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ORIGINAL

Is artificial intelligence really influencing the marketing strategies and consumer behaviour?

¿Influye realmente la inteligencia artificial en las estrategias de marketing y el comportamiento de los consumidores?

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ABSTRACT

Purpose: the main aim of this research is to measure the influence of different components of artificial intelligence and marketing strategies pursued by the consumers. The research is to identify the impact of different components artificial intelligence on consumer behaviour. The sales forecasting method is found with this much successful through the technology and innovations of artificial intelligence in the marketing domain.

Design / Methodology: the comprehensive framework for evaluating the quality of website design was subsequently accompanied by the collection of data through a web-based survey. The researcher is able to obtain 452 responses which can be used for the main study research and used confirmatory factor analysis and linear multiple regression analysis.

Findings: it is found from the study that the artificial intelligence and its generated suggestions in the marketing Arena is found very much useful for both marketers as well as the consumers. As far as the marketers are concerned the artificial intelligence is very much useful for them to exactly measure and also to get a projective figure of their business turnover in volume. The sales forecasting method is found with this much successful through the technology and innovations of artificial intelligence in the marketing domain.

Practical Implications: this empirical study paved the way to identify and implement several marketing implications useful for the marketers as well as the consumers in different demographic background. It is suggested that the marketers should get a complete data in the form of profiling the consumers, demographic background and their purchase details and technological knowledge so that they can generate appropriate artificial intelligence solutions to attract the consumers and motivate them to make their next purchase within the short span of time.

Originality/Value: the artificial intelligence can also optimize the advertisement campaigns, preserving profile of consumers, quick communication to the consumers, clarity in the marketing approach and to take independent autonomous marketing decisions with respect to consumer behaviour.⁽¹⁾

Keywords: Artificial Intelligence; Consumer Behaviour; Confirmatory Factor Analysis.

RESUMEN

Objetivo: el principal objetivo de esta investigación es medir la influencia de los distintos componentes de la inteligencia artificial y las estrategias de marketing que siguen los consumidores. La investigación es identificar el impacto de los diferentes componentes de la inteligencia artificial en el comportamiento del

consumidor. El método de previsión de ventas se encuentra con este gran éxito a través de la tecnología y las innovaciones de la inteligencia artificial en el ámbito del marketing.

Diseño / Metodología: el marco global para evaluar la calidad del diseño de sitios web se acompañó posteriormente de la recogida de datos mediante una encuesta a través de Internet. El investigador puede obtener 452 respuestas que se pueden utilizar para la investigación principal del estudio y utilizó el análisis factorial confirmatorio y el análisis de regresión múltiple lineal.

Resultados: del estudio se desprende que la inteligencia artificial y las sugerencias que genera en el ámbito del marketing son muy útiles tanto para los vendedores como para los consumidores. En lo que respecta a los vendedores, la inteligencia artificial les resulta muy útil para medir con exactitud y obtener una cifra proyectiva de su volumen de negocio. El método de previsión de ventas ha tenido mucho éxito gracias a la tecnología y las innovaciones de la inteligencia artificial en el ámbito del marketing.

Implicaciones prácticas: este estudio empírico allanó el camino para identificar y poner en práctica varias implicaciones de marketing útiles para los vendedores, así como los consumidores en diferentes antecedentes demográficos. Se sugiere que los profesionales del marketing obtengan datos completos sobre el perfil de los consumidores, sus antecedentes demográficos, los detalles de sus compras y sus conocimientos tecnológicos, de modo que puedan generar soluciones de inteligencia artificial adecuadas para atraer a los consumidores y motivarlos para que realicen su próxima compra en un breve espacio de tiempo.

Originalidad/Valor: la inteligencia artificial también puede optimizar las campañas publicitarias, preservando el perfil de los consumidores, la comunicación rápida con los consumidores, la claridad en el enfoque de marketing y tomar decisiones de marketing autónomas e independientes con respecto al comportamiento de los consumidores.⁽¹⁾

Palabras clave: Inteligencia Artificial; Comportamiento del Consumidor; Análisis Factorial Confirmatorio.

INTRODUCTION

Artificial intelligence is a wonderful technological innovation from the information technology industry and systematically transformed into all commercial activities to forever both marketer as well as the consumers CXPA.^(1,2,3,4) The marketers in the marketing arena are able to exploit the notions of artificial intelligence to take their sales and to forecast the marketing in future and again information to understand their consumers.^(5,6,7,8) The artificial intelligence can also optimise the advertisement campaigns, preserving profile of consumers, quick communication to the consumers, clarity in the marketing approach and to take independent autonomous marketing decisions with respect to consumer behaviour.⁽¹⁾ The marketers get maximum advantage of technology to reach the consumers very easily through artificial intelligence applications and also avoiding the costliest traditional approach in the marketing.⁽²⁾

Artificial intelligence has created a revolution in the marketing Arena and also useful to create new marketing strategies to gain the deeper knowledge about consumers and their futuristic needs.^(9,10) It is very easy for marketers to completely preserved the date of individual consumers pertaining to their needs, awareness level, decision-making process, preferences, level of satisfaction and other psychological behaviour.^(11,12) In fact the artificial intelligence creates maximum effectiveness over the marketers to handle their consumers in a profitable manner. The significant impact of social media is also considered as one of the outcomes of artificial intelligence.⁽¹⁾

The marketers are able to understand the behaviour of consumers and systematically frame their advertisement strategies to maximise their customer base. It helps them to acquire deeper insight and also to do analysis to obtain the abundance of consumer data, consumer profiles and their level of awareness to venture on innovation in the marketing techniques. The artificially driven solutions can provide appropriate marketing information to the marketers and help them to acquire deeper knowledge of consumer's perspectives and also enabled them to behave towards the marketing products.^(13,14,15) Artificial intelligence is also useful to build marketing strategies truly for the marketers and also to offer best benefits in purchasing the products. The consumers are able to get appropriate information about the marketers as well as the products through artificial intelligence phenomenon and also it creates awareness among the consumers and equip them to prefer right product at right time. In this juncture the present study intended to analyse the impact of artificial intelligence over marketing strategies of the marketers as well as the consumer behaviour towards the products.

The following objectives are framed by the researcher based on the above mentioned research gaps in a innovative manner namely.

1. To study and validate the components of artificial intelligence in the backdrop of perception of consumers.
2. To measure the influence of different components of artificial intelligence and marketing strategies

pursued by the consumers.

3. To identify the impact of different components artificial intelligence on consumer behaviour.

Theoretical framework

The theoretical foundation for the marketers get maximum advantage of technology to reach the consumers very easily through artificial intelligence applications and also avoiding the costliest traditional approach in the marketing.⁽²⁾ In fact the artificial intelligence creates maximum effectiveness over the marketers to handle their consumers in a profitable manner. The significant impact of social media is also considered as one of the outcomes of artificial intelligence.^(16,17)

The marketers are expected to augment their innovative approach towards artificial intelligence to classify the consumers based on their product needs, technological knowledge, demographic background and a lifestyle perception so that they can maximise their customer base by suitably marketing appropriate products to the appropriate consumers. The customers venturing in the online purchase are suggested to get all their awareness and information regarding the products through artificial intelligence generated information which would be useful for them to evaluate all the product attributes and also to identify the important needs of the product.

Literature review

Avinaash⁽³⁾ argued that artificial intelligence is a vital technological phenomenon which is dominating the marketing relationship between marketers and consumers. There is a significant influence of artificial intelligence on different types of marketing techniques and also you able to reach the consumers based on their needs PwC.^(18,19) In comparing with social media, artificial intelligence is more potential and vigorous in implementing the marketing strategies. Artificial intelligence specialises in customer experience, personalised customer relationship and maintaining the relationship in a lively manner.

Jarek⁽¹³⁾ these authors argued that artificial intelligence is very vital in implementing all the marketing strategies and activities. Artificial intelligence can thoroughly profile the consumers, there needs their mindset for decision-making. It gives the way to have frequent interaction and contact with the consumers and obtain large amount of data and customer attributes through this interactive process.⁽¹⁵⁾ Artificial intelligence has the potentiality to analyse the attributes and profile of consumers through personalised interactions in real-time.

Court⁽⁶⁾ In another study researcher identified the relationship between usage of artificial intelligence and customer profiling. The artificially intelligent marketing strategies are able to identify the psychological notions of consumers and the oblivion aspects through their frequent interactions with the websites and other marketing sources.⁽²²⁾ The artificial intelligence comprises algorithms and predictive analytics unable to give suggestions to the consumers for their futuristic purchase. It also changes the direction of the behaviour and motivate them for the frequent purchase.

Kotler⁽¹⁷⁾ In this research the researcher empirically or glued that technological options of artificial intelligence can make revolutions in retail marketing as well as the customer relationship management. It is found from the research that artificial intelligence technology can make a personalised interaction with the consumers through their behavioural aspects and give suggestions in the form of retailers.

Davenport⁽¹⁰⁾ These authors argued that there is a spectrum of advantages from the technology of artificial intelligence to study the marketing strategies of marketers and the subsequent impact on consumer behaviour. Artificial intelligence can predict the profile of consumers in terms of their preferences, buying motives, convenient time of shopping, their purchase decision and even the level of satisfaction. The mode of payments and their quality of search engines and expectation of customer service are also meticulously noted by the artificially intelligence components.

Batra⁽⁴⁾ In another study the author meticulously identified the recommendations of products through artificial intelligence is very much successful among the consumers in the form of personalised sales. The service quality in terms of after sales and the relationship between consumers and marketers for the successful business environment is ensured by the artificial intelligence. The brand promotional activities, brand knowledge and brand awareness can also be obtained through the components of artificial intelligence.

Chaffey⁽⁵⁾ In another study researcher empirically prove that the artificially intelligence can give consumers greater chance of testing the products are virtually and also paved the way to purchase all the products through online. Most of the consumers perceived that artificial intelligence is a very useful marketing tool to solve the marketing problems of consumers and also take the marketers to the proximity of consumers.⁽¹⁴⁾ The artificial intelligence is very much useful for consumers to accelerate their purchase decision process through information search.

Qazzafi⁽²⁰⁾ argued that the purchase behaviour of consumer easier physical activity depends upon psychological behaviour of consumers and their personal decision-making abilities. Artificial intelligence is found useful to engage the customers and create more awareness and give abundance of information for the purchase decision process. The customer satisfaction is also found more among the consumers who had experience with artificial

intelligence.^(21,22,23)

Kietzmann⁽¹⁶⁾ In another research it is found that the purchase decision of consumers without official intelligence experience can be segmented into five faces namely identifying the needs for the product, getting awareness from different sources, evaluating the product based on the price and quality as well as their attributes, dynamic purchase decision followed by customer satisfaction based on product experience and after sales service. It is also found that artificial intelligence can simulate all these behavioural aspects simultaneously to give a complete profile of consumers to the marketers.⁽²⁴⁾

METHOD

This particular research is conducted over primary data and the completely constructed over descriptive metrology. The research format is from the inception of identification of research gaps to test hypothesis using lubricant evidences from primary data. The quantitative approach can be derived from typical primary data analysis using modern and sophisticated statistical tools. The derived results are discussed and compared with previous literature works using secondary data approach. The secondary data is also considered here as supportive documents for discussions and finding the analogy as well as difference between the previous results and the present results.

The usage of secondary data can be obtained from different sources as well as the research journals respectively. Besides these two sources researcher also extended their support from daily newspapers and appropriate websites related to artificial intelligence and its role in marketing. The primary data was collected from online consumers through online alone. The study is restricted to online consumers as they are maintaining the proximity with the consequences and outcomes of artificial intelligence to marketers.⁽²⁵⁾

The questionnaire which was circulated among the online consumers comprises first part namely demographic and purchase details of the consumers and it is followed by their consumer perception towards artificial intelligence and its application to the online purchase in the form of psychological statements scale. The third and fourth part completely encounters with statements regarding marketing strategies they experienced as online marketers and their own behaviour towards the products advertised by the marketers. The third and fourth part is completely the form of ordinary statements to exactly ascertain the psychological perception of consumers. Since it is a psychological perception the researchers exploited the psychological notions of Likert's five-point scale.

In the third and fourth part, each part comprises five components respectively. The marketing strategies part comprises the components sales forecasting, consumer profiling, Digital advertisement, consumer relationship and autonomous marketing respectively. Similarly the consumer behaviour components considered are need recognition, awareness, product attributes, purchase decision and satisfaction. Each construct of marketing strategies and consumer behaviour comprises five statements in scaling type. The scale ranges from the psychological oscillation labeled as strongly agreeing for the statement to strongly disagreeing for the statements respectively. The statements are generally generated from literature reviews and the findings are converted in the form of statements to verify its reliability and validity.

RESULTS AND DISCUSSION

The point of inception the course of analysis, the researcher intended to start with reliability of all the psychological statements included in the questionnaire. The five statements of perception of consumers on artificial intelligence followed by five constructs of marketing strategies to artificial intelligence and consumer behaviour respectively. In order to check the reliability of psychological statements, the cronbach alpha is found suitable and appropriate to compute the coefficient which would reveal the best understanding of the consumers in the form of reliability. The following table indicates number of statements in these three entities which can be observed through the psychological statements.

Factors	Number of Variables	Cronbach alpha	Bench mark	Sig
Artificial Intelligence	5	0,89	0,75	,000
Marketing strategies	25	0,91	0,75	,000
Consumer Behaviour	25	0,90	0,75	,000

From the about table 1 it is found that the three cronbach alpha values are 0,89, 0,91 and 0,90 or statistically significant and very high. These values are greater than the required values of 0,75 which can used to test the best way of understanding the perception of consumers. It can be concluded that the online consumers are able to understand all the psychological statements at 89 %, 91 % and 90 % respectively. This also validated the proceedings of computing total average scores of three factors artificial intelligence perception of consumers followed by marketing strategies using artificial intelligence and their consumer behaviour.

The validation is further than through confirmatory factor analysis and linear multiple regression analysis to confirm their variables of artificial intelligence and constructs of marketing strategies and consumer behaviour. The combination of confirmatory factor analysis and linear multiple regression analysis can be called as structural equation model. The structural equation model can simultaneously handle both these analysis to confirm the variables and constructs and also useful to find the intrinsic relationship among independent and dependent variables. The following table and the diagram indicates the total outcome of structural equation model to validate the variables and constructs as well as to explain the nature of relationship between artificial intelligence and marketing strategies of the marketers in the backdrop of consumer perception and other behavioural changes due to the impact of artificial intelligence.

S.NO	Fit indices	Values	Bench mark values
1	Chi-square	16,254	-
2	P-value	0,419	>,05
3	Goodness of fit index (GFI)	0,990	>,9
4	Comparative fit index (CFI)	0,988	>,9
5	Normed fit index (NFI)	0,986	>,9
6	Root Mean Square Error of Approximation (RMSEA)	0,07	<=0,08

The best fit of structural equation model can be ascertained through the computation of 6 fit indices namely chi-square value, P - value, comparative fit index, goodness of fit index, normed fit index and root mean square error of approximation. The values of these fit indices and garbage more values can confirm the variables of artificial diligence and constructs of marketing strategies and consumer behaviour. The table 2 indicated all these six fit indices satisfy the bench mark values to prove the validity of the variables and the constructs of marketing strategies and consumer behaviour as well as the influence of artificial intelligence and marketing strategies and consumer behaviour respectively. This structural equation model is also able to test the hypotheses proposed by the researcher namely. The shown in figure 1 Marketing Strategies and Consumer Behaviour.

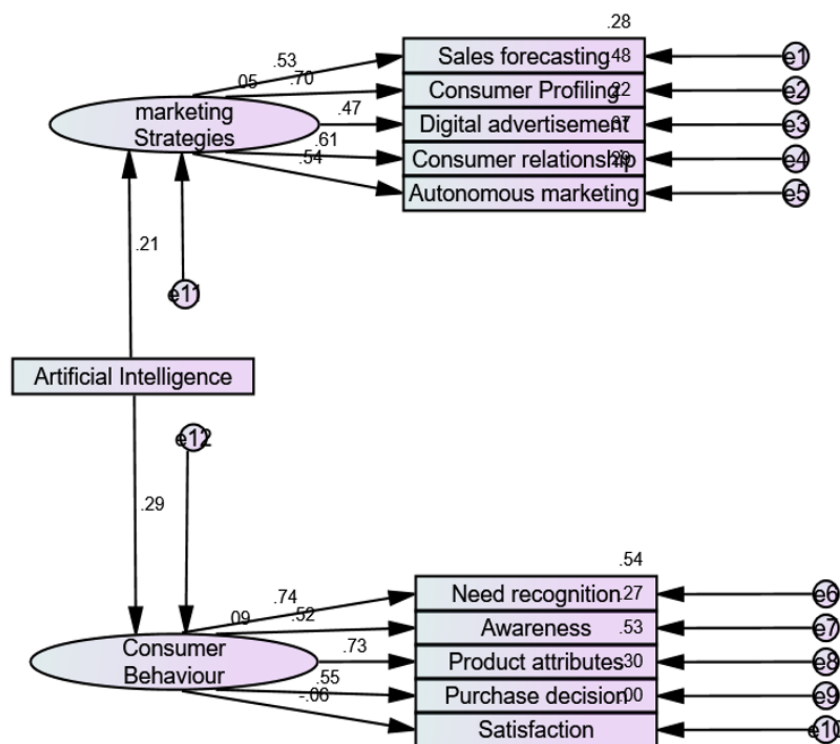


Figure 1. AI result followed by Marketing Strategies and Consumer Behaviour

These above mentioned hypotheses are alternative in nature and they are accepted through the existence of significant fit indices in the structural equation model. After validating all the variables as well as constructs pertaining to artificial intelligence followed by marketing strategies in the perception of customers and their

consumer behaviour, it is realised that the demographic details are also playing very important role to decide the consumer perception. Therefore in this juncture the influence of demographic variables gender, age, educational qualification and income over the consumer perception towards artificial intelligence, marketing strategies and their consumer behaviour is estimated to one-way analysis of variance. The main wise comparison for each segment in the demographic details is very vital to identify the dominating segments in the sample unit. The following results are clearly establishing the significant difference among each segment of gender, age, educational qualification and income towards artificial intelligence perception, marketing strategies and consumer behaviour.

Factors	F-value	Segment	Mean values
Artificial Intelligence	5,12	Male	4,12
Marketing strategies	6,32	Female	3,99
Consumer behaviour	6,13	Male	4,01
Artificial Intelligence	4,89	< 25 years	4,10
Marketing strategies	5,12	26-35 Years	3,84
Consumer behaviour	4,23	< 25 years	4,25
Artificial Intelligence	6,25	UG	4,00
Marketing strategies	6,69	PG	4,05
Consumer behaviour	5,38	Professional	4,08
Artificial Intelligence	5,21	Above 1 lakh	3,97
Marketing strategies	4,87	Above 1 lakh	3,54
Consumer behaviour	4,08	Above 1 lakh	4,07

From the about table 3 it is found that that the computed F-statistics and P-values for each independent variable and their respective influence over dependent variable are found a significant to prove a significant difference among gender, age, educational qualification and income of the consumers. It also proved that male and female consumers have totally and entirely different perception towards artificial intelligence during their online purchase. Similarly the younger customers and the older customers have different types of approach and understanding towards the influence of artificial intelligence on marketing strategies of the marketers and their consumer behaviour.

Particularly the younger age group prefer some products which are artificially generated and suggested during their online purchase. Older consumers are able to get only the awareness through artificial intelligence generated suggestions and they are not purchasing the products immediately. The educational qualification also made the consumers to perceive different notions of artificial intelligence and the suggestions during the online purchase. The income group is very important to decide their perception towards artificial intelligence and its applications in changing their awareness level, preferences, purchase decision and the satisfaction.

CONCLUSION

The marketers are able to completely collect the data regarding consumer profile in the form of demographic background, purchase detailed backgrounds, technological ideas, technological involvement, social media involvement as well as the transcendental involvement in online purchase. The artificial intelligence is very much useful for the marketers to generate attractive digital advertisements and also found the ways to carry these advertisements to reach the online purchasers. The artificial intelligence can maintain proximity with the consumers unable to study their profile thoroughly. These proximities are very much useful for the marketers to maintain a successful consumer relationship management and also enable them to have a one-to-one interaction with consumers to identify their product needs, awareness level, evaluation of product attributes, purchase decision styles, lifestyle perception as well as their level of satisfaction. In the backdrop of customer perception it is found that artificial intelligence has its capacity to change the behaviour of consumers and able to influence their psychological perception towards the present purchase as well as the future pictures.

The artificial intelligence and their suggestions generated during the online purchase displayed in the form of blogs and other advertisements create more options and availability of more number of products other than the present purchase. In fact the artificially intelligence induces the consumers to make their purchases more carefully and perfectly. The creation of awareness among the consumers by the artificial intelligence actually creates significant influence over their product evaluation of different product attributes.

The dynamic decision-making based on the lifestyle perception is generally emanated from the suggestions of artificial intelligence and the generated information distributed across the online consumers. The individual dynamic decisions or family decision-makings are highly influenced by the information derived through

artificial intelligence. There are more usefulness as well as the problems of artificial intelligence experienced by consumers during their online purchase. Therefore it is concluded that there is a significant influence of artificial intelligence on the marketing strategies designed by the marketers as well as the consumer behaviour of online consumers.

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