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"IMPACT OF ARTIFICIAL INTELLIGENCE ON CUSTOMER EXPERIENCE IN OMNI-CHANNEL MARKETING: WITH SPECIAL REFERENCE TO CHENNAI CITY"

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ABSTRACT:

Artificial Intelligence integrated into omni-channel marketing is going to revolutionize customer experiences by providing seamless experiences among both digital and physical channels. This paper discusses how AI increased the dimensions of personalization and convenience, thus making customer shopping more efficient and effective. AI-powered personalized recommendation engines, including Amazon Personalize, Chatbots, and Macy's on-call, have restructured customer journeys by offering optimized suggestions based on preference analysis and real-time support. A systematic survey was conducted among consumers in Chennai to analyse their experiences with these technologies. The results indicated that AI powered up customer experiences by saving time in product findability, consistency across channels, and highly personalized services. Issues related to data privacy, less accurate recommendations at times, and reduced human interaction in support services remain some of the challenges. Consumers generally view AI as a game-changing tool that has enhanced their shopping experiences. It is concluded herein that AI stands pivotal in enhancing the dimensions of personalization, convenience, and engagement in omni-channel marketing.

Keywords: Artificial Intelligence (AI), Omni-channel Marketing, Personalization, Customer Experience

INTRODUCTION :

The rapid expansion of Artificial Intelligence is transforming omni-channel marketing in ecosystem with respect to user personalization and experience. By leveraging Artificial intelligence to marketing tactics, the marketing side of a business can provide the customer with a highly personal, engaging and frictionless experience and this has a significant impact on how a brand can relate to its customer. In the omni-channel age of consumers which inter-link through various touchpoints, ie web portals, app stores, brick-and-mortar stores etc., AI can bring about consistency, relevance and efficiency, ultimately resulting in a superior customer experience as a whole. Today, in the digital economy, the consumer market is in search not only of a richer and more satisfying shopping experience but also of a more individualized and personalized and, therefore, efficient shopping experience, when a brand is expected not only to know each consumer's shopping but also who that consumer is and what the person desires. AI-driven solutions such as recommendation systems, smart chatbots and customisable messaging are enabling companies to fulfil these expectations by giving customers tailored experiences that not only meet their requirements, but also go beyond them and deliver an elevated and satisfying customer experience. Usage of AI in omni-channel marketing, specifically in metro cities like

Chennai, is instrumental in studying the effect of such technologies on consumer behaviour, for improving operational efficiency and for building brand loyalty. This paper evaluates the contribution of AI to customer segmentation and experience in the omni-channel marketing paradigm and more specifically to the city (Chennai).This paper analyses the role that AI plays in customer segmentation and experience in the omni-channel marketing framework and in, in particular, the city (Chennai). This paper, based on the scope of AI influencing the customers' relationship, shows the ways that companies use technology to improve their customers' experiences and to optimize their processes. However, some questions regarding data privacy, accuracy of recommendations, and the lack of the human interaction in service support delivery still require to be considered. In a systematic consumer survey which encompassed Chennai city, this paper aims to find out how they perceive the relation in using AI in the context of revolutionizing the experience in omni-channel (multi-channel) marketing, especially in the area of personalization, ease and interaction.

REVIEW OF LITERATURE :

(DAMAYANTI, 2024) examines the influence of Artificial Intelligence (AI) on Omnichannel Customer Experience (OCX) through a quantitative method and survey data collection. Data was collected from 431 Indonesian respondents using an online questionnaire via Google Forms based on a cross-sectional design. Hypothesis testing was performed using SEM-PLS through SmartPLS software. The results show that AI dimensions can improve omnichannel customer experience in a significant way.

UCHECHUKWU CHRISTOPHER ANOZIE ET AL., (2024): explores the transformative impact of Artificial Intelligence (AI) on customer interactions, especially in the realm of personalization and efficiency across platforms. Furthermore, sentiment analysis will aid organizations in assessing customer emotions, refining their strategies, and improving experiences with customers, addressing concerns such as privacy and algorithmic bias. The future for AI in customer experience holds much more immersive and personalized engagement.

CALVO ET AL. (2023) investigates the role of artificial intelligence (AI) systems in improving the omnichannel customer experience (OCE) based on the findings from retail managers, AI consultants, and omnichannel consumers. Based on an explorative inductive design, data collected from 41 in-depth interviews were analyzed by using grounded theory methodology. The main findings reveal that AI implementation in omnichannel experiences shifts the relevance of some OCE dimensions: personalization, consistency, and flexibility are aligned with experiential elements, while integration and connectivity are perceived as internal retailer capabilities.

(VIDUSHI AND DR. R KASHYAP, 2020) paper aims to determine the key drivers and enablers of AI technologies in three crucial areas of omnichannel retailing: customer experience, data management, and supply chain efficiency. It discusses various AI technologies that can be used by retailers to optimize supply chain operations, manage data, and engage customers in a seamless way. In this digital era, both online and offline retailers are working overtime to innovate the shopping experience. The key driver of better customer interactions coupled with operational efficiency for the retailer is AI technologies.

STATEMENT OF THE PROBLEM

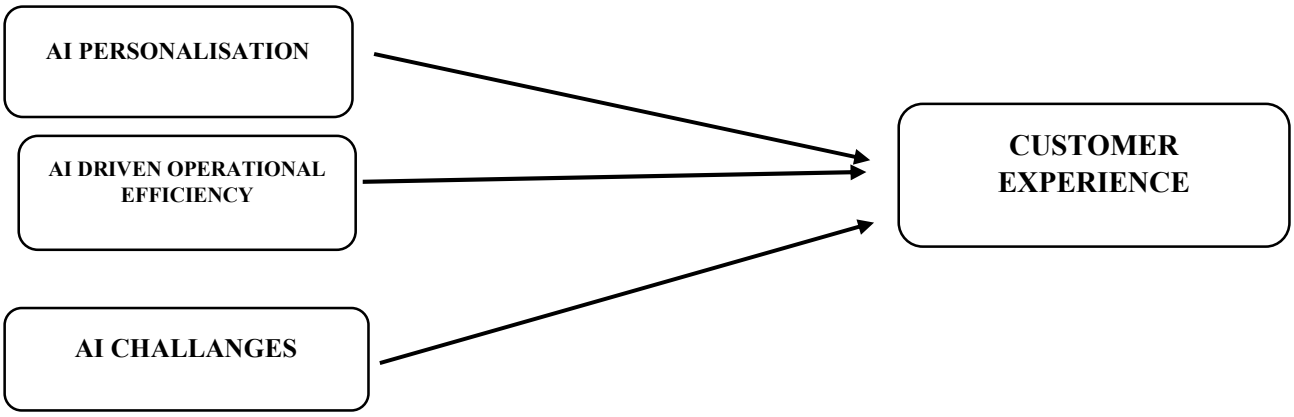
The existing literature has well discussed about the role of AI in enhancing omnichannel customer experience, with a focus on personalization, operational efficiency, and customer engagement.

However, limited studies have investigated the impact of AI on customer trust, specifically dealing with challenges such as data privacy, algorithmic accuracy, and reduced human interaction in urban contexts like Chennai. Moreover, the integration of AI-driven solutions with physical and digital channels in emerging markets remains understudied. This paper contributes to filling these gaps by assessing the role of AI in transforming customer personalization and experience and the challenges associated with it.

OBJECTIVES:

- To assess the impact of AI-driven personalization on enhancing customer experience in omni-channel marketing.
- To analyse the effect of AI- driven operational efficiency on customer experience.
- To Assess the challenges of integrating AI, and their impact on customer experience.

CONCEPTUAL FRAMEWORK



RESEARCH METHODOLOGY

An empirical analysis was adopted to know the impact of Artificial Intelligence (AI) on customer experience in omni-channel marketing. In this study, a survey method was adopted to collect the primary information from the respondents. Secondary data are collected from journals and publications, books, relevant websites, etc. Tools and Techniques involve statistical tools like ANOVA and Regression used to analyse and interpret the role of AI-driven personalization, operational efficiency, and challenges in enhancing customer experiences. A well-structured questionnaire was prepared and aimed to collect the required information from the participants. The sample size of the study is 120. Convenience sampling technique was used.

DATA ANALYSIS AND INTERPRETATIONS

The data analysis for these objectives involves two distinct statistical approaches tailored to the research questions: independent samples t-tests and correlation analysis. Independent samples t-

tests are used to compare mean differences between two distinct groups, providing insights into whether group-level differences are statistically significant. Correlation analysis examines the strength and direction of relationships between continuous variables, laying the groundwork for understanding potential associations. Together, these methods offer a robust framework to address the research questions and uncover nuanced patterns within the data.

Table 1 showing Demographic profile of the respondents

S.no	Category	Sub-category	Frequency(N=120)	Percentage
1	**AGE**	Below 18	5	4
		18-25 years	79	66
		26-25 years	27	23
		36-45 years	8	7
		Above 45 years	1	1
		Total	120	
2	**Gender**	Male	51	43
		Female	69	58
		Total	120	
3	**Occupation**	Student	55	46
		Employed	54	45
		Self – Employed	5	4
		Home Maker	5	4
		Retired	1	1
		Total	120	
4	**Annual income**	Below ₹15,000	45	38
		₹15,001-₹30,000	44	37
		₹30,001-₹50,000	19	16
		Above ₹50,000	12	10
		Total	120	

SOURCE : PRIMARY DATA

Reliability Statistics

Cronbach's Alpha	N of Items
.902	4

INTERPRETATION :

The reliability analysis shows a Cronbach's Alpha value of 0.902 for the 8 items. This indicates excellent internal consistency among the items, as Cronbach's Alpha values above 0.9 are generally considered to reflect high reliability. This suggests that the items used in the scale are measuring the same underlying construct effectively and can be considered reliable for further analysis.

FINDINGS :

From the above table, it's evident that The majority age group is 18-25 years, with 66%, and the least is above 45 years, with 1%. The middle level is 26-35 years, with 23%. The majority gender is female, with 58%, and the least is male, with 43%. The majority occupation is students, with 46%, and the least is home makers and retired individuals, each at 1%. The middle level is employed individuals, with 45%. The majority annual income is below ₹15,000, with 38%, and the least is above ₹50,000, with 10%. The middle level is ₹15,001–₹30,000, with 37%.

HYPOTHESIS TESTING:

($H0_1$): There is a significant impact of AI Personalisation on customer experience in omni-channel marketing.

($H0_2$): There is no significant impact of AI challenges on customer experience in omni-channel marketing.

($H0_3$) There is no significant impact of AI-driven operational efficiency on customer experience in omni-channel marketing.

TABLE 2

REGRESSION ANALYSIS ON THE IMPACT OF AI PERSONALISATION, AI CHALLENGES AND AI-DRIVEN OPERATIONAL EFFICIENCY ON CUSTOMER EXPERIENCE IN OMNI-CHANNEL MARKETING"

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.708[a]	.501	.348	.55299

a. Predictors: (Constant), AI CHALLANGES, AI PERSONALISATION, AI DRIVEN OPERATIONAL EFFICIENCY

b. Dependent Variable: CUSTOMER EXPERIENCE

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	20.365	3	6.788	22.199	.000[b]
	Residual	35.472	116	.306		
	Total	55.837	119			

a. Dependent Variable: CUSTOMER EXPERIENCE
b. Predictors: (Constant), AI CHALLANGES, AI PERSONALISATION, AI DRIVEN OPERATIONAL EFFICIENCY

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1(Constant)	1.597	.336		4.748	.000
AI PERSONALISATION	.180	.061	.271	2.959	.004
AI DRIVEN OPERATIONAL EFFICIENCY	.275	.069	.366	3.973	.000
AI CHALLANGES	.149	.080	.139	1.864	.005

Table 2 presents the regression model summary, indicating a Standard Error of the Estimate of 0.55299, which reflects the average distance that the observed values fall from the regression line. The R value is 0.708, signifying a strong positive correlation between the predictors (AI challenges, AI personalization, and AI-driven operational efficiency) and the dependent variable (customer experience). The R Square value (0.501) indicates that 50.1% of the variance in customer experience can be explained by the predictors in this model, the Adjusted R Square (0.348) provides a more conservative estimate of variance explained, accounting for the number of predictors and sample size, at 34.8%.

The ANOVA table confirms that the model is statistically significant, with an F value of 22.199 and a p-value less than 0.001, this indicating that the overall regression model is a significant predictor of customer experience in omni-channel marketing. The coefficients table highlights the individual contributions of each predictor: AI-Driven Operational Efficiency the Unstandardized Coefficient (B): 0.275, indicating that a one-unit increase in operational efficiency is associated with a 0.275 increase in customer experience. The Standardized Coefficient (Beta): 0.366, indicates that the strongest relative impact on customer experience. The Significance Value (Sig.): 0.000, confirming this relationship is statistically significant. AI Personalization the Unstandardized Coefficient (B): 0.180, suggesting that a one-unit increase in personalization is associated with a 0.180 increase in customer experience. The Standardized Coefficient (Beta): 0.271, indicating a moderate impact on customer experience however Significance Value (Sig.): 0.004, confirming this relationship is statistically significant.AI Challenges the Unstandardized Coefficient (B): 0.149, indicating that a one-unit increase in AI challenges results in a 0.149 increase in customer experience. Standardized Coefficient (Beta): 0.139, showing the weakest impact among the predictors. However, Significance Value (Sig.): 0.005, confirming this relationship is statistically significant.

The significance values (Sig.) for all predictors are less than 0.05, indicating that AI challenges, AI personalization, and AI-driven operational efficiency significantly contribute to predicting customer experience in omni-channel marketing. The analysis suggests that while all three factors are important, AI-driven operational efficiency has the strongest impact on customer experience. Hence, H_1, H_2, and H_3 are accepted.

SUGGESTIONS:

- Prioritize Data Security: Build customer trust by safeguarding data and being transparent about its usage.
- Blend AI with Human Support: Ensure a mix of AI-driven solutions and human interaction to maintain a personal touch.
- Enhance AI Accuracy: Regularly update AI systems to minimize errors and improve recommendation quality.
- Educate Customers: Simplify AI concepts to help customers understand its benefits and limitations, increasing acceptance.
- Focus on Personalization: Use AI to deliver seamless, tailored experiences across both digital and physical channels.
- Address Privacy Concerns: Strictly adhere to privacy laws and best practices to protect customer data.

- Measure and Improve AI Impact: Continuously monitor AI's performance and customer feedback to refine its effectiveness

LIMITATIONS OF THE STUDY :

- The Samples collected from people is limited to 120 due to time constraints
- The Sample if limited to Chennai District
- The rapid advancements in AI technology, the findings of the study may quickly become outdated, limiting its long-term relevance and applicability.

SCOPE FOR FUTURE STUDY:

The scope of future research is broad as this research has constructed an agenda for the transformative potential of Artificial Intelligence (AI) for consumer experience, consumer attitude and consumer behaviour associated with omni-channel marketing in general and in Chennai in particular. Further research could investigate more specific data (e.g., age, education, wages) in an effort to better understand the salience of these variables in the customer/AI technology relationship. Additionally, cultural effects, how cultural effects are mediated together by AI-enabled personalizing and operation efficiency, is a subject that is worth investigating. Expanding the geographical area of the research from Chennai to the metropolitan and rural areas may allow for comparison of acceptance of AI as well as the effect of AI on equity and customer experience. Furthermore, longitudinal studies are able to monitor changes in the ACI impact load over time as the capability of the ACI technology and user requirements evolve. When analyzing sector-specific uses of AI in omni-channel (e.g., fashion, electronics, or grocery) systems, it may also be possible to identify sector-specific opportunities and/or challenges in a more granular manner. In the end, for example, the solution to emerging issues (ie, the responsible application of AI, algorithmic transparency, and so on) and new advances in the application of AI in privacy-preserving technologies can be helpful in contributing to the ongoing discussion of AI's role in improving customer experience.

CONCLUSION :

The use of artificial intelligence in omni-channel marketing has been a revolutionizing force in enhancing the customer experience in the areas of personalization, operational efficiency, and engagement. AI-based technologies e.g., recommendation engines, chatbots and next-generation inventory management tools allow businesses to provide a consolidated, integrated and continuous shopping experience, both online and offline. Based on this, this study demonstrates that the efficiency of AI as the driving force of operational efficiency of the company has considerable impact on the level of customer satisfaction as it allows for com-plete resolution of issues, guarantees the presence of the products, and administrates a perfect shopping experience. Nevertheless, it still faces several challenges, such as, privacy issue of using data, occasional errors in AI suggestions as well as lack of human contact in delivery of service. The results show that although AI is seen as a game-changer for changing customer experience in Chennai, the success of AI heavily relies on how to address these problems. Companies are advised to provide transparency, robust data security, and aspects of human intervention in service delivery in an effort to foster trust and loyalty. The true AI potential to transform customers' experiences in the omni-channel marketing lies when the technological efficiencies have been balanced with a human-centered approach.

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