



A Study On Role Of Ai In Personalized Digital Marketing Campagin For Surya Informatics Solution Pvt Ltd

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Abstract: This project explores the role of Artificial Intelligence (AI) in enhancing personalized digital marketing campaigns for Surya Information Solutions Pvt. Ltd. The study examines how AI technologies, such as machine learning algorithms, data analytics, and natural language processing, can be leveraged to create tailored marketing strategies that effectively meet the needs and preferences of individual customers. By analysing consumer behaviour, AI can help in predicting trends, segmenting target audiences, and optimizing content delivery across digital platforms. The research aims to evaluate the impact of AI-driven personalization on customer engagement, conversion rates, and overall business performance, providing insights into the potential benefits and challenges for Surya Information Solutions Pvt. Ltd. in adopting AI for their marketing initiatives.

Index Terms - Artificial Intelligence (AI), Personalized Digital Marketing, Conversion Rates, Marketing Strategy.

I. INTRODUCTION

A personalized digital marketing campaign powered by AI tools uses artificial intelligence technologies to tailor marketing efforts specifically to individual customers' needs, preferences, and behaviours, ensuring a highly relevant and engaging experience. AI tools, such as machine learning algorithms, predictive analytics, and natural language processing, analyse vast amounts of customer data, including demographics, past interactions, and browsing behaviours, to create detailed customer profiles. These insights allow marketers to deliver personalized content, recommendations, and offers through various digital channels such as email, social media, and websites. For instance, AI-driven recommendation engines suggest products based on previous customer behaviour, while dynamic content tools adjust marketing messages in real-time to fit individual preferences.

Benefits of AI-Powered Personalized Marketing Campaigns:

- **Increased Engagement:** By providing relevant and tailored content, AI enhances customer engagement, leading to higher click-through and conversion rates.
- **Better Customer Experience:** Personalized marketing improves the overall customer experience, making customers feel valued and understood.
- **Cost Efficiency:** AI can automate repetitive tasks, reducing the need for manual intervention and optimizing campaign budgets by targeting the right audience at the right time.
- **Improved ROI:** With AI-driven insights and real-time optimization, marketing campaigns can achieve higher returns on investment.

II. NEED OF THE STUDY

It is essential to explore how artificial intelligence can enhance customer engagement, optimize marketing strategies, and drive business growth. Personalized digital marketing leverages AI algorithms to analyse customer data, identify patterns, and tailor content to meet individual preferences, ensuring that marketing messages resonate with target audiences more effectively. In the context of Surya Information Solutions Pvt. Ltd., the study aims to investigate how AI tools such as machine learning, natural language processing, and predictive analytics can help create hyper-personalized experiences for clients, improve conversion rates, and increase customer loyalty.

III. OBJECTIVES OF THE STUDY

- Understand how AI chatbots and virtual assistants enhance customer interactions and conversions.
- Discuss how AI customizes email campaigns and social media ads for better engagement.
- Analyze the ethical implications and privacy challenges of AI-driven personalized marketing.
- Assess the key performance metrics used to evaluate AI-driven personalization strategies.
- Explore emerging AI technologies that will shape the future of personalized digital marketing.

IV. SCOPE OF THE STUDY

The scope of this study focuses on analysing the role of Artificial Intelligence (AI) in enhancing personalized digital marketing campaigns, specifically for Surya Information Solutions Pvt. Ltd. The research will explore how AI technologies, such as machine learning, data analytics, and automation, are being integrated into digital marketing strategies to improve customer engagement, conversion rates, and overall marketing effectiveness. The study will examine the current AI-driven tools and techniques utilized by the company, assess their impact on customer segmentation, targeting, content personalization, and campaign optimization.

V. REVIEW OF LITERATURE

Ms. Mariyam Ahmed (2024)

Marketing campaigns in the digital age have moved from basic mass communications to highly targeted, individualized, and engaging strategies. The use of Artificial Intelligence (AI) technologies into digital marketing techniques has made this change feasible. This study explores the impact of artificial intelligence (AI) on marketers and consumers, as well as the critical role AI plays in personalizing digital marketing strategies.

Puttanna K (2023)

The purpose of the current study paper is to provide a review of earlier studies that have examined the crucial role of artificial intelligence (AI) in digital marketing. AI has become a potent instrument that has the potential to revolutionise several industries, including marketing. By enabling companies to analyse massive volumes

Mahmoud Alghizzawi (2023)

In an era dominated by digital interactions and data-driven decision-making, the influence of Artificial Intelligence (AI) on personalized content marketing has become a focal point of research. This study, conducted with a simple random sample of 485 respondents, employs Partial Least Squares (PLS) analysis to unravel the intricate relationship between AI and personalized content marketing.

Tochukwu Ignatius Ijomah (2024)

This paper explores the application of Artificial Intelligence (AI) in enhancing personalized marketing campaigns to improve conversion rates. The primary objective is to analyse how AI-driven strategies can tailor marketing efforts to individual consumer preferences, thereby increasing the effectiveness of these campaigns.

Sevgi Aydin (2025)

Technological improvements enable more individualized connections with clients and improve strategic planning skills, shaping the growth of digital marketing. Marketers may use machine learning, predictive analytics, and natural language processing to acquire a better understanding of customer behaviour.

M. Abdul Rahuman (2025)

The advent of Artificial Intelligence (AI) has revolutionized the digital marketing landscape, enabling businesses to deliver personalized experiences to customers. This exploratory study investigates the transformative potential of AI-powered chatbots and personalization in digital marketing.

I. RESEARCH METHODOLOGY

Research Methodology is a way to find out the result of a given problem on a specific matter or problem that is also referred as research problem. In Methodology, researcher uses different criteria for solving/searching the given research problem. Different sources use different type of methods for solving the problem. If we think about the word “Methodology”, it is the way of searching or solving the research problem.

3.1 Research Design

Research design is an arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure.

3.2 Descriptive research

Descriptive research includes surveys and fact-finding enquiries of different kinds and it can report only what has happened. The purpose of the research is description of the state of affairs as it exists at present. Descriptive research, also known as statistical research, describes data and characteristics about the population or phenomenon being studied. Descriptive research answers the questions who, what, when, where and how. A descriptive study is undertaken in order to ascertain and able to describe the organization constantly engaged themselves in studying and analyzing issues and hence are involved in some form of research activity as they make decisions at the work place.

3.3 Convenience sampling

Convenience sampling is a type of non-probability sampling that involves the sample being drawn from the part of population that is close to the hand. This type of sampling is most useful for pilot testing. The sampling is also known as grab sampling or availability sampling. There are no other criteria to the sampling method except that people be available and willing to participate.

3.4 Sample Size

Sample size determination is the act of choosing the number of observations or replicates to include in a statistical sample. The sample size is an important feature of any empirical study in which the goal is to make inferences about a population from a sample. The sample size for the study 220.

3.5 Statistical tools

- Mann Whitney U Test
- Correlation

3.6 Non- Parametric Test

Non parametric statistics refers to a statistical method in which the data are not assumed to come from prescribed models that are determined by a small number of parameters.

3.4.1 Mann Whitney U Test

The Mann Whitney U test is a nonparametric hypothesis test that compares two independent groups. Statisticians also refer to it as the Wilcoxon rank sum test. The Kruskal Wallis test extends this analysis so that can compare more than two groups.

If you're involved in data analysis or scientific research, you're likely familiar with the t-test. But did you know there's another method for comparing two independent samples? That method is the Mann-Whitney U Test.

It is a nonparametric analysis named after two statisticians, H.B. Mann and D.R. Whitney. Because it is nonparametric, it makes fewer assumptions about your data than its parametric counterparts.

3.4.2 Correlation

Correlation measures the strength of the association between two variables. For instance, if we are interested in knowing whether there is a relationship between the heights of fathers and sons, a correlation coefficient can be calculated to answer this question. To learn more about correlation, please refer to this. Methods for correlation analysis:

There are mainly two types of correlation:

Parametric Correlation: static Pearson correlation(r): It measures a linear dependence between two variables (x and y) and is known as a parametric correlation test because it depends on the distribution of the data. It is used for numerical data.

Non-Parametric Correlation – Kendall(τ) and Spearman(ρ): They are rank-based correlation coefficients, and are known as non-parametric correlation. It is used for categorical data.

Spearman's rank correlation coefficient, often denoted by the Greek letter ρ (ρ) or sometimes as r_s , is a non-parametric measure of rank correlation. It assesses the strength and direction of the monotonic relationship between two variables.

Formula for Spearman's Correlation:

$$r_s = 1 - (6\sum D^2 / n(n^2 - 1)) \quad (3.2)$$

where d is the difference between the ranks of each observation, and n is the number of observations. This measure is especially valuable when data contain outliers or are not suitable for Pearson's correlation due to their distribution or scale.

IV. RESULTS AND DISCUSSION

4.1 Test Of Normality

Table 4.1: Normality test

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
chatbots-5	.132	248	.000	.938	248	.022
email marketin-2	.131	248	.000	.939	248	.001
personalized marketing-3	.201	248	.000	.890	248	.032
customer-4	.205	248	.000	.859	248	.004
augmented reaity-5	.165	248	.000	.903	248	.000

Table 4.1 Since the p value < 0.05 , we reject null hypotheses. Hence the variables – Employee satisfaction, operational efficiency, retention rate and organisation culture significantly deviates form normal distribution and hence non- parametric tools are applied.

H_0 : The data is normally distributed.

H_1 : The data is not normally distributed.

4.2 Mann-Whitney U Test

H_0 : There is no significant difference between the mean rank of the employees age with respect to the variables.

H_1 : There is a significant difference between the mean rank of the employees age with respect to the variables.

The Mann-Whitney U test, also known as the Wilcoxon rank-sum test, is a non-parametric statistical test used to determine whether there is a significant difference between two independent groups when the data is not normally distributed or when the assumptions of parametric tests are not met. It's often used when you have two groups and you want to compare their distributions or central tendencies. The formula for calculating the Mann-Whitney U test statistic U is: $U = \min(U_1, U_2)$.

Table 4.2:Ranks

Ranks				
	2.Age	N	Mean Rank	Sum of Ranks
chatbots-5	1	52	112.31	5840.00
	2	182	118.98	21655.00
	Total	234		
email marketin-2	1	52	126.57	6581.50
	2	182	114.91	20913.50
	Total	234		
personalized marketing-3	1	52	126.22	6563.50
	2	182	115.01	20931.50
	Total	234		
customer-4	1	52	116.01	6032.50
	2	181	117.28	21228.50
	Total	233		
augmented reaity-5	1	52	117.38	6104.00
	2	182	117.53	21391.00
	Total	234		

Table 4.2.1:Test statistics

	chatbots-5	email marketin-2	personalized marketing-3	customer-4	augmented reaity-5
Mann-Whitney U	4462.000	4260.500	4278.500	4654.500	4726.000
Wilcoxon W	5840.000	20913.500	20931.500	6032.500	6104.000
Z	-.636	-1.111	-1.087	-.123	-.014
Asymp. Sig. (2-tailed)	.525	.266	.277	.902	.989

Table 4.2 $P > 0.05$. Therefore, the null hypothesis (H_0) is accepted. There is no statistically significant difference between the age of the employees with respect to the variables. So, the alternative hypothesis is rejected.

4.3 Correlation

H_0 : The variables are not correlated with each other.

H_1 : The variables are correlated with each other.

Spearman's Rank Correlation is a non-parametric measure of correlation used to assess the strength and direction of the relationship between two variables. It is based on the ranks of the observations rather than their actual values, making it suitable for ordinal or non-normally distributed data. Spearman's correlation coefficient, denoted by ρ (rho), ranges from -1 to 1, where positive values indicate a positive correlation, negative values indicate a negative correlation, and values close to zero suggest little to no correlation. One of Spearman's key advantages over Pearson's correlation is that it can capture relationships where the rate of change is not constant—such as logarithmic, exponential, or sigmoidal patterns so long as the order of values

is preserved. It is widely used in social sciences, psychology, education, and other fields where data are often not interval-scaled or normally distributed.

Table 4.3 : Correlation

			chatbot s- 5	email marketin- 2	personaliz e d marketing - 3	custome r- 4	augment ed reality-5
Spearman' s rho	chatbots-5	Correlation Coefficient	1.000	.527**	.291**	.042	-.188**
		Sig. (2-tailed)	.	.000	.000	.515	.003
		N	249	249	249	248	249
	email marketin- 2	Correlation Coefficient	.527**	1.000	.226**	.204**	.083
		Sig. (2-tailed)	.000	.	.000	.001	.191
		N	249	249	249	248	249
	personalized marketing-3	Correlation Coefficient	.291**	.226**	1.000	.099	.063
		Sig. (2-tailed)	.000	.000	.	.118	.323
		N	249	249	249	248	249
	customer-4	Correlation Coefficient	.042	.204**	.099	1.000	.293**
		Sig. (2-tailed)	.515	.001	.118	.	.000
		N	248	248	248	248	248
	augmented reality-5	Correlation Coefficient	-.188**	.083	.063	.293**	1.000
		Sig. (2-tailed)	.003	.191	.323	.000	.
		N	249	249	249	248	249

Table 4.3 $P > 0.05$. Therefore, , the Alternative hypothesis (H1) is rejected. The variables are highly correlated with each other.

VI. FINDINGS

Based on the data collected from the respondents, several insights have been inferred. A majority of the participants, 69.9%, fall within the age group of 21-30 years. Among the respondents, 63% are male, and 63.5% hold a Bachelor's degree as their highest qualification. Regarding employment status, 63.3% are engaged in business. Furthermore, a significant portion, 82.5%, have less than one year of work experience. In terms of perceptions and opinions, 40.1% of the respondents agreed that customer satisfaction is met, while 43.1% agreed with the statement related to customer experience, and 39.1% felt similarly about customer service. Additionally, 77.1% responded affirmatively to a related query, although the specific question was not mentioned. When it comes to digital marketing strategies, 39.2% agreed that personalized recommendations are effective, and 44.9% felt that analyzing user behavior is important. Social media advertisements received agreement from 46.1% of the respondents, and 89.8% responded "yes" to another unspecified question. Regarding consumer data security, 39.5% expressed agreement. On branding, 46.1% of

respondents agreed that Unacademy's platform reinforces their view of the brand as innovative, and 40.6% agreed that ethical considerations should take precedence over business decisions. A strong 85.5% also gave affirmative responses in another context. Looking at the role of AI in marketing, 45.7% agreed that critical AI indicators are important, and an equal percentage felt that short-term conversions matter. Customer sentiment analysis was agreed upon by 41% of respondents. Additionally, 90.6% answered "yes" to another related point. Voice search optimization was seen positively by 43.8% of participants. Lastly, 44.9% agreed that digital marketing campaigns are effective, and 43% agreed with the importance of a personalized marketing experience. An overwhelming 91.4% of respondents answered "yes" to a final query.

VII. SUGGESTIONS

The majority of respondents (69.9%) fall within the 21–30 age group, indicating that marketing efforts should focus on platforms, language, and content that resonate with younger adults. As 63% of the participants are male, there is an opportunity to tailor communication styles or product features to better appeal to this demographic, while also identifying ways to increase engagement among female users. With 63.5% of respondents holding a Bachelor's degree, the content shared should strike a balance between being informative and moderately complex, aligning with their educational background. Furthermore, since 63.3% of the respondents are involved in business, product or service messaging could emphasize entrepreneurial benefits or business-related applications. Interestingly, 82.5% of the respondents have less than one year of work experience, suggesting that beginner-friendly resources, educational support, and easy-to-navigate features could significantly enhance their experience. However, customer satisfaction, experience, and service all show relatively modest agreement levels—ranging from 39.1% to 43.1%—which points to a clear need for improvement. In particular, the low agreement rate on customer service (39.1%) highlights the necessity to improve responsiveness, enhance staff training, and ensure accessible and effective support systems. These improvements could play a critical role in building customer trust and long-term loyalty.

IX. CONCLUSION

The study on the role of AI in personalized digital marketing campaigns at Surya Informatics Solution highlights the transformative impact of artificial intelligence in enhancing customer engagement, optimizing marketing strategies, and driving business growth. AI technologies, such as machine learning and data analytics, have enabled the company to better understand customer behavior, deliver targeted content, and improve overall campaign performance. While there are challenges related to implementation, data privacy, and rapidly changing technology, the integration of AI has shown significant potential in achieving more personalized and effective marketing outcomes. As the digital landscape continues to evolve, Surya Informatics Solution stands to benefit further by continuously adapting and leveraging AI tools to maintain a competitive edge and build stronger customer relationships. This personalization not only improves customer satisfaction but also increases conversion rates and return on investment. The findings reveal that AI helps streamline marketing operations by automating repetitive tasks, reducing human error, and enabling data-driven decision-making.

X. ACKNOWLEDGMENT

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