

# Driving Sales Digitally: An Empirical Study of Digital Showrooms in the Automotive Sector

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## Abstract

This study empirically investigates the causal pathway through which digital showrooms drive sales in the Indian automotive sector. It develops and tests a cohesive model that examines the sequential impact of technology adoption factors on customer experience and, in turn, on sales. To validate the model, a deductive approach was employed, incorporating both descriptive and causal research designs. Using non-probability convenience sampling, a structured online questionnaire was administered to 251 potential car buyers in India. Hypotheses derived from the theoretical conceptual framework were tested using correlation analysis, Kruskal-Wallis tests, and linear regression. The results supported all the hypotheses (H1-H11). Ease of navigation was identified as the strongest predictor of technology adoption (H3:  $r = 0.723$ ). Features in digital showrooms, such as interactivity (H4), personalization (H5), AI integration (H6), and convenience (H7), created value for the customer experience. This positive experience led to increased purchase confidence (H8:  $\rho = 0.692$ ), trust (H9:  $\rho = 0.636$ ), and likelihood of recommending the showroom to others (H10:  $\rho = 0.494$ ), directly enhancing sales outcomes. The use of non-probability convenience sampling is considered a primary limitation, as it may affect the generalizability of the results. Future research may employ probability sampling and longitudinal research designs to facilitate cross-cultural comparisons. This study bridges a critical research gap by demonstrating how technology adoption translates into sales through the mediating role of customer experience in the context of automotive digital showrooms.

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**Categories:** Digital business, Digital Marketing, Sustainable Marketing

**Keywords:** digital showrooms, automotive retail, technology adoption, customer experience, sales management, digital environment, digital retail, digital platforms

## Introduction

The automotive sector in India has undergone a significant transformation driven by emerging technologies, particularly in the car-buying process. In the traditional car-buying process, customers visited multiple showrooms to gather information in person. However, after visiting different showrooms, customers often faced dilemmas due to differing opinions and recommendations, price variations, reliance on word of mouth, and limited access to professional expert feedback. With the increasing penetration of the internet and the rise of social media, consumers began spending more time reviewing products, comparing prices and features, and gaining insights into various brands through online communities and forums, thereby transforming the car-buying process. According to (Gao et al., 2016), 80% of car buyers use online sources, while 70% still prefer to purchase after a personal test drive. Additionally, online sales are projected to grow by 10-25% by the end of 2025. Industry 4.0 technologies, such as Artificial Intelligence (AI), the Internet of Things (IoT), and data analytics, have digitally transformed the automotive sector. To remain competitive, companies are investing in technologies such as AI and automation.

The automotive sector has undergone a tremendous shift from conventional to modern business models through the integration of advanced technologies and changing customer preferences and expectations. This, transformation often termed 'digital transformation', is prompting industries to reconsider their conventional business models, and the automotive retail sector serves as an example (Verhoef et al., 2009). Rapid technological advancements, improved information technology infrastructure, and the increasing adoption of digital retail platforms have driven the evolution of digital showrooms. Immersive technologies such as augmented reality (AR), virtual reality (VR), and interactive platforms have enhanced the customer journey throughout the buying process, reshaping customer experience and sales. Modern consumers can now access information, compare models, personalize features, explore financing options, and develop trust in service providers (Kannan and Li, 2017). Consequently, digital showrooms have evolved beyond informational websites to become powerful tools for lead generation, value creation, customer engagement, and informed purchase decision-making (PwC, 2021).

In spite of the growing scholarly and practical interest in digital transformation in the automotive sector,

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a significant research gap persists. While the existing literature has separately examined technology adoption factors, customer experience, and behavioral intentions, there is a scarcity of empirical research that holistically examines the influential and constructive pathway from technology adoption drivers, through the mediating role of digital showroom features, to the final sales outcome. This study aims to fill this gap by developing and testing an integrated conceptual model that tests the sequential impact of technology adoption (driven by technology familiarity, perceived usefulness, and ease of use) on customer experience (adapted by interactivity, AI features, personalization, and convenience), and its impact on sales (justified through trust, satisfaction, and recommendation to others). The conceptually developed model is empirically tested in the context of the Indian automotive market, providing an extensive framework for how digital showrooms drive sales by influencing the customer car-buying journey, offering valuable theoretical contributions and practical implications.

## Literature review

The automotive sector is already undergoing digital transformation through the integration of emerging technologies. During transformation, even the customer's requirements during purchase are influenced by technology (MSXI, 2020). Digital technologies significantly affect sustainability and competition (Fichman et al., 2014). Three key forces are driving digital transformation in the automotive sector: first, industry growth and the rise of technology; second, the increasing value of networks as they expand in scale; and third, the ability to collect and process large volumes of data at lower costs through cloud computing technologies (Candelo, 2019). The 2024 Car Buyer Journey study by Cox Automotive (Cox Automotive Inc., 2025) highlights increased digital engagement among buyers through the use of online tools that enhance the shopping experience. The report also highlighted that customers used 73% of dealer websites, 64% adopted a hybrid buying approach, and the average time spent by online buyers increased from approximately 13 hours to 14 hours, compared to 2023. The findings also suggest that higher levels of customer satisfaction reduce the time spent in the buying process and that improvements in digital platforms can bridge the gap between offline and online buyers. Digital showrooms, particularly in the automotive sector, address client-specific requirements through technology when geographical limitations exist (Vayadande et al., 2023). Moreover, digital showroom services reduce consumer valuation uncertainty by facilitating webrooming behavior and intensifying channel competition, ultimately leading to increased sales (Sun et al., 2023). These digital spaces influence customer buying behavior through digital signage and displays. These platforms influence the consumers in terms of information gathering and comparison of products in the buying process (Nofal et al., 2020). Emerging technologies like AR and VR are creating immersive and interactive shopping experiences for consumers. Maybe in the future, customers will have flexibility in choosing the best solution and customized service through smartphones (Gao et al., 2016).

Authors (Perody and Sudhakara, 2024) found that India's automotive sector is shifting towards smart manufacturing practices to enhance productivity and efficiency. In the process of transformation, the automotive sector is facing hurdles like high implementation cost, lack of skilled labors, and increased concerns about the cybersecurity. The sector is adopting technologies such as cloud computing for vehicle connectivity; data management to enhance customer experiences; and IoT, AI, and big data analytics to improve the efficiency of production, operations, and business transformation (Sureddi, 2021), (Madan et al., 2024). In the automotive sector in India, blockchain technology is integrated into the supply chain at both the supplier and customer levels. It has been found that India is more inclined towards adopting blockchain technology for backward linkages rather than forward linkages (Yasmin and Shreedevi, 2023). The major barriers to the adoption of technology in the sector are the lack of a skilled workforce, extensive dependency on imported technologies, and limited investments in innovation ecosystems and innovation hubs (Dixit and Thampi, 2023). Consumer perception enablers like psychological comfort, pricing strategies, and visible infrastructure readiness influenced the technology adoption curves (Gupta, 2024).

Customer experience in the digital environment is a comprehensive process in marketing management. To manage customers in the digital environment, modern tools like data analysis tools to analyze the customer preferences, social media management tools to engage the customers, and survey tools for understanding the needs and requirements of the customers and feedback collected can be used to enhance the experience in the digital environment (Rozhkov, 2024). Digitalization has transformed the interaction between businesses and customers by leveraging communication channels such as social media, customer relationship management systems, and e-questionnaires; furthermore, this has redefined the consumer's sensory, emotional, and social dimensions (Bozhenko et al., 2022). Customer experience in the digital environment is crucial as it involves personalized offers and experiences, experienced tailored to match the customer's preferences, enhanced engagement, integrated communication, and the use of technology, which will improve the customer journey (Pellegrino, 2024). Businesses should adopt a dynamic approach to shift from traditional to customer-centric processes, leveraging technology to gain deeper customer insights, build loyalty and trust, ensure transparent communication, safeguard customer privacy and data security, and develop loyalty-based programs in the digital age (Reader, 2015).

The penetration of e-commerce and the rise in the usage of social media platforms have fueled the growth of digital retailing. Shopping convenience, a key enabler of this growth, has created a data-rich

environment by enabling the real-time analysis of consumer behavior. As a result, retailers are able to offer targeted promotions, competitive pricing, and customized product recommendations, thereby improving their ability to convert leads into sales. Modern retail ecosystems are being redefined by facilitating customer requirements through platform-based retailing (Zhang & Hänninen, 2022). The online environment is shaping customer attitudes and behaviors. It is influenced by the customer's perceptions such as website usefulness, ease of use, website quality, content, and functionality (Salamah, 2024). Authors (Chen and Chang, 2003) identified three phases of the online shopping experience: interactivity, transition, and fulfillment. The interactivity phase focuses on user engagement, website navigation, and information search; the transition phase involves the purchasing process, including payment systems and checkout procedures; and the fulfillment phase encompasses post-purchase activities such as delivery and customer service. Furthermore, the digital environment facilitates efficient decision-making through targeted content and algorithm-based product recommendations. Customer behavior in digital contexts has become increasingly fluid, with consumers often researching offline and purchasing online. This hybrid behavior is driven by information gathering from multiple sources, product evaluation and comparison, and product information presented in the form of videos (Liu, 2024).

To improve customer experience and operational efficiency, the automotive sector is increasing its adoption of sophisticated technologies. The deployment of AI-enabled systems, robotics, and innovative interfaces streamlines processes like inventory management, customer service, and employee support. Innovations like autonomous navigation aids, sensor-based security systems, and real-time data analytics are optimizing the customer journey from the pre-purchase stage to post-purchase service interactions (Grewal et al., 2023). Mobile-assisted showrooming and mobile AR are transforming how customers engage in the automotive retail sector. Automotive retailers are increasingly adopting phygital solutions to bridge the gap between offline and online environments. In-store interactions by overlaying virtual information on physical products are increasing due to mobile AR, which offers immersive visualization tools that support vehicle configuration, comparison, and customization options (Alesanco-Llorente et al., 2023). Integrated technologies such as AI, VR, IoT, and chatbots influence customer behavior and enhance the augmented experiential value in the customer journey. Leveraging these technologies, firms gather real-time analytics, tailor services, and foster elevated customer satisfaction in reshaping the customer's interactions and helping automotive brands to measure customer experience across purchase stages (Mele et al., 2025). Advanced technological wearable devices, like VR headset, head-mounted display, motion tracking controller, and multiple sensory modalities, enabled customers to explore various features and experiences without physical constraints. These tech-enabled devices enhanced user's emotional and cognitive involvement, which influenced their purchase decisions (Xi and Hamari, 2021). As part of retail strategies in the automotive sector, the deployment of AR smart glasses enhanced the customer's in-store experiences by allowing them to virtually interact with automotive parts, interiors, configurations, and technical specifications, which elevated the customers to purchase decisions. The use of AR smart glasses enhanced the digital information, productivity, immersion, and customer engagement process, which in turn enhanced the customer buying experience (Pfeifer et al., 2023). The application of voice user interfaces and natural language processing technologies enhanced interactivity in the automotive sector, enabling the replacement of touch-based control systems. Using voice user interfaces enabled the users to perform complex tasks, improving operational efficiency (Hombeck et al., 2024).

## Theoretical framework

This study is based on multiple theories that allow us to examine in depth how digital showrooms influence technology adoption, customer experience, and sales impact in the automotive sector. The study incorporated features of digital showrooms that influence users' behavioral intentions, which are mediated by the customer experience that lead to sales. The following theories provide foundations to this study.

### *Technology Acceptance Model*

The Technology Acceptance Model developed by (Davis, 1989) identified two primary factors: perceived usefulness and perceived ease of use, which influence individuals' attitudes towards using technology. The model suggested that users who perceive technology as beneficial to their objectives and efforts to operate are more likely to adopt it. This perspective is relevant to the use of digital showrooms in the automotive sector.

### *The Unified Theory of Acceptance and Use of Technology*

The theory proposed by (Venkatesh et al., 2003) identifies four key factors: performance expectancy, effort expectancy, social influence, and facilitating conditions. The Unified Theory of Acceptance and Use of Technology examined the customer experience on digital platforms by using the digital interface as a construct, which helps evaluate customers' experiences, intentions, and engagement.

### *Customer Experience Framework*

Customer experience in digital showrooms can be effectively understood using the framework proposed by (Verhoef et al., 2009), which highlights the experience shaped by cognitive, sensory, emotional, and social elements. The framework also connects with organizational performance and highlights how the rise of self-service technologies has transformed the customer experience.

*Service-Dominant (S-D) Logic*

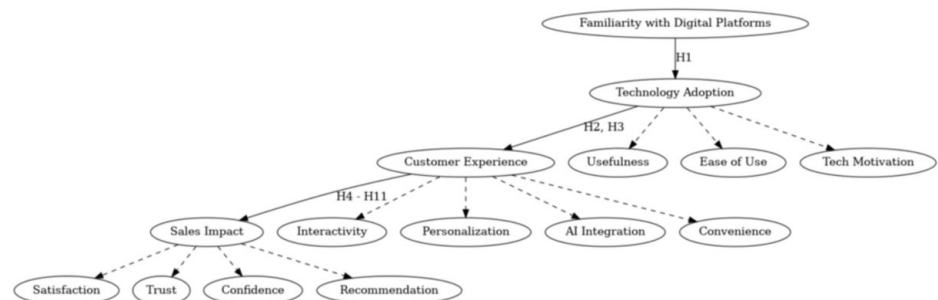
According to (Vargo and Lusch, 2004), their service-dominant (S-D) logic provides a strong theoretical framework for understanding the transformation of digital showrooms in the automotive sector. The idea of the S-D logic is that value is created through the interaction between the automotive brand and the customer. In the process of transformation, the digital showroom should be seen as a service platform for the co-creating value.

*Diffusion of Innovations Theory*

Drawing on (Rogers, 1962) diffusion model, the theory helps understand the broader role of digital showrooms in the market. The model views the digital showrooms as an innovation in the automotive sector retail chain. Digital showrooms serve as a communication channel, enabling immersive, interactive, and personalized experiences for the customer.

**Research Method**

Based on the above theoretical foundations, a comprehensive conceptual framework was developed to carry out the empirical investigation. The framework is an interconnected model that initially focuses on technology adoption, which directly influences the customer experience and acts as a mediator, thereby impacting on sales. This framework traces the relationship within the broad domains: where technology adoption is driven by familiarity, usefulness, ease of use, and motivation; customer experience is acclimated by interactivity, personalization, AI integration, and convenience; and the impact on sales is reasoned through satisfaction, trust, confidence, and recommendation. Based on the conceptual framework (Figure 1), the usage of the digital showrooms in the automotive sector is systematically studied with the following research questions and corresponding hypotheses in the broad domains (Table 1).



**FIGURE 1: Study framework**

Research Question (RQ)	Corresponding Hypotheses
RQ1: What is the role and familiarity with digital platforms in the adoption of digital showrooms? RQ2: To what extent the perceived usefulness influences the customer's intention to use digital showroom?	H1: Higher familiarity with digital platforms positively impacts technology adoption. H2: Perceived usefulness of digital showrooms positively influences the intention to explore new vehicles digitally. H3: Ease of navigation of digital platforms positively affects customers' motivation to adopt new automotive technologies.
RQ3: How do digital showroom features contribute to customer experience?	H4: Digital showrooms offering a higher level of interactivity are associated with a better customer experience. H5: Perceived personalization in digital showrooms is positively correlated with customer satisfaction. H6: The use of AI features improves the overall customer experience in digital showrooms. H7: Customers perceive digital showrooms as more convenient than traditional showrooms, leading to a better exploration experience.
RQ4: What is the relationship between satisfaction of digital showroom experience and final purchase?	H8: Higher satisfaction with digital showroom experience leads to increased confidence in purchasing decisions. H9: Trust in the information provided by digital showrooms positively influences the final purchase decision. H10: Customers who find digital showrooms useful are more likely to recommend them to friends and family. H11: Higher satisfaction with digital showrooms is positively related to the perceived importance of digital platforms in future car-buying processes.

**TABLE 1: Research questions and corresponding hypotheses**

The study aimed to test a series of hypotheses (H1-H11) derived from established theories and a conceptual framework to examine the causal relationship between the customer experience and the digital showroom. The study adopted a deductive approach and employed a descriptive and causal research design, enabling a cross-sectional study and the examination of variables.

**Data collection and survey instrument**

The primary data were collected using a structured online questionnaire hosted on a secure website via Google Forms. The questionnaire was developed based on the constructs defined in the framework. The instrument comprises four major sections.

*Section A:* Comprises demographic and profile information of the respondents (251), such as age, income, location, and previous car ownership.

*Section B:* Comprises questions on technology adoption, such as measuring familiarity, perceived usefulness, and ease of use.

*Section C:* Comprises customer experience-based questions like interactivity, personalization, AI integration, and convenience.

*Section D:* Comprises questions related to behavioral intentions and purchase decisions, such as satisfaction, trust, confidence, and likelihood to recommend.

**Sampling strategy and respondent identification**

For this study, the target population was defined as current and potential car buyers in India. Current buyers are customers who have purchased a car within the last year. Potential buyers are individuals who are seeking information on cars, browsing vehicles online, and are in the phase of the car-buying journey with the intention to buy a car within six months to one year. From the population, respondents were selected using the non-probability convenience sampling method. Respondents have voluntarily participated in our study. To ensure the respondents were relevant to this study, a survey link was shared in forums, with car enthusiasts, existing owners, and individuals in various organizations. The survey link was also posted in the social media profiles such as LinkedIn and Facebook groups, for potential respondent identification. The questionnaire began with the question, "Are you currently purchasing a car or have you recently purchased a car?" If the respondent's answer was "Yes," they were allowed to proceed with the survey. This helped us screen and filter respondents who fit our defined population of current and potential car buyers in India. A total of 251 responses were used in this study. While this sampling method is cost-effective and easy to implement, it primarily targets a niche population of digitally engaged audiences. This is acknowledged as a limitation regarding the generalizability of the findings, as discussed in the limitations section.

**Data analysis**

The collected data were analyzed using Jamovi version 2.3.28, an open-source statistical software. The analytical techniques included Pearson and Spearman's correlation analysis, Kruskal-Wallis tests, and linear regression to test the hypothesized relationship between the variables.

## Results And Discussion

The empirical analysis provided support for the proposed conceptual model, with all hypotheses (H1-H11) being statistically significant ( $p < .001$ ). The results indicate a clear causal pathway from technology adoption to impact on sales, mediated by customer experience.

### Technology adoption as the foundation

The analysis of the technology adoption constructs indicates a strong, statistically significant relationship among the variables (Table 2). The results indicate a moderate positive correlation between familiarity with digital platforms and the technology intention to explore new vehicles ( $r = 0.336, p < .001$ ), confirming H1. The result suggests that customers who are more inclined towards technology are more likely to adopt digital showrooms in their car-buying process. Hypothesis H2 is supported, as the perceived usefulness variable demonstrated a significant positive relationship with the intention to explore new vehicles digitally ( $r = 0.506, p < .001$ ). In the process of automotive exploration, customers perceived greater functional value of digital showroom. The ease of navigation variable also demonstrated a strong positive association with customers' motivation to adopt new technology, supporting hypothesis H3 ( $r = 0.723, p < .001$ ). This finding highlights the importance of designing a user-friendly interface when adopting digital showrooms to explore the car-buying journey.

Hypothesis	Variables Tested	Test Used	r/ρ	p-value	Supported?
H1	1. Familiarity with digital platforms; 2. Technology adoption	Pearson Correlation	0.336	< .001	Yes
H2	3. Perceived usefulness; 4. Intention to explore new vehicles	Pearson Correlation	0.506	< .001	Yes
H3	5. Ease of navigation; 6. Motivation to adopt technology	Pearson Correlation	0.723	< .001	Yes

**TABLE 2: Correlation results (H1-H3)**

Source: (The Jamovi Project, 2023)

### Customer experience as the key mediator

The results of Hypotheses H4-H7 strongly validate the role of digital showroom features in customer experience (Table 3). The findings revealed a consistent positive effect of interactivity, personalization, AI features, and convenience on overall customer experience. A Kruskal-Wallis test indicated significant variation in perceived customer experiences across interactivity levels ( $\chi^2 = 129, p < .001$ ), supporting H4. The study further found that perceived personalization is positively correlated with customer satisfaction, confirming H5 ( $\rho = 0.654, p < .001$ ) and supporting the argument 'enhanced interactivity enhances the customer experience'. This outcome highlights the importance of personalized content in maximizing customer satisfaction. A linear regression analysis applied to H6 revealed that AI features significantly improved overall customer experience ( $R^2 = 0.493, p < .001$ ), supporting H6. Perceived convenience was also strongly correlated with customers' motivation to explore vehicles digitally ( $\rho = 0.542, p < .001$ ), supporting H7. The test results (H4-H7) indicate that AI features of the digital showroom drive customer engagement and enhance perceived value creation, consistent with (Verhoef et al. 2009)'s framework and the service-dominant logic of value co-creation (Vargo and Lusch, 2004).

Hypothesis	Variables Tested	Test Used	Test Statistic	p-value	Supported?
H4	7. Interactivity; 8. Customer experience	Kruskal–Wallis	$\chi^2 = 129$	< .001	Yes
H5	9. Personalization; 10. Satisfaction	Spearman's	$\rho = 0.654$	< .001	Yes
H6	11. AI features; 12. Overall experience	Linear Regression	( $R^2 = 0.493$ , $F = 242$ )	< .001	Yes
H7	13. Convenience; 14. Exploration motivation	Spearman's	$\rho = 0.542$	< .001	Yes

**TABLE 3: Correlation results (H4-H7)**

Source: (The Jamovi Project, 2023)

### Transformation of experience into sales impact

Hypotheses H8-H11 examined the relationships among variables such as satisfaction, confidence in purchase, trust, purchase decision-making, usefulness, and recommendation to others (Table 4). Hypothesis H8 is supported with a strong positive correlation between satisfaction with increased confidence in purchasing decisions ( $\rho = 0.692$ ,  $p < .001$ ). Hypothesis H9 is supported, as trust in digital showroom information showed a significant relationship with final purchase decision ( $\rho = 0.636$ ,  $p < .001$ ). Besides, customers who found digital showrooms helpful were more likely to recommend them to others ( $\rho = 0.494$ ,  $p < .001$ ), confirming hypothesis H10. The study found that there is a significant relationship between satisfaction and confidence in purchase, supporting H11 ( $\rho = 0.695$ ,  $p < .001$ ), which implies that customer satisfaction is driving behavioral intentions to purchase in the car-buying journey. From the analysis, it is found that results of purchase behavioral intentions (H8-H11) are aligned with the customer experience-outcome linkage proposed by (Mele et al., 2025), highlighting the mediating role of customer satisfaction in translating digital customer engagement into future behavioral intentions.

Hypothesis	Variables Tested	Test Used	r/ρ	p-value	Supported?
H8	15. Satisfaction; 16. Confidence in purchase	Spearman's	$\rho = 0.692$	< .001	Yes
H9	17. Trust; 18. Purchase decision	Spearman's	$\rho = 0.636$	< .001	Yes
H10	19. Usefulness; 20. Recommendation	Spearman's	$\rho = 0.494$	< .001	Yes
H11	21. Satisfaction; 22. Importance of digital platforms (future buying)	Spearman's	$\rho = 0.695$	< .001	Yes

**TABLE 4: Correlation results (H8-H11)**

Source: (The Jamovi Project, 2023)

The empirical results for all hypotheses (H1-H11) provide robust support for the proposed conceptual framework. Technology adoption factors (H1-H3) serve as foundational enablers, customer experience factors (H4-H7) act as mediators that enhance customer engagement and satisfaction, and sales impact factors (H8-H11) function as behavioral drivers that reinforce confidence, trust, and recommendation intentions.

### Discussion

The finding that ease of navigation (H3:  $r = 0.723$ ) was the strongest predictor of technology adoption is highly significant. This result can be understood from the perspective of the Technology Acceptance Model (Davis, 1989), where perceived ease of use is a direct precedent to attitudes towards use. Automotive products involve a complex, vast amount of information. Regardless of the digital platform's potential utility, a challenging interface in the context of the digital showroom causes cognitive anxiety for the customer and acts as a barrier to the customer's engagement. This result highlights the fact that usability is the primary element upon which all other theories are built. The effect of AI features (H6:  $R^2 = 0.493$ ) on the overall customer experience aligns with (Grewal et al., 2023), who highlighted AI's role in enriching customer and employee efficiency. The findings also suggest that AI transcends beyond simple efficiency in a digital showroom environment and adds value by offering immersive, intelligent recommendations, customization, and virtual assistance, which customers view as an extremely useful service. The strong correlation between personalization and satisfaction (H5:  $\rho = 0.654$ ) is in line with the

principles of S-D logic (Vargo and Lusch, 2004), confirming that value is not integrated into the digital showroom itself but is co-created through interactive personalized experiences. In the context of a digital showroom, the platform should tailor its content and information according to customer's needs and preferences.

The study's empirical results provide strong support for the notion that elements of the digital showroom provide an encompassing customer experience, acting as a moderator between technology adoption and its impact on sales. Interactivity (H4), personalization (H5), AI integration (H6), and convenience (H7) are not only features of the digital showroom but also essential drivers of value creation for customers, according to the hypotheses H4-H11, which support and demonstrate a positive chain. This result is consistent with the Customer Experience Framework by (Verhoef et al., 2009), which proposes that in the digital showroom environment, experiences are influenced by cognitive, emotional, and sensory elements. Satisfaction (H8) is the crucial factor that bridges experience and action. When customers are satisfied with the digital exploration of vehicles, it indicates a positive experience, reducing perceived risk and increasing the likelihood of making a correct decision. Furthermore, trust (H9) is an essential, unwavering factor. As in the physical showroom environment, sales are driven by salesperson by building harmony. In the context of digital showroom, service providers must earn trust, transparency, and information through accuracy. As trust factor directly influences the purchase decision, service providers must act as trustworthy sources. In terms of long-term value creation after purchase support (H10), it has implications for customer experience. This factor emphasizes that, in the digital showroom environment, customers are transformed into promoters and become powerful organic marketing elements. From the perspective of the importance of digital showrooms for future customer experience (H11), they can be considered tools for long-term customer relationship management and value creation.

#### *Limitations*

This study has offered valuable insights into the impact of digital showrooms in the Indian automotive sector. This study's findings must be viewed in light of certain methodological limitations that also offer future research directions. A significant limitation in this study is the use of a non-probability sampling method to select respondents. This approach was useful for reaching existing and prospective buyers who are digitally engaged customers and active on social media platforms, but it inevitably restricts the generalizability of the results. The sample may not fully represent the entire car-buying population of India, as potential buyers are already active on online platforms and tech-savvy. As a result, the results might overstate, reflecting the opinions of early adopters and tech-savvy customers. Secondly, the cross-sectional research design collects data at a single point of time. Although this strategy works well for identifying correlations, it cannot demonstrate causality or monitor how attitudes and actions change throughout the car-buying process. In the automotive sector, customer experience is a dynamic process, as purchase intentions may change from initial online research to final purchase decision. Additionally, the study is limited to the Indian automotive sector geographically and culturally.

#### *Future Research Directions*

Future research should explore several dimensions. First, the use of probability sampling techniques would enhance the representativeness of the findings and allow for greater generalizability across diverse populations. Second, longitudinal studies are recommended to track individual customers from the initial exploration stage to final purchase and post-purchase stage. Tracking individuals over time provides a more robust understanding of causal pathways and the long-term impact of digital showrooms. Finally, cross-cultural comparative studies replicating this model across different cultures and markets will help identify factors that are universal and those that are culture-specific, thereby contributing to a more nuanced global theory of digital automotive retail.

## Conclusions

This study offers several key theoretical contributions. First, it integrates and sequences established theories into a causal chain. Our conceptual model has demonstrated that the Technology Acceptance Model and the Customer Experience Framework variables are key to a rich customer experience. Second, the notion "value is co-created through interactions in the digital platform" operationalizes and validates S-D logic. Finally, by linking the customer experience directly to the behavioral intentions of the customers, the study bridges the gap between experiential marketing theory and sales outcomes, a connection often theorized but less frequently empirically demonstrated in the automotive sector in a digital context.

The findings of the current empirical study offer clear, actionable recommendations for automotive marketers, virtual automobile digital showroom service providers, and digital marketers. As the study found that ease of navigation is the major driver, service providers must invest heavily in the user-centric design. The platform should be simple, user-friendly, customizable, and require minimal intellectual effort to adopt and use. The integration of AI should focus on tailoring features to customers throughout the car-buying journey process. The platform should learn from customer's behavioral intentions and act as a

guide. The study found a strong relationship between trust and the purchase decision. To improve the customer experience, digital showroom service providers should include reliable and trustworthy information, curated content about car features and specifications, and high-quality images that enhance engagement. In addition to listing vehicle features, digital showrooms should leverage immersive technologies to enable seamless exploration of the car from home. Automotive service providers should view digital showrooms as strategic assets and invest continuously to support and enhance future purchase decisions.

## Appendices

### Digital showrooms - Questionnaire

Dear respondent, as we are conducting research on “Driving Sales Digitally: An Empirical Study of Digital Showrooms in the Automotive Sector”, we request you to kindly spend a few minutes answering the questionnaire and help us complete the research.

*\*Indicates required question*

1. Name of the Respondent

2. Are you currently purchasing a car or recently purchased a car? \*

- Yes

- No

3. Age \*

- 20-24

- 25-34

- 35-44

- 45-54

- 55+

4. Gender \*

- Male

- Female

5. Monthly Household Income \*

- Less than 30,000

- 30,001-50,000

- 50,001-100,000

- Above 100,000

6. Current Vehicle Ownership \*

- Two wheeler

- Entry-level car

- Mid-size car

- Luxury car

7. Familiarity With Digital Platforms (e.g., AR/VR showrooms) \*

- Not at all familiar

- 1

- 2

- 3

- 4

- 5 (Very familiar)

8. Frequency of Online Automobile Research \*

- Never

- Occasionally

- Sometimes

- Often

- Always

9. Primary Purpose for Exploring Digital Showrooms \*

(Multiple options can be selected)

- Browsing

- Comparing options

- Gathering technical information

- Comparing features

- Interiors and exteriors of the product

- Virtually try-on

10. Preferred Device for Digital Showroom Visit \*

- Smartphone

- Tablet

- Laptop

- Desktop

- Smart TV

11. Digital showrooms increase my awareness of new automotive technologies. \*

(Strongly Disagree → Strongly Agree)

12. I will explore new vehicles through digital platforms. \*

(Strongly Disagree → Strongly Agree)

13. I find digital showrooms useful in evaluating automotive innovations. \*

(Strongly Disagree → Strongly Agree)

14. I perceive digital platforms as easy to navigate and use. \*

(Strongly Disagree → Strongly Agree)

15. Digital showrooms enhance my understanding of technical specifications. \*

(Strongly Disagree → Strongly Agree)

16. Exploring vehicles digitally motivates me to test-drive newer models. \*

(Strongly Disagree → Strongly Agree)

17. I believe digital platforms reduce the risk of making poor technology choices. \*

(Strongly Disagree → Strongly Agree)

18. Digital showrooms provide a high level of interactivity. \*

(Strongly Disagree → Strongly Agree)

19. I find digital platforms more convenient than traditional showrooms. \*

(Strongly Disagree → Strongly Agree)

20. My experience feels personalized while using digital showrooms. \*

(Strongly Disagree → Strongly Agree)

21. Compared to traditional showrooms, digital platforms offer a better customer experience. \*

(Strongly Disagree → Strongly Agree)

22. The visual quality and realism in digital showrooms improve my engagement. \*

(Strongly Disagree → Strongly Agree)

23. I am more comfortable exploring cars digitally at my own pace. \*

(Strongly Disagree → Strongly Agree)

24. I feel more in control during a digital showroom experience compared to an in-person visit. \*

(Strongly Disagree → Strongly Agree)

25. Viewing a vehicle through a digital showroom increases my confidence in purchasing it. \*

(Strongly Disagree → Strongly Agree)

26. Digital showrooms positively influence my decision to buy a car. \*

(Strongly Disagree → Strongly Agree)

27. Using a digital showroom reduces the time I take to decide on a vehicle. \*

(Strongly Disagree → Strongly Agree)

28. I am satisfied with the purchase decision influenced by digital showroom experience. \*

(Strongly Disagree → Strongly Agree)

29. Digital platforms help me better compare features and pricing before purchase. \*

(Strongly Disagree → Strongly Agree)

30. I trust the digital showroom to reflect accurate and up-to-date product information. \*

(Strongly Disagree → Strongly Agree)

31. Digital showrooms add value to the car-buying journey. \*

(Strongly Disagree → Strongly Agree)

32. They improve transparency and accessibility in the automotive retail process. \*

(Strongly Disagree → Strongly Agree)

33. Digital platforms enhance the dealership's credibility and trustworthiness. \*

(Strongly Disagree → Strongly Agree)

34. The integration of digital showrooms with offline services creates a seamless experience. \*

(Strongly Disagree → Strongly Agree)

35. The use of AI (chatbots, recommendation engines) enhances my digital showroom experience. \*

(Strongly Disagree → Strongly Agree)

36. Digital showrooms improve sustainability by reducing the need for physical visits. \*

(Strongly Disagree → Strongly Agree)

*Please rate your overall satisfaction with digital showrooms (1-5). \**

37. How likely are you to recommend using a digital showroom to a friend or family member? \*

(Not Likely → Extremely Likely)

38. Rate the importance of digital showrooms in your next car-buying process. \*

(Not Important → Extremely Important)

## Additional Information

### Author Contributions

All authors have reviewed the final version to be published and agreed to be accountable for all aspects of the work.

**Concept and design:** Manjunath Gundupagi, Ignatius Balraj, Chandhan Prashad N, Mubeen Durdana

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### Disclosures

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