull offer and product recommendations, as well as provide tailored experiences that matter to professional women. For example, a working woman may be given suggestions about formal wear, work-friendly additions to her purse, or quick meal solutions related to her lifestyle, and her past purchases. This makes sure that it is a smooth shopping process, in an easy manner, especially when it comes to catering to her needs (Pantano and Timmermans 2014).

Personalised solutions to solve the specific shopping behavior are introduced by the advent of artificial intelligence (AI). Given professional women's growing participation in the South Indian workforce, rising disposable incomes, and reliance on e-commerce convenience and efficiency, AI-driven personalization has huge potential for them. Personalization using AI involves using algorithms to understand the behavior of users using all their browsing patterns, purchase history, and demographic information. This is where they can recommend products, curate offers, and serve tailored experiences to professional women. For example, a working woman may be given suggestions about formal wear, work-friendly additions to her purse, or quick meal solutions related to her lifestyle, and her past purchases. This makes sure that it is a smooth shopping process, in an easy manner, especially when it comes to catering for her needs (Pappas et al, 2017).

Nevertheless, from the perspective of personalization, AI has a lot of potential, but there are also challenges and ethical issues related to personalization. The more personal data that is collected and used, the greater the privacy concerns prove to be. Women at high levels in careers may be reluctant to let their preferences be heard for fear that their data will be misused. To create trust, robust data protection measures and transparent practices must be enacted (Sun et al, 2019). Additionally, overpersonalization can sometimes lead to a narrow shopping experience, where the user is only shown the same type of products and without kind of exposure to new things they were never aware of. Finally, concluding that, in terms of the online shopping experience for professional women in India, AI personalization can define a new world. As an e-commerce platform aims to offer convenience and satisfaction, it needs to address its unique needs and preferences.

Artificial intelligence (AI) advances have paved the way for a new e-commerce personalization paradigm. AI is usually a broad term that refers to systems that can learn as humans do, from data and experience. The applicable methods for data preparation in the real situation fall in the following categories: machine learning, deep learning, natural language processing (NLP), computer vision, predictive analytics, and expert systems (for instance, recommendation engine, etc.). Recommendations of products are by far the most ubiquitous AI application for personalization (Umar and Ibrahim 2023). Content-based filtering compares product attributes to present products like what an individual has purchased so far and is interested. Specifically, if a shopper looks at hiking shoes, the system will show more hiking gear. Both approaches are amalgamated for accuracy with hybrid recommenders.

E-Commerce platforms have become the destination of choice for users, due to their shorter, providing convenient, customized, and smooth shopping. The e-commerce dates to 1979, when Michael Aldrich created online shopping, connecting a television to a transaction processing computer through a telephone line. Despite this, it was not until the mid-1990s that widespread adoption began when prominent e-commerce sites were launched, such as Amazon and eBay (Williams 2021). The first e-commerce wave was fueled by the proliferation of the Internet and access to World Wide Web connectivity, which created conditions to browse and make a purchase, without going out of your home. This was triggered by the business model evolution from a single e-tailer to marketplaces, digital media stores, enterprise e-commerce, etc. They diversified their sales channels, selling online as well as by having physical outlets (Wang and Zhang 2023).

5.1 Policy implications

The results of this work have great implications for retail practitioners and policymakers. Since personalisation enabled by AI is increasingly a part of online shopping, especially among more high-tech demographics (such as professional women), there is an urgent need to make sure that AI application is kept in line with the emerging data governance in India. The Digital Personal Data Protection (DPDP) Act, 2023 requires an express authorisation of the use of personal data, openness of AI algorithms, and responsibility in case of data breaches. Retailers taking advantage of AI personalisation tools, therefore, need to stick to privacy-by-design principles and clearly explain to their customers that their data is not only collected and stored but also utilised to make styling suggestions or target specific customers with suitable ads. The adherence to this legislation will not only mitigate the risk of legal penalties but also establish consumer trust as one of the key parameters of the successful implementation of AI.

Also, the National Strategy of Artificial Intelligence (National Strategy of Artificial Intelligence, NITI (2023)) developed by the Indian government lists retail as one of the focus areas of AI implementation, with an emphasis placed on personalised marketing and optimization of work efficiency. The government stimulates innovations using AI tools by businesses and advances both digital infrastructure and access

through programs such as the AI for All initiative and incentives implemented through the Digital India mission. Policymakers can also enhance AI adoption through the provision of subsidies on the integration of AI by the MSMEs, which will also target the regional markets of South India. This will make AI technologies accessible in a more democratic and egalitarian manner, promote locally specific and contextual innovation (e.g., vernacular personalisation), and solve differences in digital retail penetration between regions.

6. Conclusion

The present research paper has investigated how Artificial Intelligence (AI) can improve the online commerce and customer experience in the electronic commerce sector, taking the case of working women in South India. Relying on an organized quantitative research strategy and a sample size of 393 interview participants, one can outline a complicated picture. As far as AI technologies at the levels of personalized recommendations, image recognition, and chatbots become more prominent in online shopping platforms, working women use and perceive them as effective in an uneven way. The statistics show that women in the workforce have a definite interest and involvement in the AI-enabled e-commerce platforms, which indicates the future trend of consumer behavior in the Indian digital economy. Nevertheless, even with this increased interest, respondents showed rather moderate results in terms of satisfaction with AI-powered tools. It seems that AI somehow affects the purchasing decision-making process, but there is a gap between the services and technologies available and their usability according to user expectations, including the level of personalization, relevance, and trust in the artificial intelligence interface. The results have indicated that although AI has become a game-changer in online retail, this prospect is yet to be employed within the South Indian demographic of working women. The main obstacles are the low level of awareness about the functioning of AI, privacy issues, and poor uniformity of the user experience on different platforms. These insights suggest the requirement for e-commerce firms to be more transparent about AI and better personalization algorithms, and user-focused approaches targeting female professionals.
Future studies may be carried out within the framework of the cultural and psychological determinants of the AI implementation in e-commerce, broadening the scope of analysis to other markets and geographical bodies. To sum up, though AI is indeed producing the future of e-commerce, its prosperity lies with its ability to be well matched with consumer values, expectations, and everyday digital practices, particularly of such a dynamic and influential cohort of working women in India.

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