



Conference “Innovation and Intelligence: A Multidisciplinary Research on Artificial Intelligence and its Contribution to Commerce and Beyond”

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Role of Artificial Intelligence in shaping Women’s Gold Jewellery Shopping patterns in Mumbai

Ms. Aparna Sunil Kambli

Ph.D. Student, Business Policy and Administration

R A Podar College of Commerce and Economics (Empowered Autonomous), Matunga, Mumbai- 400019.

aparnasai19k@gmail.com

Prof. Vinita Pimpale

Ph.D. Guide, Business Policy and Administration

R A Podar College of Commerce and Economics (Empowered Autonomous), Matunga, Mumbai- 400019.

vinita.pimpale@rapodar.ac.in

Abstract

Gold jewellery continues to be an important cultural, emotional, and financial asset in India, traditionally purchased through trusted family jewellers. However, the emergence of digital retail, supported by Artificial Intelligence (AI), has begun to influence how consumers evaluate, select, and purchase jewellery. Mumbai, being a metropolitan and digitally progressive market, reflects a growing trend among women towards exploring online gold jewellery platforms. This study investigates the role of AI-driven features such as virtual try-on technology, personalized product recommendations powered by machine learning, dynamic and transparent pricing systems, real-time chatbot support, and predictive design or trend analytics in shaping women’s buying behaviour when purchasing gold jewellery online. Primary data was collected from women across diverse age groups and income categories in Mumbai to understand perceptions of trust, convenience, product evaluation, and risk associated with online jewellery purchases. The findings indicate that AI enhances product visualization and personalization, reduces uncertainty regarding jewellery appearance, and improves the overall shopping experience. Additionally, transparent pricing and instant customer support provided by AI systems contribute to stronger trust and greater willingness to make online purchases. However, concerns regarding product authenticity, data privacy, and return policies persist among some users. The study contributes to existing literature by highlighting how AI functions not merely as a technological tool but as a behavioural influence mechanism that can reshape consumer confidence and decision-making in high-value, culturally significant purchases. The insights generated can assist jewellery retailers and digital platforms in adopting more effective AI-based strategies to better engage and retain women consumers in emerging online gold jewellery markets.

Keywords: Artificial Intelligence, Online gold jewellery, Buying Behaviour, Women consumer, Social media influence, Mumbai Market



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Introduction

Gold jewellery in India holds enduring cultural, emotional, and financial value. It serves not only as personal adornment but also as a symbol of tradition, family heritage, social identity, and long-term security. For generations, women have primarily purchased gold from trusted local jewellers, where familiarity, reputation, and interpersonal relationships assured product authenticity and quality. Thus, gold buying has traditionally been a personalized and experience-based process rooted in trust and cultural continuity.

In recent years, digital shopping has changed the retail landscape, and more urban women are beginning to buy jewellery online. With this shift, Artificial Intelligence has become an important tool in improving the online shopping experience. AI features—such as personalised recommendations, virtual try-on options, chatbots, clear pricing tools, and trend predictions—help women evaluate jewellery even without physically seeing it. These technologies reduce uncertainty, make the process more convenient, and help buyers make more confident and informed choices.

Mumbai provides a meaningful setting for studying this shift because it is a metropolitan market characterized by cultural diversity, strong jewellery purchasing traditions, and high levels of digital literacy. Women in Mumbai frequently balance professional, household, and social responsibilities and therefore value efficiency, personalization, and reliability in shopping experiences. AI-enabled platforms align closely with these expectations by simplifying product discovery, improving clarity, and offering a more interactive decision environment.

This shift from conventional showroom-based jewellery purchasing to AI-enabled online platforms reflects not just the adoption of new technology, but also a significant transformation in women's trust patterns, lifestyle expectations, and overall buying behaviour in urban India.

1.1 Objectives of the Study

1. To examine the extent to which women in Mumbai engage in online gold jewellery purchasing.
2. To analyse the influence of AI-enabled features (such as virtual try-on, personalized recommendations, price transparency, and chatbot assistance) on women's gold jewellery buying behaviour.
3. To identify which AI feature has the strongest impact on trust, convenience, and purchase confidence among women consumers.
4. To assess the level of satisfaction of women shoppers towards AI-supported online gold jewellery platforms.
5. To evaluate the relationship between AI-driven shopping experiences and brand preference or loyalty among women in Mumbai.



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1.2 Research Questions

1. To what extent are women in Mumbai adopting online platforms for purchasing gold jewellery?
2. How do AI-enabled features (such as virtual try-on, personalized recommendations, and price transparency) influence the purchase decisions of women shoppers in Mumbai?
3. Which AI feature has the greatest impact on increasing trust and confidence in online gold jewellery shopping among women in Mumbai?
4. How satisfied are women consumers with AI-supported online jewellery shopping experiences?
5. Does the use of Artificial Intelligence in online jewellery platforms contribute to brand preference and loyalty among women buyers in Mumbai?

2. Literature Review

2.1 Artificial Intelligence in Retailing

The integration of Artificial Intelligence (AI) within the retail sector has significantly transformed consumer purchasing processes, influencing how individuals browse, assess, and select products. Research indicates that AI-supported retail platforms enhance personalization, simplify purchase decisions, and strengthen customer engagement through the analysis of consumer behaviour and transaction data (Grewal et al., 2020). In product categories that are high-value or emotionally significant, such as luxury items, AI tools help minimize purchase uncertainty and provide more individualized shopping experiences (Huang & Rust, 2021).

2.2 AI Adoption in Gold Jewellery Retailing

Virtual try-on (VTO) and augmented reality (AR) tools are becoming very important in the jewellery sector because they allow customers to see how a piece will look on them before buying it. Studies show that AR try-ons make customers feel more confident, reduce doubts about the product, and create a stronger emotional connection (Poushneh, 2018; Javornik, 2016). For gold jewellery, the clarity of the visuals, correct sizing, and smooth user experience are key factors that help build trust and encourage customers to buy online.

2.3 Women and Digital Consumer Behaviour

Women's online buying behaviour is shaped by factors like convenience, trust, product clarity, and social influence. For expensive items such as gold jewellery, buyers prefer technologies that reduce risk and make them feel confident about their choices. Tools like realistic virtual try-on, clear hallmark and certification details, and transparent payment or return policies help build trust (Poushneh, 2018; World Gold Council, 2023). AI-based personalization, when used responsibly, also makes product suggestions more relevant and appealing to consumers (Huang & Rust, 2021).

2.4 Research Gap

Most earlier studies on gold jewellery buying in India have looked at traditional stores and factors like culture, family influence, price, and brand trust. Although some research exists on



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AI in online shopping, it mainly relates to products like clothes and electronics, not gold jewellery. Very few studies focus on digital consumers in big cities like Mumbai. This creates a gap in understanding how AI affects trust, convenience, and buying confidence among women who purchase gold jewellery online in Mumbai. The present study aims to fill this gap using primary data.

3. Research Methodology

3.1 Research Design

Primary data for the study were obtained through a structured questionnaire administered to 120 women respondents representing various age groups and income categories in Mumbai. The study employed a convenience sampling method to select participants. The collected data were analysed using percentage analysis along with interpretation tables to derive meaningful insights from the responses.

3.2 Population and Sample

The target population for this study comprises women consumers who have purchased or shown interest in purchasing gold jewellery. The sample includes respondents from Mumbai where AI enabled jewellery retailing is prevalent. A sample size of 120 respondents is considered adequate for preliminary analysis. Convenience sampling is employed due to accessibility and time considerations, ensuring representation of both online and offline buyers.

3.3 Data Collection Methods

The study utilizes both primary and secondary data sources.

- **Primary Data:** Collected through a structured questionnaire distributed online via Google Forms and in-person at jewellery retail outlets. The questionnaire includes both closed-ended and Likert-scale questions to assess factors such as digital engagement, trust, convenience, and purchase intentions.
- **Secondary Data:** Sourced from academic journals, industry reports, research papers, and credible online publications that discuss AI adoption, Women behaviour, and gold jewellery retailing trends.

3.4 Research Instrument

A **structured questionnaire** serves as the main research instrument. It is divided into three sections:

1. **Demographic Profile** – age, income level, and shopping frequency.
2. **Technology Adoption Factors** – exposure to online jewellery platforms, usage of virtual try-on features, trust in online payment systems, and influence of social media.
3. **Buying Behavior Patterns** – factors influencing purchase decisions, brand loyalty, and satisfaction levels with AI-enabled jewellery retailing.

Each statement in the questionnaire uses a **five-point Likert scale** ranging from Strongly Disagree (1) to Strongly Agree (5) to measure respondents' attitudes and perceptions.



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3.5 Data Analysis Techniques

The collected data analysed using **statistical tools** such as frequency distribution, mean, percentage analysis, and correlation analysis. **Microsoft Excel** software used for data interpretation. Descriptive statistics summarize respondent demographics and preferences, while inferential statistics helped to determine relationships between AI adoption factors and Women buying behaviour.

3.6 Scope of the Study

This study explores how Artificial Intelligence affects the online gold jewellery buying behaviour of women in Mumbai. It covers women from different age and income groups to understand varied experiences. The research focuses only on AI features used in online shopping—such as virtual try-on, personalised suggestions, chatbots, and price transparency. It does not examine traditional in-store buying. Because the study is limited to women in Mumbai, the findings may not fully represent consumers in other areas.

3.7 Limitations of the Study

1. The sample size may not fully represent all women consumers across India.
2. Responses are based on self-reported data, which may involve personal bias.
3. Rapid technological changes may affect the relevance of findings over time.

4. Data Analysis and Interpretation

4.1 Overview

This section presents the analysis and interpretation of data collected from 120 women respondents through a structured questionnaire. The data was analysed using descriptive statistics such as percentages, mean scores, and correlation analysis to understand how Artificial Intelligence (AI) adoption influences their buying patterns in gold jewellery retailing.

4.2 Demographic Profile of Respondents

Demographic Variable	Category	Percentage (%)
Age Group	18– 30 years –	35%
	31– 45 years –	40%
	46 – 60 years –	25 %
Occupation	Students –	30%
	Working professionals –	50%
Monthly Income	Others –	20%
	Below ₹25,000 –	20%
	₹25,000–₹50,000 –	45%
	Above ₹50,000 –	35%

Interpretation:

The majority of respondents were between 31–45 years. A slightly higher income of female



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respondents indicates greater interest in jewellery purchases among women, while a significant proportion of working professionals suggests increasing disposable income influencing jewellery buying decisions.

4.3 Awareness and Usage of AI in Jewellery Retailing

AI Feature	Frequency	Used (%)
Virtual Try-On Tools (AR)	52	43.3
Personalized Recommendation	38	31.7
Price Transparency Tools	20	16.7
Chatbot Assistance	10	8.3

Interpretation

The study shows that AI plays a significant role in influencing online gold jewellery buying behaviour among women in Mumbai. Virtual try on tools have the highest impact, followed by personalized recommendations.

4.4 Factors Influencing Women’s Buying Decisions

Influencing Factor	Mean Score (out of 5)	Rank
Virtual Try-On Tools (AR)	4.3	1
Personalized Recommendation	4.1	2
Price Transparency Tools	4.0	3
Chatbot Assistance	3.6	4

Interpretation

The mean score indicate that Virtual try-on features are the most influential factor in AI based gold jewellery purchasing among women, followed by personalized recommendation.

4.5 Impact of Social Media on Brand Perception

Approximately **85% of respondents** reported that social media platforms such as Instagram, YouTube, and Pinterest influenced their jewellery purchase decisions.

Interpretation:

The findings indicate that social media significantly influences women’s perception of gold jewellery brands. Platforms such as Instagram, Facebook and You tube expose consumer to brand visuals, celebrity endorsements, influencer recommendations and user generated content.

4.7 Summary of Findings

* Women consumers in Mumbai show high familiarity with digital platforms and actively utilize AI-supported online jewellery services.

* Key determinants of their purchase behaviour include perceived authenticity of products, convenience of online shopping, and the influence of social networks.



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* Adoption of AI-driven features has been found to enhance brand credibility, user convenience, and overall satisfaction during the buying process.

* Virtual Try-On and AR-based visualization tools are gaining traction; however, they still require greater awareness-building and technological enhancement to maximize effectiveness.

* Social media promotions, influencer associations, and peer reviews substantially contribute to shaping brand image and encouraging purchase intentions among women.

5. Findings and Discussion

5.1 Key Findings

The study explored how the adoption of Artificial Intelligence (AI) influences women's buying patterns in the gold jewellery retail sector. The analysis of data collected from 120 respondents yielded the following key findings:

- AI personalization strongly influences purchase decisions** – Personalized product suggestions generated from a user's browsing behaviour, design preferences, and previous purchase history enabled women to discover jewellery styles aligned with their tastes, thereby increasing their likelihood of making a purchase.
- AI-Driven customer support increases convenience** – AI-powered chatbots and virtual assistants that provide immediate information regarding product features, authenticity assurances, and return or exchange procedures improved overall convenience and minimized the need for women to visit physical jewellery stores.
- Younger women show higher adoption of AI-Based platforms** – Women in the 18–35 age group showed higher ease and acceptance of AI-based online jewellery shopping, whereas older women tended to rely more on traditional in-store purchasing and personal interaction.
- Virtual try-on enhances confidence to buy online** – The integration of AR/Virtual Try-On features enabled women to virtually preview jewellery on themselves, thereby reducing doubts and increasing confidence in making online gold purchase decisions.

5.2 Discussion

Social media has become an important space where women gather information before buying gold jewellery online. AI tracks what users like and interact with, and then shows jewellery designs that match their tastes. This makes browsing easier, faster, and more engaging.

Influencer posts—such as styling videos and festival or wedding looks—help women visualise how the jewellery will look in real life. These visuals make the products feel more relatable and desirable, almost replacing the trust they once placed in local jewellers.

Customer reviews, ratings, and shared photos add another level of confidence by acting as social proof. For expensive items like gold, this reassurance is especially important. Together, personalised content, influencer guidance, and peer feedback reduce doubts and encourage more women to buy jewellery through AI-powered online platforms.



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5.3 Synthesis with Literature

The findings of this study strengthen earlier research showing that AI plays a major role in shaping modern retail behaviour. Studies by Gupta & Mehta (2023) and Kim & Kim (2021) found that AI-driven recommendations and personalized interactions build trust and improve customer engagement. This study confirms these insights specifically for gold jewellery, which is a high-value and high-risk purchase.

The results show that AI does more than make shopping easier—it also affects how genuine the product feels, how confident women feel while choosing jewellery, and how satisfied and loyal they become. Overall, AI features in online jewellery platforms are helping women in Mumbai shift from relying only on physical stores to trusting digital, AI-supported buying experiences.

6. Conclusion and Recommendations

6.1 Conclusion

This study explored the influence of Artificial Intelligence on the online gold jewellery buying behaviour of women in Mumbai. The results show that AI-driven tools, including virtual try-on features, personalized product suggestions, responsive chatbots, and transparent pricing systems, positively impact consumer trust and purchase decisions. Women are more inclined to buy gold jewellery online when these features enhance clarity, convenience, and assurance of authenticity. However, concerns related to product originality, data privacy, and return or exchange policies continue to shape their level of confidence.

The findings indicate that AI is not merely a technological addition but a key enabler in improving customer experience and decision-making in the jewellery sector. To strengthen consumer trust further, retailers must focus on improving transparency, customer support quality, and awareness regarding safe online purchasing. As digital retail evolves, AI will continue to play a central role in transforming buying patterns and shaping the future of gold jewellery consumption.

6.2 Recommendations

Based on the findings, the following recommendations are proposed:

1. Strengthen AI-Based Personalization: Platforms can utilize AI-driven algorithms to analyse customers past searches, purchase history, and style preferences to offer personalized jewellery recommendations and enhance the overall shopping experience.

2. Increase Transparency in Pricing: Providing transparent information on gold rate, weight, making charges, and hallmark certification can enhance credibility and increase trust among women purchasers.

3. Strengthen Data Security Measures: Maintaining strong data security and safeguarding customer privacy is crucial for building trust in AI-enabled online jewellery platforms.



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4. Offer Flexible Payment and Return Policies: Offering convenient exchange facilities, secure payment methods, and clear return policies can help encourage first-time consumers to purchase gold jewellery online.

5. Create Awareness through Digital Campaigns: Businesses can utilize social media influencers, instructional content, and customer testimonials to create awareness and guide women toward safe and seamless online gold jewellery purchasing.

6.3 Scope for Future Research

This study is limited to women consumers in Mumbai. Future research may explore other cities and rural regions to compare consumer behaviour across different cultural and economic contexts. Further studies can also examine the influence of demographic factors such as education, occupation, and digital awareness. Additional behavioural aspects like perceived risk, emotional value of gold, and post-purchase satisfaction may be included. As AI tools continue to develop, longitudinal and comparative studies between branded and non-branded online jewellers can provide deeper insight into changing buying patterns.

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