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Perception and Impact of Customers on Artificial Intelligence

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ABSTRACT

Artificial Intelligence (AI) is transforming business practices into more customer experienced one. This study examines how customers in Kerala respond to AI driven technologies. The present research is based on both primary and secondary data. The study focuses on how the customers perceive the FMCG brands involved in AI and how it impacts the brands. The study finds that many customers of FMCG view AI as a convenient tool for there shopping strategy. The study found that a higher perception of AI leads to greater impact on AI, the study suggests that there is a positive customer outlook towards AI which strengthens the brand value of FMCG products. The findings of the study are very useful to the marketers, Brand strategists and business leaders, they can integrate effectively AI into their marketing strategies.

KEYWORDS: Artificial Intelligence (AI), Perception, Impact, Brand Equity

INTRODUCTION

Branding is not a new concept it has been around for centuries; Traditional approaches of brands have now shifted to the most modern version of strategies. There was a time when brands used logos, taglines and traditional advertising to attract customers. But those days are vanished now, we are living in the age of digital transformation. Rapid Technological changes have made the brands to focus more on technologies to attract the customers for building a brand identity among customers.

AI has become a critical component in our modern system of marketing and branding. Machine learning and automated task has made the brands to create advertisements, analysing customer behaviour and adjusting marketing strategies. The AI has become a pivotal tool in enhancing brand awareness, Brand identity and also brand loyalty among customers. AI technology stimulates human learning, comprehension, problem solving, decision making, creativity and autonomy (IBM). FMCG brands

uses different types of AI technologies like chat bots, AI content creation, Customer segmentation, which mainly focuses to predict current and future marketing trends. The 2024 state of Marketing AI report highlights a rapid increase in the adoption of AI among marketing professionals. This report indicates that a significant number of marketers regularly integrate AI tools into their works. Brands are now in a situation that they cannot pass a day without using AI. FMCG companies integrates AI in their overall business efficiency. FMCG brands process a vast volume of information related to consumer behaviour, Market dynamics, internal operations which makes the company to take more strategic decisions. AI helps companies to anticipate the customer preferences, which make AI to function as an intelligence tool, allowing business to forecast the market trends and maintain a competitive advantage.

Review of Literature

Topol (2019), explored the applications of AI in the healthcare sector, the study investigated clinical support system, robotic surgery and medical imaging. The researcher found that AI can enhance diagnostic accuracy and assist the healthcare professionals. This study found that AI collaboration in the healthcare has an essential part in the society.

Floridi et. al. (2018), investigated on the ethical challenges associated with AI, which mainly focused on algorithmic bias, lack of transparency and accountability issues. The study proposed the ethical principles for AI development and also the respect of human rights and the study also highlighted the role of governments and institutions in regulating AI with the ethical challenges.

Dwivedi et.al (2021), reviewed all the recent advancements and future research directions in the AI applications. The study focused on responsible AI and sustainability-oriented AI applications. The researcher concluded that interdisciplinary research and policy support are necessary to maximise AI benefit by focusing on minimizing social risks.

Gupta and Katoch (2023), Discussed the growing importance of AI in the modern management of Business. The researcher found that the AI has the ability to improve the speed, accuracy and efficiency in the business operations**.**

Russell and Norvig (2000), described Artificial Intelligence as the intelligent agents that can act rationally to achieve goals. They explained that The AI system use reasoning, learning and problem-solving techniques. The study further laid the theoretical foundation for modern AI applications in business, healthcare and decision support systems.

Significance of the Study

The study aims to explore the impact and perception of customers regarding AI. Nowadays brands are increasingly involved in AI technologies it is very important to know how these changes are perceived by the customers. The outcome of the study will help marketers, brand strategists and business leaders.

The Research Problem

The study specifically tries to answer a few research questions like

1. How AI is impacting the customers?
2. How AI is perceived by the customers?

Objectives of the Study

The main objective of the study is

1.To study the Impact and perception of FMCG customers regarding AI

Variables of the study

Artificial intelligence, FMCG, Impact, Perception is the variables used for the study

Hypotheses

H0: Perception on AI have a significant effect on impact of AI

Scope of the Study

The scope of the study is limited to the customers who uses FMCG products and also have the knowledge about AI. the customers are selected from the metropolitan cities of Kerala, Kozhikode, Ernakulam, and Thiruvananthapuram

Conceptual Model of the Study

The conceptual model used in the study using the variables selected is below in the Fig.1.2.

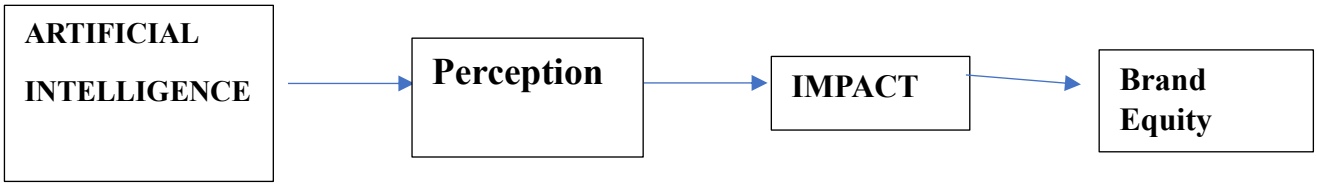

Fig 1: Conceptual Model of the study

Customer perception on AI is the situation in which customers understand how people will respond to technologies like chatbots and recommendation systems. Many customers find AI as a useful tool for saving time because of its quick responses, personalised suggestions will make the customer feel happy with the product. Even though the AI has a great impact on customers, some people have concern about its transparency and privacy. It is clear that younger users are generally more accepting AI than older ones. The AI always offers 24/7 support; faster service these facilities make an overall positive customer views on AI. A positive customer view will lead to a stronger brand equity among them.

Research Design & Methodology

The research work is descriptive in nature. It is fact finding investigation and the study uses statistical methods for examining the quantitative information.

Sources of Data

Secondary data of companies will be collected from the Company websites, journals, magazines, Documents from various websites of FMCG companies. Survey method was used for collecting primary data. One questionnaire was developed for this purpose; the data were collected from customers from the major cities of Kerala like Kozhikode, Ernakulam and Thiruvananthapuram. Data were collected directly through a structured questionnaire through an exit interview picked from the largest shopping malls from the selected area. The list of shopping malls selected for the study is given in the Table.

Table1: List of shopping malls selected for the study

SI.No	Area*	Shopping mall*
1	Kozhikode	Hillite Mall (area of 1.26 million sq. ft)
2	Ernakulam	Lulu International Shopping Mall (2.5 million sq. ft).
3	Thiruvananthapuram	Lulu Mall (area of 2.2 sq. ft)

Sample Design

Sample population and sample size

Population- The population for the study comprised customers who use FMCG brands regularly and have knowledge of AI. The population consists of Digitally knowledgeable consumers residing in the metropolitan cities in Kerala (Kozhikode, Ernakulam, Thiruvananthapuram) which is uncertain.

Selection of the sample-Criteria for selecting primary data.

1. Customers who are Digitally active.
2. Customers who have knowledge about AI

Sampling technique

Purposive Sampling will be used to select the customers.

Tools for Analysis

The data collected from respondents will be analyzed using both quantitative and qualitative tools like, confirmatory factor analysis, Correlation and SEM models are used for analysis.

Sampling Technique and Sample Determination

The sample customers were selected on the basis of purposive sampling. In the present study, the researcher calculated the sample size using power analysis based on the pilot study data with a 5 % significance level (p value) and 90% power using software Sigma-plot 11, The power analysis results gave a sample of 141 or more consumers as adequate for the study (Mac Callum et.al., 1996). For equal representation 300 questionnaires were distributed among the customers residing in the selected area for the study.

Table 2: Sample of Customers

AREA OF STUDY	FREQUENCY
Kozhikode	100
Ernakulam	100
Thiruvanthapuram	100

Questionnaire

A questionnaire was used for collecting the primary data it has to satisfy the scale refinement and validation. A reliability test was run by the researcher to find out the reliability and consistency of each variable included in the questionnaire. The scale refinement and validation using the CFA is conducted in the study. The pilot survey used a pre designed questionnaire 30 selected customers. The questionnaire

had closed-end questions and the responded had to rate it on 5 point Likert scale. The study incorporated a Structural Equation Modelling (SEM) approach to examine the relationships among key variables related to Impact and Perception of AI in the FMCG sector.

Limitations of the Study

1. Customer opinions on AI are often based on personal experience or assumptions rather than actual technical usage, which may lead to subjective results.
2. In the FMCG sector, customers interact mainly with products and retail outlets rather than directly with AI systems, making it difficult for them to accurately assess the role or impact of artificial intelligence on their buying experience.

Analysis and interpretation

Objective: To study the impact and perception of customers regarding AI

The objective of the study is to evaluate the impact and perception of customers regarding AI conducted by the selected FMCG companies in metropolitan Kerala. For measuring impact and perception. 13 statements were asked relating to impact and 15 statements were asked relating to perception. To compute the CFA of the variables the following hypothesis were formulated

4.3.1 Hypotheses set for assessing the CFA of impact and perception

To compute the CFA of the variables the following hypothesis were formulated

Hypothesis – Perception on AI have a significant effect on impact of AI

4.3.2 CFA Result

SEM Model showing the Perception and impact of AI activities of FMCG companies among the customers is given in the following figure.

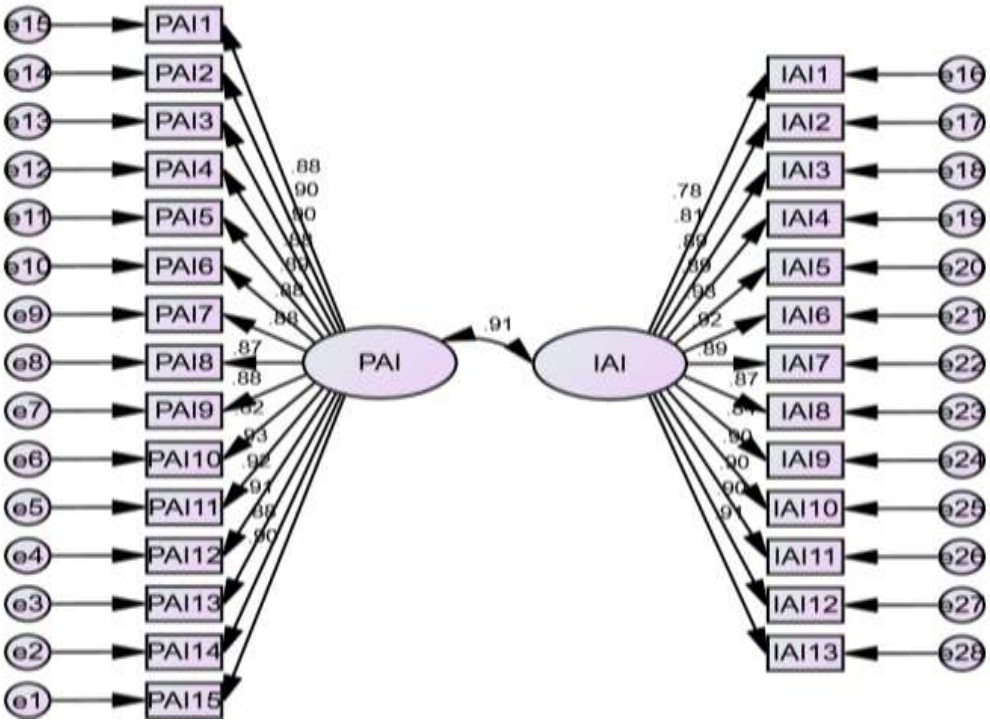

Fig.2: Result of CFA relating to perception and Impact

Table3: Measurement of constructs

Factor and items	λ	Cronbach's Alpha	AVE	CR
PERCEPTION				
PAI1	0.880			
PAI2	0.895			
PAI3	0.898			
PAI4	0.881			
PAI5	0.895			
PAI6	0.878	0.982	0.790	0.983
PAI7	0.884			
PAI8	0.868			
PAI9	0.885			
PAI10	0.823			
PAI11	0.927			
PAI12	0.920			
PAI13	0.914			
PAI14	0.877			
PAI15	0.903			
IMPACT				

Factor and items	λ	Cronbach's Alpha	AVE	CR
IAI1	0.781	0.978	0.775	0.978
IAI 2	0.814			
IAI 3	0.885			
IAI 4	0.892			
IAI 5	0.929			
IAI 6	0.918			
IAI 7	0.887			
IAI 8	0.869			
IAI 9	0.843			
IAI 10	0.901			
IAI 11	0.896			
IAI 12	0.905			
IAI 13	0.911			

Both constructs demonstrate excellent measurement properties. All items show high factor loadings (λ = 0.781–0.927), indicating strong item reliability. Internal consistency is exceptionally high, with Cronbach's alpha values of 0.982 (Perception) and 0.978 (Impact), supported by equally strong Composite Reliability (CR = 0.983 and 0.978). Convergent validity is well established, as AVE values (0.790 and 0.775) comfortably exceed the recommended threshold. Overall, the constructs exhibit very strong reliability and convergent validity, confirming a robust measurement model.

Table 4: Model fit measures

Measure	Estimate	Threshold
CMIN	1537.351	--
DF	617	--
CMIN/DF	2.492	Between 1 and 3
CFI	0.902	>0.90
SRMR	0.054	<0.08

The model shows a good overall fit to the data. The CMIN/DF value (2.492) falls within the recommended range, indicating an acceptable model fit. The CFI (0.902) exceeds the minimum threshold, suggesting adequate comparative fit. The SRMR (0.054) is well below the cutoff, confirming an excellent residual fit. Overall, the model fit indices support the suitability of the proposed model for further analysis.

SEM Result

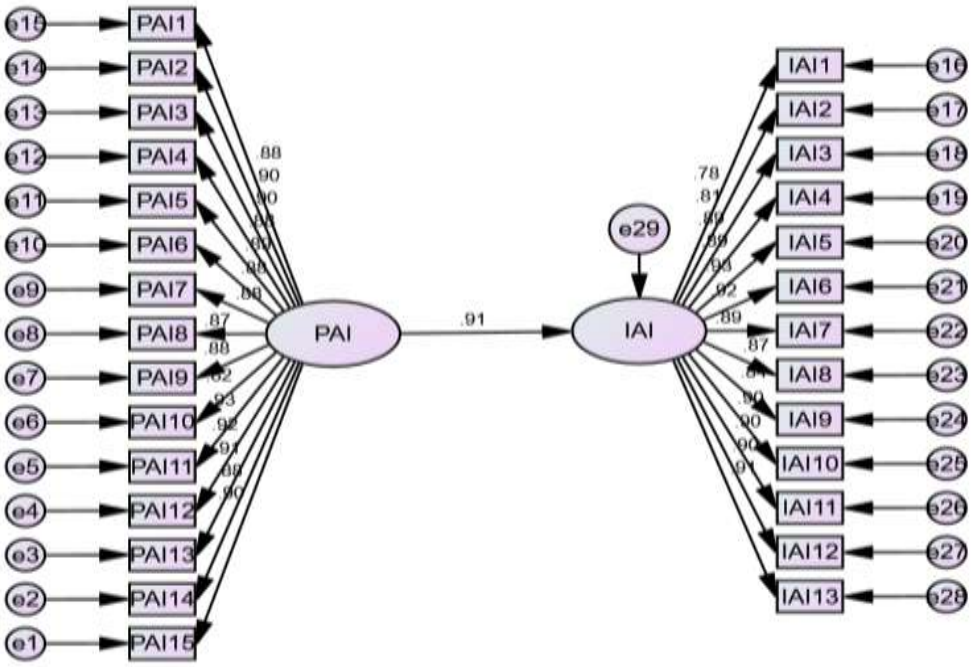

Fig3: SEM model showing the result of relationship of Impact and perception

Table 5: Path estimates

Hypothesis	Path	β	P Value	Result
H4	PERCEPTION → IMPACT	0.906	0.001	Supported

The relationship between Perception and Impact is positive and statistically significant (β = 0.906, p < 0.001). This indicates that higher perception on AI strongly leads to greater impact on AI , providing strong empirical support for the hypothesis

FINDINGS, RECOMMENDATIONS AND CONCLUSION

Findings

To study the impact and perception of customers regarding AI

1. The constructs Impact and perception demonstrates excellent measurement properties. All items show high factor loadings (λ = 0.781–0.927), indicating strong item reliability.

2. The internal consistency is exceptionally high, with Cronbach's alpha values of 0.982 (Perception) and 0.978 (Impact), supported by equally strong Composite Reliability (CR = 0.983 and 0.978).

3. Convergent validity is well established in both variables, as AVE values (0.790 and 0.775) comfortably exceed the recommended threshold. Both constructs perception and impact exhibits very strong reliability and convergent validity, confirming a robust measurement model.

4. The model for both variables perception and impact shows a good overall fit to the data. The CMIN/DF value (2.492) falls within the recommended range, indicating an acceptable model fit. The CFI (0.902) exceeds the minimum threshold, suggesting adequate comparative fit. The SRMR (0.054) is well below the cutoff, confirming an excellent residual fit. Overall, the model fit indices support the suitability of the proposed model for analysis.

5. The relationship between Perception and Impact is positive and statistically significant ($\beta = 0.906$, $p < 0.001$).

6. The result indicates that higher perception on AI strongly leads to greater impact on AI.

Suggestions

1. FMCG companies in India should adopt the advanced technologies of AI tools that are currently underused by some of the companies. Voice based assistance, Virtual shopping guides, and AI driven complaint resolution systems should be introduced by the brands. Introducing these tools in a simple and more customer friendly manner can improve communication, and will provide quicker support which will enhance the overall customer experience.
2. FMCG brands should continuously monitor and always improve their AI systems. Companies should always make sure that human control is always present while dealing with AI technologies. Customer feedback should be collected properly to correct errors, improve performance and must ensure that there is a responsible way of dealing with AI this will definitely increase the profit of the company
3. The FMCG companies using AI must follow data protection laws. There must be a proper way of following law while dealing with AI, customer data should be collected only with the permission of the customer and should be used carefully. Personal information of customers should be kept safe and customers must be affair that their data is being used by AI systems and its safe.
4. FMCG companies can utilize AI to continually track market trends, to monitor social media communications and also to analyse competitor activities in real time. By these businesses can make quicker decisions, more data driven strategies decisions, respond proactively to market shifts and can stay ahead of competitors. By combining these strategies companies can optimize overall business planning.

Conclusion

The study shows that customer perception has a crucial role in shaping the impact of AI. When customers view that AI is useful and trustworthy it will definitely improve their experience and strengthens their connection with the brands. The findings reveal that there is a strong relationship between AI and brand awareness, brand preference, brand insistence and overall brand equity. FMCG companies using AI are seen as more reliable, which enhances trust, reputation and customer loyalty. Overall, the study suggests that the effective use of AI not only improves efficiency but will also increase and strengthens the brand image and business performance.

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