

A Study on Impact of Artificial Intelligence Powered Digital Advertising and Traditional Advertising Channels in Shaping Consumer Preferences for Automobiles with special reference to Electronic Cars

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Submitted: 03/07/2023 **Revised:** 04/09/2023 **Accepted:** 17/09/2023

Abstract: Purpose: This study examines how customer choices for cars are shaped by traditional and A.I-powered digital advertising channels, with an emphasis on electronic vehicles (EVs). The aim of this study is to investigate the ways in which various advertising channels, including print, radio, television, social media, and internet platforms, affect customer attitudes, perceptions, and electronic car-related decision-making. Policymakers and marketers of automobiles must comprehend these dynamics in an era where sustainability is becoming more and more essential.

Methodology: A large sample of customers was given structured questionnaires as part of a quantitative research strategy. Important factors including customer knowledge, perception, and desire for electronic automobiles were quantified in the study, and the impact of their exposure to various advertising channels was examined.

Result: The primary conclusions show how successful digital advertising channels are in attracting younger customers and those with a keen interest in sustainability, especially social media and online video. In particular, among older populations, traditional mediums like print and television continue to be crucial in establishing brand reputation and confidence. The study emphasizes how crucial environmental messaging is in digital advertisements since it appeals to prospective EV purchasers.

Benefit of the research: Among the advantages of this research are the practical insights it offers automakers for enhancing their advertising campaigns to more effectively target certain customer categories.

Practical Implications: The real-world ramifications imply that optimizing the effect and reach of EV marketing initiatives requires a balanced strategy that makes use of both traditional and digital media.

Originality: Research report derived from original data gathering. This study's particular focus on electronic automobiles, a quickly expanding market within the automotive industry, makes it stand out.

Direction for future research: Future studies should look more closely at how advertising affects consumers' long-term brand loyalty to electric vehicle companies and how new digital technologies like augmented reality can improve consumer interaction.

Keywords: *Electronic Cars, Consumer Preferences, Digital Advertising, Traditional Advertising, Sustainability.*

1. Introduction

Concerns about fuel economy, environmental sustainability, and technological improvements are pushing customer preferences towards electronic vehicles, or ECs, and this is causing a revolutionary change in the automotive business. Advertising has a significant impact on consumer perceptions and decision-making processes, which in turn shapes their preferences. When it comes to raising awareness, sparking interest, and eventually influencing purchasing choices, both traditional and digital advertising methods play a major role. Traditional or conventional advertising, which includes print, radio, and television, is still an effective way to reach large audiences, especially older populations that may favor traditional media forms [22]. Personalized, interactive, and data-driven marketing experiences are now available to customers

because to the advent of digital advertising, which is typified by social media, search engines, and online videos [23].

Integrating both advertising platforms is essential for reaching a wide range of customers in the automobile sector, especially given the rising interest in ECs. According to research, conventional advertising continues to have an impact on older customers, but digital advertising is more successful at capturing the attention of younger, tech-savvy consumers [24]. With an emphasis on ECs specifically, this research intends to investigate how customer choices for cars are shaped by conventional and digital advertising. This study will contribute to the changing automotive industry environment by analyzing the efficacy of various channels and provide insights into how advertising tactics may be modified to impact customer choices [32].

The automobile industry has seen tremendous transformation in recent years; with electronic vehicles (ECs) emerging as a major innovation as a result of government legislation encouraging sustainability and

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rising environmental concerns [25]. Automakers must develop marketing campaigns that target a variety of customer demographics as ECs transition from specialized markets to widespread use via data-driven insights and real-time interaction, digital advertising has shown a high level of effectiveness in influencing customers via the delivery of tailored and targeted content [26]. For instance, social media networks provide automakers a means to present features, offer user endorsements, and have direct conversations with prospective customers.

However, traditional advertising channels still have a significant impact, particularly when it comes to ECs' ability to win over more conservative customers via reputation and trust. Long-term brand equity benefits greatly from TV and print advertisements, which continue to rule in terms of raising awareness and preserving brand identification [27]. This research compares the efficacy of several advertising techniques in an effort to determine which approaches have a greater impact on customer attitudes and preferences about ECs. This study will provide automakers useful information to help them take advantage of the changing dynamics of the EC market by analyzing the roles played by digital and conventional media.

1.1 Motivation of the study

The impetus for this research comes from the rapid changes in consumer behavior and the automobile sector, especially with the emergence of electronic vehicles (ECs). Due to its advantages over conventional fuel-powered cars in terms of the environment and reduced long-term operating costs, electric cars (ECs) are becoming more and more popular in the automotive sector [28]. Even said, ECs are still having trouble being widely accepted by consumers, mostly because of initial pricing concerns, unknown technology, and worries about the infrastructure for charging [33]. Thus, advertising is essential for informing and shaping customer choices. In order to contribute to the larger conversation on sustainable consumption and marketing tactics, this research attempts to explore how various advertising channels, such as traditional and digital, impact consumer attitudes and preferences for ECs.

With firms using social media, search engines, and video streaming services to reach highly targeted audiences, digital advertising has become essential in today's marketing environment. Thanks to these platforms, marketers may build customized messages that appeal to certain customer categories via individualized, data-driven marketing [34]. Digital advertising gives automakers the chance to emphasize qualities that set their products apart from the competition, such cost-effectiveness, eco-friendliness, and cutting-edge

technology. Additionally, digital platforms are useful for promoting engagement and purchase intent as they provide interactive elements like customer reviews and virtual test drives [31]. Given the growing trend of customers seeking information via digital channels, it is essential for automobile marketers to comprehend the ways in which these platforms impact consumers' decision-making process.

However, traditional advertising is still effective, especially with elderly audiences who are less inclined to interact with digital information. Since they still have a large audience and a solid reputation, print, radio, and television media are essential for fostering trust and brand recognition [29]. Because it can produce high-caliber, emotionally engaging material, traditional media, especially television, has a big influence on how consumers see cars. The automobile sector, with its expensive products, often depends on the confidence that conventional media can establish, particularly when introducing more recent technology such as electronic controls. The importance of conventional advertising cannot be understated, as consumer trust plays a crucial role in the adoption of new technology [30].

The need to improve marketing tactics in a fast changing environment is the driving force behind the investigation of the combined effects of conventional and digital advertising on customer preferences for ECs. Although a lot of study has been done on the effectiveness of digital advertising across a range of sectors, little is known about how traditional channels work in tandem or in opposition to digital initiatives, particularly when it comes to high-commitment purchases like vehicles. Furthermore, it's critical to comprehend how advertising affects customer choices for ECs as the worldwide movement toward sustainable transportation picks up steam [32].

By shedding light on how consumers see and react to various advertising channels when choosing ECs, this research aims to close this knowledge gap. In order to help automakers successfully target and convert prospective EC customers, the study will examine the relative benefits and drawbacks of digital and conventional advertising in this particular scenario. The results of this study will enhance the body of knowledge in the field of marketing by providing new insights into the ways in which cross-channel advertising influences customer preferences within the automobile industry.

1.2. Need of the Study

This research is necessary due to the explosive expansion of electronic vehicles (ECs) and the changing dynamics of advertising-influenced customer behavior. Automakers are depending more and more on traditional and digital media to influence customer preferences;

therefore it's critical to comprehend how each affects marketing strategy differently in order to maximize effectiveness. This study will close a knowledge gap in the literature, especially about how these channels affect consumer choices when considering ECs [28].

1.3 Gap in Existing Research

The body of research on advertising techniques that is now available emphasizes the significance of both conventional and digital channels in shaping consumer behavior, but there is still a great deal to learn about how they work together, especially when it comes to electronic vehicles (ECs). Most of the research treats these channels separately and focuses on either the persisting power of traditional media or the increasing dominance of digital advertising [34]. Studies seldom examine how traditional media, including print and television, support digital platforms' data-driven, tailored strategies, even if the latter are well-known for high-involvement purchases like cars [30].

Furthermore, the bulk of research that has already been done focuses on generic consumer products or services rather than taking into account the unique difficulties that come with marketing ECs, such the need to address customer concerns about pricing, unfamiliar technology, and infrastructure [33]. Since ECs are a relatively new and developing sector, automakers looking to get the most out of their marketing spends must comprehend how the two advertising channels work together to shape customer preferences.

Furthermore, while advertising's influence on how people view conventional fuel-powered cars has been studied, little empirical research has been done on how these tactics specifically impact consumer attitudes toward electric cars (ECs), which have unique selling points like technological innovation and eco-friendliness [32]. By analyzing the combined impacts of traditional and digital advertising on customer choices, this research fills in these gaps and offers practical advice for the changing marketing environment in the automobile sector.

1.4. Objectives of the study

1. To analyze the impact of A.I-powered digital advertising on shaping consumer preferences for electronic cars.
2. To evaluate the influence of traditional advertising on consumer preferences for electronic cars.
3. To compare the effectiveness of digital and traditional advertising channels in influencing consumer decision-making for electronic cars.

1.5. Organisation of the study

The introduction is covered in part one, the literature

review is covered in section two, research methodology is covered in section three, results are covered in section four, discussion is provided in section five, and conclusion is included in section six.

2. Review of Literature

Nandita, Mishra, et al. (2024) The research demonstrates that digital advertising strongly impacts client purchases. Since enterprises must be online, digital platforms alter customer behavior. The research shows older and poorer clients respond to conventional advertising. While digital advertising is booming, others prefer older techniques. Media platform-consumer interactions alter traditional and digital advertising memory. Successful advertising may reach target customers. A thorough research plan collects primary data from secondary sources and surveys. Both enhance performance and provide a complete advertising perspective. Recommendations and Trust: Digital advertising recommendations outperform conventional ones, research finds. Online testimonials affect clients more. The study found that Internet research influences consumer decisions. This modification requires online participation. Marketers and companies learn how advertising influences customers from the research.

Ashok, K., Singh. (2024) Digital vs. conventional marketing and brand consumer connections, this study helps marketers evaluate strategy. Company planning emphasizes digital marketing. The study provides multichannel techniques for distinct audiences using traditional and digital marketing. Example: Nike and Dove demonstrate how digital marketing affects brand-consumer connections. Companies may change their marketing using examples. Internet, data analytics, and mobile increase digital marketing, research finds. Understanding these variables helps marketers use new platforms and solutions. Marketing on digital channels is customized. Personalization fosters brand loyalty and collaborations. Think about algorithmic bias and digital marketing data privacy. This presentation helps marketers face digital advertising ethics, marketing research on AR, VR, and block chain. This proactive approach enhances field inventiveness. The study helps organizations adapt to consumer marketing.

Pengcheng, Zhu. (2024). Research examines advertising-purchase impacts. It illustrates how techniques affect purchases, Emotional advertising value. According to research, emotional adverts may influence clients, proving that advertising needs emotion. Researchers value brand and ad credibility. Publicizing a company's reputation is crucial since customers choose trustworthy businesses. Digital Media Impact: Focused advertising boosts advertising. Younger customers may get targeted digital ads. Stats reveal commercials affect varied

demographics. Digital and tailored advertising affect younger customers, whereas older ones prefer TV and print. Marketers targeting different ages need this. Literature, consumer surveys, and advertising campaign evaluations are used. This multimodal approach improves findings and explains advertising's complex effects on consumers. The paper establishes marketing and research frameworks by discussing advertising dynamics and customer purchase decisions.

Arpit (2022) Ad research demonstrates customer strategy and behavior. Advertising strongly impacts customer behavior, research shows. This impacts sales and satisfaction. Market advertising matters. Ads motivate buyers. Advertisements are popular among customers. Marketers developing brands need this. Advertising influences buying intentions and attitudes, research finds. Good advertising may boost sales. Customer reactions to social media and digital ads are ambiguous. The research fills this gap as digital platforms develop and their consequences grow. Research uses qualitative and quantitative methods. This comprehensive method may assist academics and practitioners understand advertising's consumer effect. Marketing and advertising benefit from research. How advertising affects clients may help practitioners create engaging ads. Research reveals that advertising strongly influences customer behavior, which affects digital marketing. Advertising may win customers from study.

Jatin (2023) Email, social networking, and SEM are evaluated in this study. Quantitative survey of 384 Johor residents' large samples reinforces results. Email marketing hinders purchases. Excessive or unfocused email advertising might deter clients. SEM and social media benefits: Research reveals that search engine and social media marketing affect client purchases. Different platforms affect consumers more. According to the report, marketers should emphasize SEO and social media above email. This guideline may boost marketing and customer engagement. Malaysia-focused digital marketing research improves Southeast Asian literature. Non-Western concepts have benefits for global digital marketing. Finally, to improve marketing and academic understanding, this study explores how digital marketing channels affect Malaysian client purchases.

Shpresa et al, (2022) this research evaluates digital and conventional marketing's impact on sales. Comparison illustrates customer response to marketing. The quantitative research analyzed 400 Kosovo inhabitants' consumption. Robust statistics OLS examines marketing kinds. Tastes of consumers: Statistics suggest that online marketing impacts purchases more than traditional marketing. Companies may modify marketing using this data. Figure out demographics and consumer behavior suggests traditional and digital marketing work equally

well. Demographics market similarly. Complete Literature: Compared to previous studies, its findings fill gaps in digital vs. traditional marketing effectiveness literature. The study shows how marketing has altered and affects consumers. The article suggests marketers consider client marketing type preferences when planning. This may boost consumer engagement and targeting. This article explains digital marketing dynamics and provides advice.

Milad, Ghasri et al., (2021). This research examines how mainstream and social media affect AV (Automated vehicle) purchasing. It shows how informational signals influence tech adoption. Consumer AVs are assessed via latent class choice utilizing informational signals. This paradigm explains population info reception diversity. Consumer Segmentation: 11 study groups had varying demographics, confidence, and communication styles. Marketers and governments seeking AV adoption may learn from this segmentation. Social media impacts 90% of AV purchases. Social media promotes tech. Social and word-of-mouth trusts are assessed. This is to understanding how personal networks affect AV purchases. Multiple consumer acceptance indexes forecast AV market share. Automakers and IT firms require this data. The research highlights media effect and social dynamics in autonomous vehicle adoption, adding to consumer behavior and technological acceptance literature.

Rekha, et al., (2021) this research gap is filled by investigating why automobile purchasers utilize digital media. Understudied: channel choice. For reliability and validity, the research includes quantitative data from 603 Delhi car buyers. This methodological rigor improves digital consumer behavior understanding. The survey identified eleven digital platforms that automobile buyers use, such as websites, social media, and YouTube. Smartphones and social media supply data; YouTube delivers compatibility. Digital channel users are identified via discriminant analysis. Statistics help marketers understand client behavior. According to research, marketing should prioritize SEO and customer relations. Marketing and advertising may be cheaper. Technology-mediated car purchases are explored. Pre-purchase research online is growing. This study enhances Indian auto marketers' digital marketing communication and consumer behavior research.

B., Parvathi et al., (2022) the paper defines digital advertising as mobile, email, online, and social media. Digital ads may reach people, as explained here. The research highlights internet advertising's impact on consumers. Digital advertising affects marketing customer choices, research reveals. Method: 100 random clients are examined. Consumer experiences and digital advertising responses support this technique. Statisticians

employ frequency, percentages, mean, SD, and correlation. This thorough research confirms the study's digital advertising and consumer behavior findings. Digital Consumer Ads Knowledge: Consumers grasp digital advertisements. This study reveals consumers actively interact with digital advertisements, which may impact marketers. Different digital advertising tactics help marketers, says the poll. Digital ads may increase engagement and conversions. Finally, this research uses scientific methods to assess digital advertising's influence on customer behavior and propose marketing strategies.

Kunal et al., (2016) the study examines Indian car purchasers' online advertising attitudes. From conventional advertising, customers buy online. Digital advertising client attitudes are studied using "Theory of Planned Behavior". Subjective norms, attitudes, and behavioral control affect digital consumer behavior. Digital advertising and marketing are popular, finds study. Car brand engagement is affected by digital. Many distrust digital platform information despite great ratings. Marketers must address this because reliable information boosts customer trust and engagement. Comparison Skills: Internet advertising helps individuals evaluate automobiles and commodities, polls show. Knowledgeable buyers improve results. Marketing Impact: This research may improve manufacturer digital advertisements. Consumer emotion and information authenticity may help demographic marketing. This study finishes with customer impressions of car industry digital advertising, establishing the groundwork for future research and marketing.

Amita et al., (2015) Indian car buyers are affected by the digital revolution owing to internet use and cheap phones, say researchers. Understanding how digital channels affect automobile purchasing requires this. Car users' favorite digital platforms are studied. Data facilitates the targeting of digital media for auto advertisements. Examining the backgrounds of digital car buyers in order to profile targets and divide markets. Digital marketing impacts Study: automakers' digital marketing impacts Delhi and NCR consumers. Marketers may gratify customers by understanding this impact. We poll Delhi and NCR automobile owners using standard forms. Auto industry stakeholders enjoy chi-square and t-test results. Overall result: Results explain car digital customer behavior. Clarity aids marketers and academics. Understanding digital marketing and customer behavior in the fast-changing Indian car industry improves the profession.

Payel, Chaudhuri. (2020). Marketing professionals must grasp how customers use digital media to reach their audience. This shows customer demographics' favorite channels. Digital channels influence customer choice,

according to the research. By assessing this effect, marketers may modify tactics to customer preferences, improving marketing efficacy. The research examines digital choice demographics. Companies segment clients and construct demographic-targeted marketing campaigns using this data. Strategic Marketing Tips: Research advised management on digital marketing channels. Understanding consumer preferences may improve digital marketing. This study studies consumer digital media usage to fill a digital marketing knowledge gap. Academic and practical applications need research in this fast-growing subject. Digital marketing benefits from customer behavior, digital channel decision-making and marketing advice research. These are crucial for digital marketing.

R, Krishnadas. (2021). Studies show technology affects car buyers' expectations. Manufacturers and dealers must realize customers expect personalized digital experiences. Tech changes auto making. Studies suggest fast-changing firms require digital technology for value creation and customer engagement to flourish. Scientists stress Omni channel engagement. Digital-savvy buyers should have many dealer and OEM online purchase options. Vehicle dealers should consider flexible consumption, says the report. Co-creation and new features may boost customer loyalty. Car sellers should target techies. This demography may help companies promote and sell to existing clients. The findings suggest auto dealerships should change their sales techniques to enhance engagement and sales. Online buying may boost happiness. The research advises digital-first automakers on customer behavior and technology.

Rekha. (2017). The report found India's automotive marketers use websites, social media, YouTube, mobile phones, digital outdoors, online communities, and digital TV. Our massive analysis found platforms affect consumer engagement and decision-making. Need identification, information search, alternative evaluation, purchase, and post-purchase behavior are studied in consumer choice analysis. Study: digital marketing may get consumers to purchase. Indian vehicle buyers are affected by digital marketing. Consumers are influenced by digital marketing. Automakers may benefit from research. By understanding how digital marketing communication affects consumer decision-making, marketers can please consumers and boost engagement. This research promotes digital marketing and consumer behavior in underdeveloped countries like India. Digital marketing consumer decision-making study is promoted. Digital marketing communication affects marketers and research by influencing consumer purchases.

Huma, Sarwar (2017) Research shows that understanding how consumers utilize numerous purchase channels is crucial. Companies must modify their

marketing since consumers use more channels to acquire items. Research addresses tech marketing concerns. This has altered client purchasing behaviors and interactions, forcing companies to alter their marketing techniques. Consumer-targeted media effectiveness: Traditional and non-traditional media are compared. Communication media across product categories are compared to improve marketing resource allocation. Key contributions include empowered multichannel consumer resource allocation. Tracking consumer behavior across channels and touch points may help multichannel marketing attract and retain consumers. Retailers may utilize the study's findings to tailor digital marketing to consumers. This matters when customers buy more. This study examines multichannel customer behavior, technological adaptation, resource allocation, and marketing strategy.

Nur, Hazwani et al., (2017) According to the survey, car dealers utilize traditional and online marketing to boost sales and customer satisfaction. Online information consumption requires this connection. This study examines two car dealer advertising methods. This article explains automotive marketing and gives research guidelines. Dealer Perceptions: Statistics show car dealer marketing. To satisfy dealers and customers, marketers must consider several views. Studies suggest car marketers reassess their approach using data. Internet media alters company and consumer behavior, thus future strategies must evolve. Further empirical study is recommended to validate the report's findings and comprehend car customers' perspectives. Automotive marketing requires promotional consumer behavior research. Auto dealers' promotions, effectiveness, and digital marketing impacts are examined in this article.

Sahar et al., (2020) The research survey says that TV, radio, newspapers, and outdoor promotion influence purchases. Finding out how channels impact cultural consumer behavior is crucial. Data, results: Research aims are fulfilled using inductive and descriptive quantitative approaches. Traditional communication influences purchase, evidence shows. Optimized ads Researchers found that outdoor advertisements affect purchases the most, followed by TV, radio, and newspapers. With this number, restaurants may choose the finest advertising channels. Evaluate theories testing channel-customer choice assumptions. Analysis improves idea, technique, and consumer behavior research. Survey's Cronbach's Alpha is 0.914. Findings are strengthened by communication channel impact tool reliability. Results inform restaurant marketing. This may help companies design revenue-boosting marketing campaigns. Traditional communication channels influence Palestinian consumer behavior, particularly restaurant selections, and marketing theory.

Rohan et al., (2014) Study involves internet automobile marketing. TV affects client choices despite internet connection. A study demonstrates buying influences. 53, 49, 60, and 58 respondents said manufacture websites, social media, friend and colleague recommendations, and family counsel impact them. 84% of the respondents somewhat trust online information whereas 16% significantly. Online trust is essential to marketing. Positive internet experiences affect 51% of purchases. Usability matters in online marketing. Online communication influences automobile consumers and is a preferred source of information, according to the research. Automobile digital marketing is rising. Data suggests buyers are researching big purchases like autos online. Manufacturers may satisfy digital consumers with data. Digital marketing and consumer behavior benefit from studying how online communication affects car buyers.

Ashamayee et al., (2022) Research examines Maruti car customers' tendencies. For cost, maintenance, and lifespan, Indians pick native cars. Hyundai and Maruti Suzuki rule Indian cars. Maruti Suzuki must revamp SUV marketing to compete. Indian government policies encourage the auto sector. Automakers improve global value chains and economies. Framework for Consumer Behaviour Research defines consumer buying behavior as attitudes, preferences, intentions, and decisions. This model may aid car buyer behavior research. According to study, Maruti Suzuki should employ aggressive and defensive marketing to meet market volatility and client expectations. Determine consumer preferences using thorough market research. Tech: Infotainment and hybrids attract automobile buyers. Academics and automotive professionals gain from consumer behavior, market dynamics, and Maruti Suzuki strategy studies.

Sachin, Shivam. (2024) the survey indicates advertising affects buying in numerous ways. Overcoming cause-and-effect assumptions, it stresses customer interaction complexity. Advertising influences client preferences, research finds. Advertising influences brand preferences. Scarcity, social proof, and celebrities feature in ads. Advertisements that influence client decision are effective. Research emphasizes ad repetition. Advertising increases brand recognition and message retention, affecting consumer behavior. Advertising influences client wants, attitudes, and lifestyles, according to research. Social changes, advertising, and consumer identity are linked in this key study. Ads: Consumer data is examined. Advertisements affect consumers' research and purchases. The findings imply marketing reduces post-purchase cognitive dissonance. To keep customers, advertising must improve satisfaction and loyalty. Advertiser and consumer behavior research may assist competitive marketers

generate better ads.

Nikhil (2015) Studies show online advertising affect buying. This advertising helps premium brand enthusiasts purchase cars. The study analyzes how online platform familiarity and availability affect purchase. This is client engagement with online ads. Abu Dhabi, Ajman, Dubai, Fujairah, Ras Al Khaimah, Sharjah, and Umm Al Quwain study consumer behavior. We can analyze how internet advertising influences buying decisions geographically. Primary data and a pilot study support the findings. Methodological rigor stabilizes and standardizes research. The outcomes may affect auto marketing. Internet advertising's influence on client decisions may help corporations target their audience. Internet ads, consumer behavior in a given location, extensive analysis, and practical implications for passenger car marketing are studied in this article.

3. Research Methodology

The methods a researcher employs to conduct their study comprise their methodology. The emphasis of research methodology is on the research methods, which comprise the strategy used by the researcher to formulate and address the study issue, as well as the logic and procedures that underpin the choice of method. A researcher's toolkit for conducting, designing, and reporting a study includes a variety of strategies (Thomas, 2015). This study uses quantitative research methodologies to evaluate how customer preferences for electric automobiles are influenced by conventional and digital advertising channels. A planned approach for collecting and analyzing numerical data in order to examine occurrences is known as a quantitative research method. Using statistical methods, this approach seeks to measure variables, identify trends, and evaluate hypotheses.

3.1 Statement of Problem

Due to considerations including environmental sustainability and technical improvements, there has been a substantial change in customer tastes, as seen by the rising demand for electronic vehicles (ECs) [28]. However, because of worries about cost, the infrastructure for charging, and consumers' lack of experience with new technologies, automakers continue to find it difficult to change customer behavior toward ECs [33]. Although advertising is a major factor in forming these preferences, little study has been done on how conventional and digital advertising channels affect consumer choices when it comes to ECs. Reaching younger, tech-savvy customers has grown more dependent on digital advertising, which is defined by targeted, data-driven marketing via platforms like social media and search engines [34]. In the meanwhile, older populations continue to be influenced by conventional

forms of advertising like print and television, which foster long-term brand awareness and trust [30]. But much research that has already been done focuses on these channels separately, ignoring the way they work together to influence customer choices, especially when it comes to expensive purchases like cars. The issue of comprehending the relative and combined effects of conventional and digital advertising channels in influencing customer choices for ECs is the focus of this study. It is critical to investigate how these advertising tactics might be adjusted to successfully impact customer choices, given the particular obstacles associated with marketing ECs. By addressing this shortcoming, the research will provide significant knowledge for automakers hoping to improve their advertising strategies and boost ECs' uptake by consumers.

3.2 Hypotheses of the Study

A hypothesis is a supposition that is accepted tentatively in order to explain certain occurrences or phenomena and to direct future research. A hypothesis has to be able to be refuted in order to be proved true or false. The study makes an attempt to analyze the following hypothesis –

H01: Digital advertising has no significant impact on shaping consumer preferences for electronic cars.

Ha1: Digital advertising has a significant impact on shaping consumer preferences for electronic cars.

H02: Traditional advertising has no significant influence on consumer preferences for electronic cars.

Ha2: Traditional advertising has a significant influence on consumer preferences for electronic cars.

H03: There is no significant difference in the effectiveness of digital and traditional advertising channels in influencing consumer decision-making for electronic cars.

Ha3: There is a significant difference in the effectiveness of digital and traditional advertising channels in influencing consumer decision-making for electronic cars.

3.3 Research design

In essence, a research design is a framework that helps researchers organize the many methods and techniques they use while conducting their studies. The survey study design was used to examine the formulation of the problem. By using the survey study approach to collect data, people's knowledge, attitudes, and behaviors may be characterized, contrasted, or explained (Fink, 2003).

3.4 Sample

The sample size of a questionnaire is the total number of respondents. An optimal sample is one that combines reliability, flexibility, and efficiency with representation.

Two hundred respondents completed questionnaires that yielded quantitative data. The study was conducted in Pune city of Maharashtra.

3.5 Tools and Techniques used for data collection

The data was collected via a structured questionnaire. Five point Likert scale was used. Questionnaires consist of both open and close ended questions.

3.6 Relevance of Questionnaire with the objectives of the study

It can be explained as under:-

- i. The primary tool used in survey research data collection is the questionnaire.
- ii. Both closed-ended and open-ended questions were included in the questionnaires.
- iii. The study goal of analyzing the influence of traditional and digital advertising channels on customer choices for electric automobiles was made easier with the use of the questionnaire.

3.7 Method of data collection

Data are distinct informational pieces that are often displayed in a certain way. Primary and secondary sources are the two fundamental categories of sources from which data may be obtained. Primary data is information obtained by techniques like surveys, experimentation, or observation from individuals who have personal knowledge of a subject. Information that has already been gathered and is easily accessible from other sources is referred to as secondary data. This research included primary as well as secondary sources of data. A questionnaire was used to collect primary data. The secondary data was collected by the researchers from a range of sources, such as published papers, books, journals, and internet databases.

3.8 Data Analysis

Examining, cleansing, modeling, and generating conclusions from data analysis are steps in the process of using data to support decision-making. A Chi-Square test was used as a statistical method to examine the impact of traditional and digital advertising on customer preferences. While inferential tests identified substantial differences between the two channels, descriptive statistics focused on trends. Consumer answers were gathered using surveys and questionnaires, and the results showed which kind of advertising had the most impact on preferences for electronic vehicles. Additionally, SPSS and MS-Excel were used to analyze the data gathered for the research.

3.8.1. Justification for relevance of statistical tools with the objectives of the study

The study's aims inform the hypothesis, which is based on categorical variables. When dealing with categorical data, use the chi-square test of independence to ascertain if two category variables are connected. The chi-squared statistic, which is only one number, tells you how much observed counts differ from the numbers you would expect if there was no relationship in the population. In other words, the Chi-square test for independence compares two variables in a contingency table to ascertain the degree of correlation between them. Comparing the dissimilarity of categorical data distributions is one of its more general uses.

4. Result

The research looked at how customer choices for cars are shaped by traditional and digital advertising channels, with an emphasis on electronic vehicles. Advertising exposure was divided into two categories: those who were exposed to advertisements and those who were not, and the effect were divided into three categories: low, moderate, and high. There were 200 responders in the sample. Table 1 displays the respondents' demographic characteristics.

Table 1 Demographic Profile of respondents

N= 200 respondents			
Gender		Frequency	Percent
Valid	Male	128	64.0
	Female	72	36.0
	Total	200	100.0
Age			
Valid	18-23	32	16.0
	24-29	96	48.0
	30-34	44	22.0
	Above 35	28	14.0
	Total	200	100.0
Qualification			
Valid	Diploma	24	12.0
	Graduate	34	17.0

Post Graduate	40	20.0
MBA	102	51.0
Total	200	100.0

Source: SPSS Output

H01: Digital advertising has no significant impact on shaping consumer preferences for electronic cars.

Ha1: Digital advertising has a significant impact on shaping consumer preferences for electronic cars.

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Exposure to digital Ads * Impact of digital Ads on consumer preference	200	100.0%	0	0.0%	200	100.0%

Source: SPSS Output

Exposure to digital Ads * Impact of digital Ads on consumer preference Cross tabulation

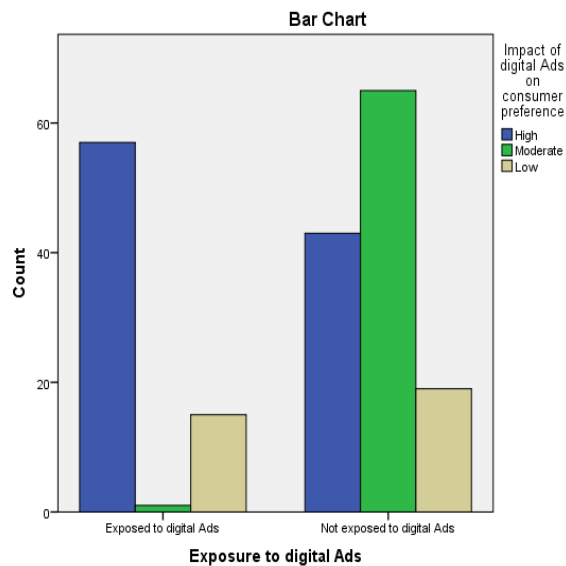
			Impact of digital Ads on consumer preference			Total
			High	Moderate	Low	
Exposure to digital Ads	Exposed to digital Ads	Count	57	1	15	73
		Expected Count	36.5	24.1	12.4	73.0
	Not exposed to digital Ads	Count	43	65	19	127
		Expected Count	63.5	41.9	21.6	127.0
Total	Count		100	66	34	200
	Expected Count		100.0	66.0	34.0	200.0

Source: SPSS Output

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	53.836 ^a	2	.000
Likelihood Ratio	68.807	2	.000
Linear-by-Linear Association	12.271	1	.000
N of Valid Cases	200		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 12.41.



H02: Traditional advertising has no significant influence on consumer preferences for electronic cars.

Ha2: Traditional advertising has a significant influence on consumer preferences for electronic cars.

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Exposure to traditional Ads * Influence of traditional Ads	200	100.0%	0	0.0%	200	100.0%

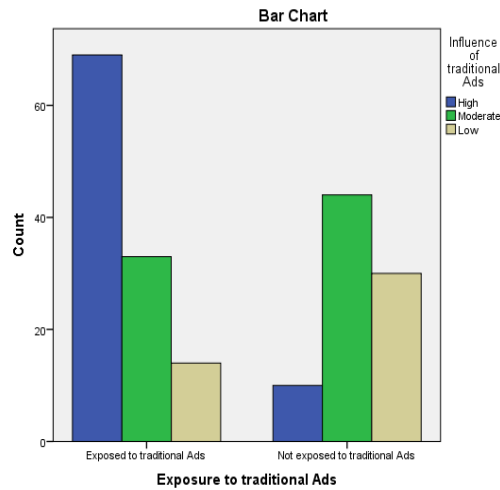
Exposure to traditional Ads * Influence of traditional Ads Crosstabulation

			Influence of traditional Ads			Total
			High	Moderate	Low	
Exposure to traditional Ads	Exposed to traditional Ads	Count	69	33	14	116
		Expected Count	45.8	44.7	25.5	116.0
	Not exposed to traditional Ads	Count	10	44	30	84
		Expected Count	33.2	32.3	18.5	84.0
Total	Count		79	77	44	200
	Expected Count		79.0	77.0	44.0	200.0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	47.550 ^a	2	.000
Likelihood Ratio	51.891	2	.000
Linear-by-Linear Association	42.081	1	.000
N of Valid Cases	200		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 18.48.



H03: There is no significant difference in the effectiveness of digital and traditional advertising channels in influencing consumer decision-making for electronic cars.

Ha3: There is a significant difference in the effectiveness of digital and traditional advertising channels in influencing consumer decision-making for electronic cars

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Influence on decision making * Advertising	200	100.0%	0	0.0%	200	100.0%

Source: SPSS Output

Influence on decision making * Advertising Cross tabulation

			Advertising		Total
			Digital Ads	Traditional Ads	
Influence on decision making	Influence decision	Count	52	63	115
		Expected Count	50.6	64.4	115.0
	Did not influence decision	Count	36	49	85
		Expected Count	37.4	47.6	85.0
Total		Count	88	112	200
		Expected Count	88.0	112.0	200.0

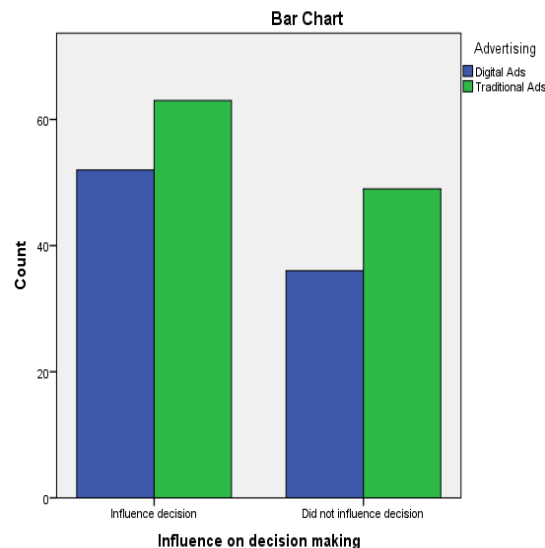
Source: SPSS Output

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.163 ^a	1	.687	.773	.398
Continuity Correction ^b	.067	1	.795		
Likelihood Ratio	.163	1	.687		
Fisher's Exact Test					
Linear-by-Linear Association	.162	1	.687		
N of Valid Cases	200				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 37.40.

b. Computed only for a 2x2 table



5. Discussion

The purpose of the research was to look at how customer choices for electronic automobiles are shaped by digital advertising. To investigate the connection between customer preferences and digital advertising, a Chi-square test was used. The alternative hypothesis proposed a substantial influence, but the null hypothesis one claimed that digital advertising had no discernible effect on influencing customer choices for electric vehicles. The computed Chi-square statistic at a 5% significance level was 53.836, a significant amount higher than the crucial table value of 9.488. The alternative hypothesis is accepted and the null hypothesis is rejected since the Chi-square value is greater than the cutoff. This finding suggests that customer choices for electric automobiles are significantly influenced by digital advertising. The null hypothesis is rejected, suggesting that digital advertising is a significant factor in influencing consumers' decisions about electric automobiles. This implies that investing in digital channels may be a very successful strategy for advertisers and marketers looking to reach and sway prospective customers in the electric vehicle sector. The results highlight the significance of well-run digital advertising that have the power to influence consumers' choices, perceptions, and ultimately their decisions to buy electronic cars.

The purpose of this research was to evaluate the impact of traditional advertising on customer preferences for electronic vehicles. To determine if conventional advertising has a major influence on customer decisions, a Chi-square test was used. The second null hypothesis said that traditional advertising had no discernible impact on customer preferences, but the alternative hypothesis claimed that it does. The Chi-square statistic was determined to be 47.550 at a 5% level of significance, which is much higher than the crucial table value of

9.488. We accept the alternative hypothesis and reject the null hypothesis since the estimated value is greater than the crucial value. This suggests that customer choices for electronic automobiles are significantly influenced by conventional advertising. Rejecting the null hypothesis implies that customer perceptions and decision-making about electronic cars are significantly influenced by conventional advertising channels, including print, radio, and television. This shows marketers that conventional advertising channels are still relevant and successful in marketing electric automobiles. Additionally, it implies that businesses should consider the importance of these media when creating campaigns meant to sway customer preferences in the expanding electric car industry.

The goal of the research was to ascertain if the efficiency of traditional and digital advertising channels in influencing consumers' decisions to purchase electric automobiles differs. This association was tested using a Chi-square test, which compared the two advertising strategies at a significance threshold of 5%. According to the third null hypothesis, there is no discernible difference between conventional and digital advertising channels' efficacy. The data-derived Chi-square statistic was 0.163, far less than the critical table value of 9.488 for the specified degrees of freedom. The null hypothesis is accepted as the computed value is far less than the crucial value. This suggests that there is no discernible statistical difference between the two advertising strategies' efficacy. The effectiveness of digital and conventional media in influencing customer choices about electronic vehicles is comparable. This finding implies that addressing prospective clients via one or both of the channels might be just as beneficial for marketers. It also means that when creating advertising campaigns for electric cars, businesses should consider the entire message, the attributes of the product, and the preferences of the customer rather than simply the

medium.

6. Conclusion

The research came to the conclusion that customer choices for vehicles, especially electronic cars, are greatly influenced by conventional and A.I-powered digital advertising channels. Chi-square research revealed that both channels significantly influence how consumers make decisions. These results highlight the need of using a well-rounded advertising strategy that makes use of the advantages of conventional and digital media in order to successfully reach and sway prospective consumers. When advertising electronic cars, marketers should give priority to integrated campaigns that use both media in order to optimize effect and target a variety of customer demographics. The study's findings highlight how conventional and digital advertising work in tandem to influence consumers' choices for electric vehicles. With its capacity to provide customized, interactive, and targeted material, digital advertising is essential in swaying tech-savvy and eco-aware customers. However, conventional advertising still has a significant influence on a large audience, especially when it comes to increasing brand knowledge and trust. The study shows that when creating successful marketing strategies for electric cars, neither advertising channel should be disregarded, since it rejects the null hypothesis for both of them. Using digital and traditional tactics in tandem will guarantee full customer involvement and increase the efficacy of advertising initiatives.

6.1. Fulfillment of the first objective

Analyzing how A.I-powered digital advertising affects customer choices for electric automobiles was the initial goal. The computed statistic, 53.836, far above the crucial value of 9.488 at a 5% significance level based on the Chi-square analysis. As a result, the alternative hypothesis (H_{a1}) was accepted and the null hypothesis (H_0), which suggested that digital advertising had no discernible effect, was rejected. The first goal of the research was achieved since the result unequivocally shows that digital advertising significantly shapes customer choices for electric automobiles. Digital platforms are essential to how consumers make decisions.

6.2. Fulfillment of the second objective

Evaluating the impact of conventional advertising on customer choices for electric vehicles was the second goal. At a 5% significance level, the Chi-square analysis produced a statistic of 47.550, which was substantially higher than the crucial table value of 9.488. Consequently, the alternative hypothesis (H_{a2}) was accepted and the null hypothesis (H_{02}), which suggested

that conventional advertising had no discernible impact, was rejected. This demonstrates that conventional advertising affects customer choices for electronic automobiles in a major way, achieving the study's second goal. Conventional advertising is still an effective means of influencing customer choices when it comes to electronic automobiles.

6.3. Fulfillment of the Third objective

Comparing the impact of conventional and digital advertising channels on consumers' decisions to purchase electric automobiles was the third goal. At the 5% significance level, the Chi-square statistic for this comparison was 0.163, a significant decrease from the crucial table value of 9.488. Consequently, the null hypothesis was approved, indicating that there is no noteworthy difference in the efficacy of digital and conventional advertising. This result satisfies the third research goal, showing that both advertising channels have a comparable impact on customer choices. Both channels may be used by marketers to influence customer choices with a similar level of effectiveness.

6.4. Practical Implications

The practical implications of the study's results for marketing techniques in the automobile industry, especially with regard to electronic vehicles, are noteworthy. The results indicate that an integrated strategy should be used, since both conventional and digital advertising channels were shown to be equally successful in influencing customer choices. Marketers can take use of both the wide audience and brand-building possibilities of conventional media, as well as the advantages of digital platforms, such as tailored and targeted content. Across all demographics, more customer interaction is made possible by this well-balanced approach. Companies may also properly allocate money, optimizing campaigns via the use of both media to successfully impact customer decision-making about electric cars.

6.5. Direction for future research

By examining a number of important areas, further research on the influence of traditional and digital advertising channels on customer choices for vehicles, especially electronic cars, may expand on this study. Initially, scholars might investigate further the particular components of advertising medium that have the most impact on customer choices. To ascertain which digital sub channels have the most effect, for instance, the roles of influencer relationships, social media, and search engine marketing might be assessed independently within the context of digital advertising. Secondly, research in the future may concentrate on examining demographic distinctions like age, gender, and wealth to

learn more about how certain customer categories react to digital vs. conventional advertising. This would make it easier for marketers to accurately target various audience segments with their plans. The use of cutting-edge technology in advertising, such as augmented reality, virtual reality, and artificial intelligence, is a significant topic for further study. Digital marketing is using these technologies more and more, and they have the potential to drastically change how successful conventional advertising is. Lastly, longitudinal research that monitors how customer preferences evolve over time in response to advertisements may provide information on the long-term viability of traditional and digital marketing initiatives. This would assist automakers in modifying their tactics in response to changing customer preferences and an expanding demand for electric vehicles.

6.6. Limitations of the study

1. Because the research only included electronic vehicles, it could not be entirely indicative of larger developments in the automobile industry. The findings may not apply to other vehicle categories, and future study on other car models might provide more broadly applicable insights.
2. This research is restricted to Pune, Maharashtra. The efficiency of advertising and consumer preferences might change greatly across cultures and geographical areas, therefore broadening the research to cover a variety of marketplaces would provide a more complete picture.
3. It is important to take into account the study's limitations when evaluating the findings. The majority of the study was quantitative in nature, which could not adequately convey the complex reasons and attitudes that consumers have toward both conventional and digital advertising.

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