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The Role of Artificial Intelligence in Reimaging the Customer Experience in Retail Sector – NVIVO Analysis for Customer Journey Mapping

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Abstract: The term "Artificial Intelligence" (AI) is frequently used to describe intelligent software, devices, or systems. Its use can improve the intelligence of goods, services, and solutions, making it a field of research that is fast expanding and will have a big impact on the market. Retailers use AI to analyse massive amounts of data produced through sales, online surfing, social media, mobile usage, and consumer satisfaction, and it has become an essential component of the retail business. Retailers are investing in a number of AI solutions due to the exponential growth of corporate data. Spending on AI reached $6 billion by 2022, or around $18 per person in the US. The demand and supply sides of retailing are impacted by AI. On the demand side, it assists and guides retailers understand and anticipate customer needs, enhance customer lifetime value, and improve decision-making. Whereas AI optimizes inventory management and logistics on the supply side, to make supply chains more efficient. AI also changes the relationship between shoppers and retailers by assisting consumers in their decision-making. This paper provides a framework for understanding AI, highlighting its applications in different aspects of retailing. It supports and orients the demand side.

Keywords: *Artificial Intelligence, Customer Experience, Retailing, NVIVO Analysis, Decision Making.*

1. Introduction

Artificial intelligence (AI) is a concept that has captivated our attention for good reason. Think about a situation in which you could simply instruct your smartphone or wearable to move money from your savings account to your checking account in order to pay a bill, all while getting personalized financial advice. This is just one instance of how AI is becoming more and more significant in our lives. Automation can be enhanced with AI, giving machines the ability to learn and decide for themselves while self-correcting over time. Through customization and interactivity, it may help businesses adjust to "servitization" and draw customers closer to online sellers. Additionally, AI has the power to generate market and consumer insights, automate company operations, and enhance customer experiences. In order to maximize revenue per client, this technology is being used more and more in pricing, risk assessment, marketing, and contact Centre response management. AI can be considered as a component of a bigger framework that also incorporates big data and machine learning in order to comprehend it and its function in retailing. Retailers like Amazon are the industry leaders in AI, continually gathering, curating, and analyzing data to make crucial decisions that improve customer experiences and data acquisition. Figure 1 illustrates how AI is constantly used to collect data, analyze it, and then help make decisions.

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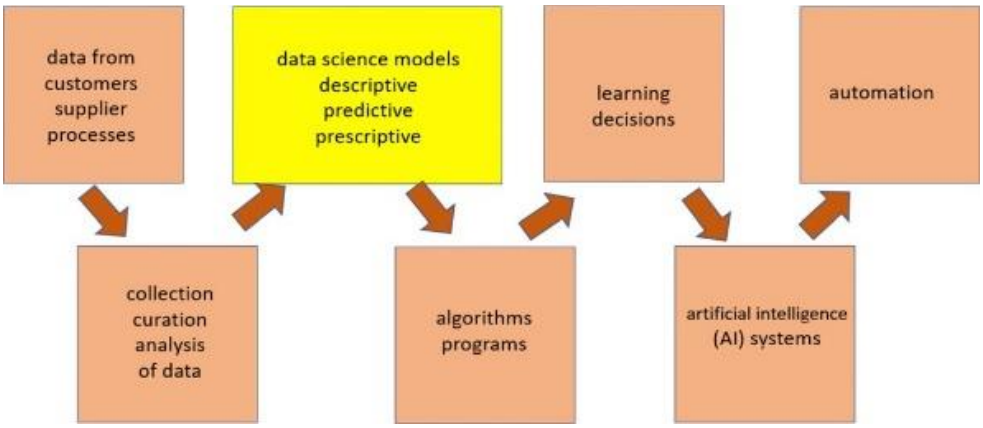

Fig-1: A Framework for Understanding andLeveraging AI in Retailing

The model illustrates how merchants and manufacturers get information about consumer attitudes and behaviors across a range of platforms, touch points, devices, and channels. In order to make informed judgments, the data that is kept in a cloud-based environment is further examined utilizing econometrics, statistical, and data science models. To put these ideas into practice, algorithms and computer programs are developed. Machine learning models, which are notably employed for learning from data and serve as the foundation for producing and creating AI assisted judgments, support predictive decisions. Robots and Chabot's frequently assist in producing automatic AI-assisted judgments. Robots and Chabot's are being employed in retail and warehouse automation. Table 1 provides information on the various types of AI data, retail areas and decisions that are influenced by AI.

Table 1: AI Analysis Types, Retailing Areas, and Decisions

AI analysistypes	Some related retailing areas	Typical decisions influenced by AI
Numeric analysis	Finance, accounting, sales and marketing, inventory management, store operations	Store location, ordering, assortment,pricing, promotions, investment
Text analysis	Customer satisfaction, product review analysis	Product modification, new product introduction, service enhancement
Voice analysis	Customer service, order management	Purchase prediction, service recovery,order fulfillment
Image/video analysis	Shopper behavior analysis, shopper marketing, product assortment	Store layout, shelf-space, item placement, digital content, product recommendation

Through this research, we demonstrate that marketers strongly associate AI with customer experience. Various factors, such as AI security, ethics, and personalization, are intricately linked to AI in retailing.

The study addresses the following research questions-

RQ1: What is Customer's perception and usage of AI in retail sector?

RQ2: What is the Impact of AI on customer experience?

RQ3: Can AI tools be used to improve Market performance in future?

To investigate marketers' perceptions of the use of AI in the retail industry, NVIVO analysis is used. The sample was drawn from 15 marketers working in various commerce sectors who use AI. Exploratory interviews were conducted as part of this qualitative study to clarify the significance of the constructs being studied (AI enabled customer experience, AI security, and AI ethics) and to determine the measurement criteria. The study's findings add to our knowledge of how, from a marketer's perspective, AI affects consumer experience. On the other side, the inherent power of AI poses significant dangers to organisations, stakeholders, and the industry supply chain (Obermeyer et al., 2019; Sivarajah et al., 2017). Prior research indicated that as AI becomes more sophisticated, the difficulties and dangers increase. The security and privacy of user data, societal risk, and the safety of crucial AI applications are just a few of the risks connected with AI (Joubert et al., 2021; Porra et al., 2020; Sharma &

Sharma, 2019; Vellido, 2019). Therefore, the use of such cutting-edge technologies has exposed people to several vulnerabilities at different stages of data collecting and processing. As a result, concerns concerning the validity and ethical concerns around AI technologies have grown (Deven & Joshua, 2017; Lui & Lamba, 2018). As a result, there has been a change in emphasis when it comes to the creation and application of socially responsible AI technology.

2. Literature Review

The usage of technology like artificial intelligence and free social media by consumers are the main causes of consumer empowerment (Batra, 2017). The academic notion of customer experience is the most recent iteration of past fields of study that centred on organisational customer service excellence, customer centricity, and customer focus (Lemon and Verhoef 2016).

According to Lemon and Verhoef (2016), customer experience is a holistic, multidimensional notion that ties together a customer's emotional, cognitive, behavioural, and social responses to a brand across the course of the customer's journey. AI has the ability to improve customer experience and corporate world competitiveness. Additionally, it improves scalability with an emphasis on better decision-making, helps the achievement of greater operational flexibility or speed (Madan Batra 2019). The number of research studies on AI has expanded as a result of how it affects commerce, consumers, and society at large (Mohannad Abu Daqar and Ahmed K A Smoudy, 2019; Joshi Sujatha et al., 2019). The customer experience is improved by AI since it produces superior personalisation and hassle-free service. Artificial intelligence tools that improve customer experience and retention include sentiment analysis, emotion recognition, chatbots, and content curation. Trust and perceived sacrifice are thought to moderate the impacts of perceived ease, personalisation, and the quality of services facilitated by AI. This emphasises the practical ramifications for merchants implementing AI in giving quality services to their target market.

In most industries, including transportation, the hospital business, and others where AI may have a significant impact on marketing strategies and consumer behaviour (Thomas Davenport et al., 2019), AI has already demonstrated its potential to change the way that marketing is done in the future. In their review of artificial intelligence in the context of the retailing industry published in 2020, Venus Kaur, Vasvi Khullar, and Neha Verma came to the conclusion that the consumer's changing shopping, thinking, demanding, and receiving behaviours are the reason why the online and offline worlds are melding together. According to Felix Weber and Reinhard Schittee (2019), there are two distinct methods for determining the ten largest worldwide retail firms' use of AI in the wholesale and retail sectors. In consideration of the opportunities to involve AI in the innovation processes, current analyses estimated that proven AI technologies have the potential to replace up to half of all the work activities that is carried out by humans (Bughin et al., 2017). The results based on consumer choice and autonomy in the age of artificial intelligence and big data, helps to sensitize researchers and practitioner's consumers and policy makers regarding the significance of perceived autonomy in consumer choice in the age of AI (Oventin et al., 2017). (Haris Gacanin, Mark wagner 2018) provided an overview about customer experience management components that works on functional as well as implemented components and enables the development of highly modular frameworks to identify insights and generate actions that optimize customer experience service. Artificial intelligence has found its way into the society and is predicted to become one of the most disruptive technologies over the next decade (Panetta 2017; Kaartemo and Helkkula, 2018; Ivanov et al., 2019).

Customer Experience is the result of variables like Hassle free service, Quality of Service (QoS), and Personalization. Various studies highlight the impact of AI tools on customer experience. A study by Alice Pavaloiu (2016) demonstrates the impact of AI on global trends in various domains and gives an insight into the changing attitude of customers in B2C businesses. A study by Emma Ojapuska (2018) posits changing customers' perspective towards services that does not require any human interaction. The study also highlights the adoption of chatbots by the organizations to improve customer engagement and provide resolution to queries thus enhancing customer experience.

Bae Brandtzaeg and Asbjørn Følstad (2017) analyzed that people perceive chatbots to be very entertaining and productive simultaneously as they speed up the entire process and are available 24*7, hence they are keen on adopting them. André et al, (2017) discuss the role of AI-driven markets and micro-targeting in providing personalized content recommendations to customers, making choices more individualized and convenient. James Cannella (2018) emphasizes that personalization in marketing can meet customer demands without affecting their privacy. The concept of hyper-personalization helps to get an insight into customer views thus improve marketing strategies. Darius Zumstein and Sophie Hundertmark (2017) describe how chatbots enable personalized interactions with customers, allowing them to connect with companies anytime and anywhere. The study also demonstrates the use of chatbots in collecting

customer data on content preferences and their usage patterns, which further can be used to enhance AI-enabled Customer Experience with new touchpoints for users.

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3. Research Gap

The current literature mentioned above investigates the connection between AI and the fashion or automotive industries. The role of AI in the retail industry is only briefly mentioned in the literature. In order to create efficient marketing strategies, recent research have emphasized the significance of comprehending client views and the factors influencing the adoption of new technology. The study's motivation is supported by the fact that, despite the promise of ethical AI technology, there are still substantial gaps in our understanding of how customers perceive AI security and ethics. This study aims to deepen our understanding of ethical AI while taking into account marketers' perspectives on customers and their connections to value generation and performance.

Objectives

1. To examine the relationship between artificial intelligence and customer experiences in context to Retail chain.
2. To explore the critical success factors of AI-enabled customer experiences from the perspective of marketers in the Retail Chain.

Hypothesis

After reviewing the literature and considering the theoretical framework, the following hypotheses have been proposed:

H1: The use of Artificial Intelligence tools for personalization improves the overall customer experience.

H2: The use of Artificial Intelligence tools for service quality improves the overall customer experience.

H3: The use of Artificial Intelligence tools for hassle-free service improves the overall customer experience.

H4: The combined use of Artificial Intelligence tools for personalization, service quality, and hassle-free service leads to a further enhancement of the overall customer experience.

4. Methodology

The dearth of research on artificial intelligence created a need for exploratory study, which is best accomplished through the gathering and analysis of qualitative information from structured interviews. This made sure that a complete and in-depth understanding could be attained (Yin 2018) and that a variety of people with the necessary knowledge and multidisciplinary backgrounds (Goodman, 1961; Heckathorn, 1997) were used to make further interactions as needed. A qualitative methodology was used to answer the questions raised by the investigation. 15 focus groups were made up of AI marketing specialists from a variety of industries (IT, academia, textiles), and interviews were planned between the experts via Linkedin. The interviews included a list of research questions about AI and customer experience that the interviewees all agreed on. Apart from two elements, where pre-defined coding from the extent literature was used (Eisenhardt, 1989), the majority of the data was inductively coded (Bazeley & Jackson, 2013), i.e. using the data to develop codes. The interview questions offered some structure, but the majority of the data was coded using the data itself. To comprehend the viewpoint of customers about the utilisation of Chabot services, an interpretive group of approaches (Qualitative Study) is used. The selection of chatbots as the AI tool was made since they are the most popular AI tool, and as a result, the population of our survey is familiar with chatbots, their

functionalities, and their potential advantages. The transcripts of the interviews' audio recordings were then created using the NVIVO analysis approach, which involved inductive coding of the data and the use of participant's significant utterances to discover themes. Respondents to the exploratory interview expressed concerns about potential ethical risks as well as the advantages of using AI to boost marketing effectiveness for the marketer. Shaikhina and Khovanova (2017) proposed that AI could obtain personal information that may give rise to ethical issues.

5. Analysis & Discussion

The analysis followed grounded theory approach to examine emerging insights as per the above research objectives. This approach was preferred since AI is still a new topic in research and there are very few studies done relating to this study. The approach will help in discovering new themes, relationships and patterns that can be referenced in later studies.

Qualitative Data Analysis Steps

1. Developing codes

Codes were developed under the three recommended steps which include;

a. **Open coding** – this was the initial step where codes were extracted from the transcripts to gather as much information as possible.

b. **Axial coding** – this was the second steps where codes were categorized into groups based on relationship.

c. **Selective coding** - this is identifying themes and patterns from the categorized codes in order to come up with emerging insights from the analysis.

The analysis was done using MaxQDA software.

2. Identifying themes, patterns, and relationships

The emerged codes were critically analyzed to come up with accurate insights. The following procedure was used.

a. **Words and phrase repetitions** – scanning primary data for words that were frequently mentioned by respondents.

b. **Metaphors and analogues** – results from other similar studies were compared to the analytical output of this study to examine any similarities and differences.

c. Search for missing information – discussions on some of the expected outputs that were not mentioned by the participants.

3. Summarizing the data – detailed information and insights have been summarized in this report.

The following table contains the analytical output extracted from the transcripts.

Table-2: Analytical output extracted from the transcripts.

Research Title	Elements to be coded	Codes
The relationship between artificial intelligence and customer experiences in context to Lenskart eye wear Retail chain.	AI Usage perception	- Customized solutions - Decision making - Influential - Knowledgeable young generation - Liaison stage - Minimal awareness - Negative perception - Positive perception - Save time and energy - Segmented - Slowly adapting - Strategic planning
	Chatbot experience	- Better understanding - Cost effectivity - Dissatisfaction - Full-time availability - More customer satisfaction - Not beneficial

		- Not yet mature - Reduce overhead - Time effectiveness - Usage pre-learning
	Impact on customer experience	- Consumerism - Customer behavior analysis - Easy accessibility - Integrating solutions - Recommendation systems - Unpredictable
	Language as a limitation	- Barrier - Essential for success - Multi-language adaptability - Not a limitation
	Tracking awareness	- Yes - No
	Type of cost	- Capital costs - Maintenance costs - Operational costs - Product dependent - Service costs
The critical success factors of AI-enabled customer experiences from the **Perspective of consumers in the Lenskart Eye Wear Retail Chain.**	Development towards sustainability	- Essential - Not essential - Quite essential
	Future implementation outlook	- AI driven future - Boon - Cannot take over traditional marketing - Full automation - Mixed method approach - Take over traditional marketing
	Increase in abilities	- Yes - Deterring effect
	Increase in imagination	- Yes - No
	Meeting needs	- Ongoing research - Trying - Yes
	AI risk	- Risky - Both
	Security and ethics	- Abide by the govt laws - Integrate security

		- Rules and regulations
	Utilization comfortability	- Comfortable - Hesitant - It will take time

The output has been critically explained with evidence from the transcripts. Descriptive analysis has been done in each section to emphasize on code frequencies.

Objective 1: Relationship between artificial intelligence and customer experiences

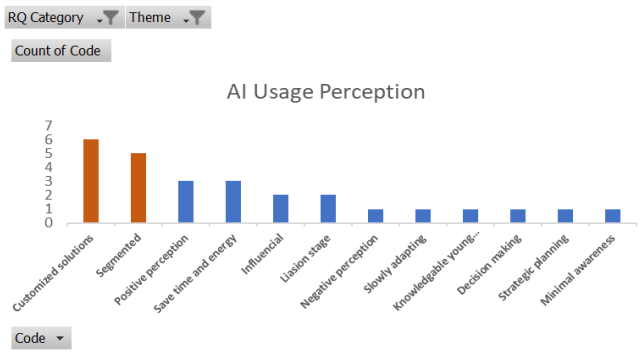
This objective was categorized into various sections in order to extract as much information as possible regarding various aspects of customer experiences in the presence of Artificial Intelligence in various retail processes. These sections include; AI usage perception, AI impact on customer experience, Chatbot experience, Language as a limitation, Types of cost incurred while implementing AI, and Customer awareness on data tracking. The table below shows code frequencies as extracted from the transcripts.

Table-3: Codes and Frequencies Extracted from the transcripts

Code	**Frequency**
AI Usage Perception	
Customized solutions	6
Decision making	1
Influential	2
Knowledgeable young generation	1
Liaison stage	2
Minimal awareness	1
Negative perception	1
Positive perception	3
Save time and energy	3
Segmented	5
Slowly adapting	1
Strategic planning	1
Chatbot experience	
Better understanding	2
Cost effectivity	1
Dissatisfaction	1
Full-time availability	2
More customer satisfaction	3
Not beneficial	3
Not yet mature	2
Reduce overhead	2
Time effectiveness	5
Usage pre-learning	1

Impact on customer experience	
Consumerism	1
Customer behavior analysis	2
Easy accessibility	4
Integrating solutions	2
Recommendation systems	6
Unpredictable	**1**
Language as a limitation	
Barrier	7
Essential for success	1
Multi-language adaptability	3
Not a limitation	4
Tracking awareness	
No	1
Yes	11
Type of cost	
Capital costs	6
Maintenance costs	4
Operational costs	7
Product dependent	1
Service costs	4

AI usage perception



Most participants expressed a positive perception towards the usage of AI and provided examples of how it has proven to be useful. Participants frequently mentioned the provision of customized solutions, whereby AI has been able to customize products on online shopping sites based on user preferences, resulting in time and energy savings compared to manual efforts. Real-time data analytics powered by AI has also played a significant role in decision-making, leading to strategic planning by retail companies.

However, negative perceptions were also mentioned, including concerns around the influential power of AI. Participants noted instances where customers purchased products outside of their budget due to behavioral analysis done by AI algorithms that predict additional products the customer might be interested in. Segmentation was also mentioned, where some customers have a better

understanding of how AI works than others, and some companies have better capabilities to implement AI than others. This suggests that there is still a lack of collective understanding and implementation of AI in the retail sector, and awareness remains minimal.

In terms of the retail sector, AI is helping customers by providing customized solutions that help them choose the best products based on their specific preferences. However, mid-scale companies may face challenges in adopting AI due to its high cost and uncertainty around returns. Furthermore, there is a lack of industry-wide quality testing standards, proper quality assurance measures, and data security measures, which may increase the risk of hacking. As a result, mid-scale retail businesses have been slower to adopt AI technology compared to larger companies such as Reliance, Walmart, and Flipkart, who are heavily investing in AI and recognize its potential to enhance the overall customer experience.

AI impact on customer experience

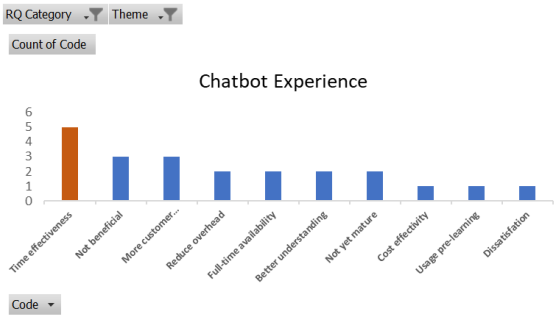
Majority of the participants indicated positive impacts of AI. Recommendation systems have shown a lot of positive impact in customer experience. This has allowed customers to have easy accessibility to products. For example, when a customer is looking for a certain type of product, the AI system will display various products of the same nature and the customer is able to quickly go thru and choose the best for them. Integrating solutions is also a major positive impact whereby different processes are integrated together to bring about high-level customer satisfaction. Automation has been the backbone of integrating solutions. **Consumerism is the negative impact that was brought up whereby due to targeted offers, customers tend to send more**. Consumerism refers to the culture and practice of excessive and unsustainable consumption of goods and services. It is often associated with negative environmental and social impacts, including the depletion of natural resources, pollution, waste generation, and social inequality.

In the context of the given statement, the negative impact of consumerism is being discussed regarding the usage of AI in retail. The statement suggests that due to targeted offers provided by AI-powered systems, customers tend to buy more than they need or intended to, resulting in increased consumption and waste. For example, AI algorithms can analyze customer data and behavior to suggest personalized offers and product recommendations, which can lead customers to make impulsive and unnecessary purchases. This can contribute to the overall problem of consumerism and its negative impacts on the environment and society. Therefore, while AI offers numerous benefits to customers and retailers, it is essential to ensure that its usage is sustainable and aligned with social and environmental goals. Retailers must take responsibility for the impact of their business practices and promote ethical consumption through responsible marketing and product design.

One example of the impact of AI is the image recognition technology used by Google and Microsoft Lens. This technology allows customers to search for dresses online by scanning a picture and finding similar products available for purchase. This is only possible due to the advanced capabilities of AI. The transition phase towards more AI-driven solutions is already underway, and in the context of retail, it is expected to greatly benefit customers. For example, AI can alert customers to products that match their preferences and needs.

However, the increased targeting of customers through AI-driven marketing could lead to the negative impact of consumerism, particularly in countries like India. The offers presented to customers may be very attractive and may lead to increased consumption beyond what is necessary. This increase in consumerism could have negative consequences that are commonly associated with excessive consumption.

Chatbot Experience

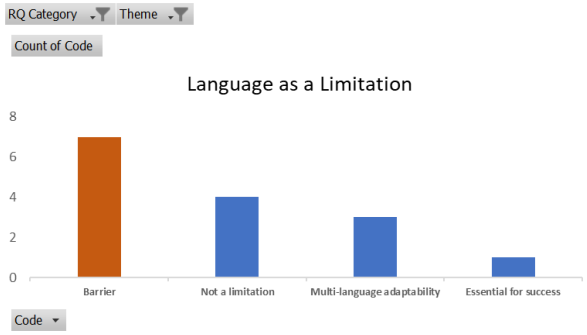


Chatbots have shown a lot of time effectiveness due to their full-time availability and ability to cater for many customers simultaneously unlike a human assistant who can only deal with one customer at a time.

On the company side, chatbots have been cost effective by reducing overhead. Chatbots have also led to better understanding of both companies and customers whereby consumers can be able to ask questions and the company is able to capture and analyze the frequently asked questions to provide better solutions which results to more customer satisfaction. Some participants mentioned that the chatbots are not yet mature. They are still not able to solve more in-depth issues since they are only fed with frequently asked questions. Another issue is that different customers express their problems differently. The chatbots are not yet able to interpret various versions of the same problem. Hence making them to be less beneficial in such instances.

So, the thing is, it's very interesting in that sense. Like whenever we have any kind of services industry or any kind of like retail sectors, they even, even not only retail, actually, there are other sectors also like any kind of academics also, they have started using chatbots. Why? Because first of all, they are 24/7. And not only 24 /7, 365 days, like you don't have to hire any person. So definitely the chatbots helps the customer as well as the company to understand the customer better and the customer can as per their requirement put on the questions in the chatbot, there the people, I mean automatically AI will help out to get the solution out of it. Maximum people want that in-depth answers, especially in India with chat bot facility, as a marketer perspective, monitoring market perspective in India is not a beneficial for any.

Language as a limitation

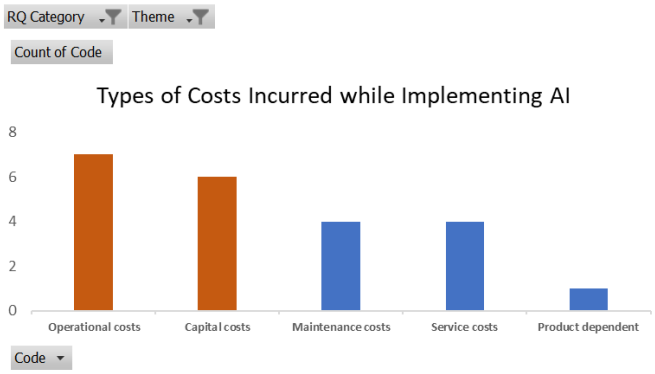


Majority of the participants indicated that language is a barrier in AI implementation due to language diversity. Most AI applications are in English format but not everyone is comfortable with it. A lot of real-time translation is required which is one of the main challenges faced by AI practitioners. Language adaptability is one of the essential objectives that needs to be addressed. Some participants mentioned that language is not really a problem since some AI applications are providing regional language as well.

Definitely. Especially since I am working on an NLP involved with most of the actual problems itself. From a customer's point of view the way I frame a question and what I am searching for not be the exact same terms that the chatbot actually understands. So converting my natural language questions as such into something that the system might really pick up and answer well. It is quite a big challenge I feel. Something that needs to be addressed. Language is, is a problem because, uh, normally when we are building a chatbot, we focus on some language, which is very highly used for example, in English language. Now, what happens is that if we have a customer with just international, for example, and that customer is particularly, uh, uh, specifically not using English. AI in our country specifically retail sector then language will be a limitation because you have to adapt based on the

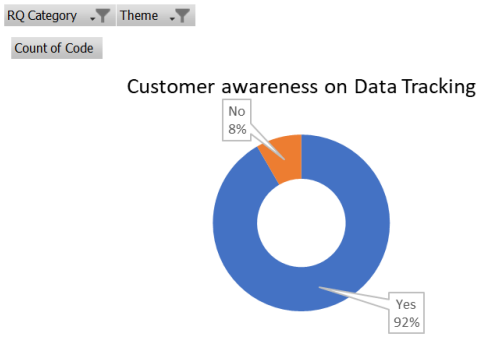
regions. for ex: if it's a southern cities,you have to have the AI with those specific language translations. It is very important because we have multiple languages that is actually USP. So we have to make use of it. No, I don't think so. Language is a limitation because right now, in any sort of AI they are using, uh, they are providing a normal regional language as well.

Types of costs incurred while implementing AI



Capital costs and operational costs are the highly incurred costs as per majority of the participants. Purchasing and implementing AI infrastructure is very costly hence most of small-scale companies tend to purchase this infrastructure as a service rather than implementing it themselves. Operational costs are also high since hiring quality data scientists and AI engineers is costly. Maintenance costs and service costs were also mentioned since the AI models need to be regularly monitored and retrained because of dynamic customer behaviors over time. So, the cost of implementation may be very high. It may be very high, but once it is implemented the profits and the Uh, when I say that we can implement artificial intelligence very easily. Like where they can develop a recommendation system, chat box and all these things, they hire a developer and also like, uh, they, they need a person who, who will do both front and backend of this particular complete AI application. So, most of the investment part goes into this. They don't have that kind of infrastructure or financial viability. So for them there is a model which can basically go and buy the services offered by the other guys. You go to Amazon, google they will help you build AI agents for you. They are low cost versus you want to basically build the cutting edge with their assistance and large infrastructure based upon you cost can be high. The return of investment is also very high. subsequently the maintenance actually we need to there is no end to the data like so there should be maintenance phase where we need to improve based on the performance or based on the feedback that the customer is giving the turn out of the customers based on our implemented tools so there should be some maintenance or enhancements to that algorithms

Customer awareness on data tracking



Almost all the participants indicated that customers should be made aware of what is happening in the backend of the retail shopping solutions. It is necessary to notify them that their behavior is being tracked to provide more targeted solutions since they own the rights. One respondent indicated that there is no need for the customers to know for example how the chatbots work if the privacy of their data is observed. I think customers or consumers has every right that their data Yes, so you have this data I mean the ad tracking companies I think you are signing up for them right because whenever someone is tracking the cookies he is explicitly asking your permission so in India I think no one cares but I think in the outside world if you are not doing it then it can be sued

by the law so my explicit permission at least I feel that I should be aware customer should know actually, legitimately customer should know that you are tracking, ok but he should know, he has that right. You are tracking him right so it can happen to us too, to you also so don't like somebody tracking us. So, they will save that business, uh, behavior information, uh, to some extent and again, right. So, there is always, uh, they, they elaborate with the laws for the privacy. So that is privacy is always maintained, but it is only, only for the predictive analysis is, uh, on which the user, what, uh, I mean, to grasp what exactly the user wants to know when the user logs in for the second time a part-timer later. Yes. Uh, the customers doesn't need to know how the chat bots behave, but they are based on the questions asked by these users and the retailers, the AI, ML have the different languages and different algorithms, which can, which can consolidate or which can gather the information of their behavior that will help to serve these customers when they log in next time and thereafter. So that will, again, it is for better experience of the customers and the retailers.

Research Observation 2: To explore the critical success factors of AI-enabled customer experiences from the perspective of consumers

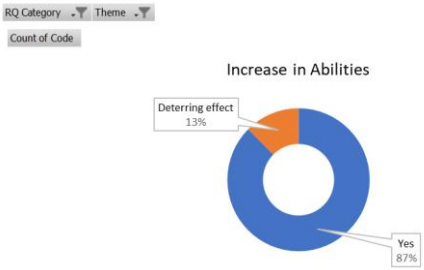
This section was categorized into various sections to explore the critical success factors of AI-enabled customer experience especially on cognitive engagement and performance. These sections include; Increase in abilities, Increase in imagination, AI-utilization comfortability, AI-risks, meeting needs, future implementation outlook, Development towards sustainability, and Security and ethics.

Table-3: Critical Success Factors – Customer Experience

Code	**Frequency**
Development towards sustainability	
Essential	9
Not essential	1
Quite essential	3
Future implementation outlook	
AI driven future	2
Boon	1
Cannot take over traditional marketing	2
Full automation	2
Mixed method approach	1
Take over traditional marketing	4
Increase in abilities	
Deterring effect	2
Yes	14
Increase in imagination	
No	1
Yes	10
Meeting needs	
Ongoing research	1
Trying	1
Yes	4
Riskiness	

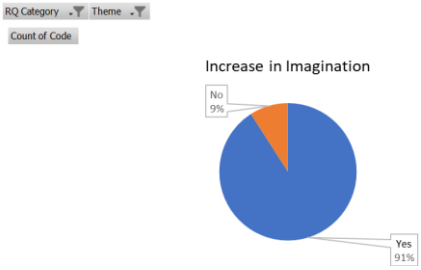
Both	2
Risky	8
Security and Ethics	
Abide by the govt laws	1
Intergrate security	2
Rules and regulations	3
Utilization comfortability	
Comfortable	4
Hesitant	2
It will take time	2

Increase in abilities



More than 80% of respondents concurred that using platforms with AI-enabled capabilities can boost capabilities in a number of different ways. People are capable of learning new techniques. Another significant development is the capability to base conclusions on big data sets that can be difficult to manually analyse. Business operations are significantly faster because automation also frees up workers to perform other duties. Due to the transfer of cognitive capacities to machines, some participants suggested that AI-enabled devices would have a discouraging effect. Another effect is the challenge of sustaining solid focus, particularly for teenagers. Absolutely. We are restricted as humans by having only two hands, one brain, and two eyes. You have a powerful mechanism that can combat it and which can process the big data, just imagine, you in the shoes of google maps. Would you essentially be able to comprehend the traffic and everything else? That kind of data is impossible to process. If complied with that logic, then the AI should provide us with more convenience and should not be exerting as much effort, so effort and work should be reduced. You are enabling the AI to do a lot of work by taking some simple inputs from the users, right? If so, then your effort will be significantly reduced. As mentioned before, it will have a deterring effect on our capacity for cognitive thinking or cognitive you know the thought process will be transferred to a machine, which makes me believe it is going to have a deterring effect that's like a grey area honestly, to some extent it does make it easier for me to get to what I want, but over time we are also noticing especially on teenagers, it's becoming very problematic.

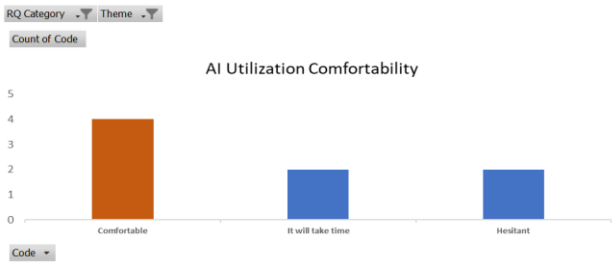
Increase in imagination



There is high increase in imagination according to majority of the participants. Regular innovations and advancement of technologies as a result of AI has been brought about by human imagination. Products like face

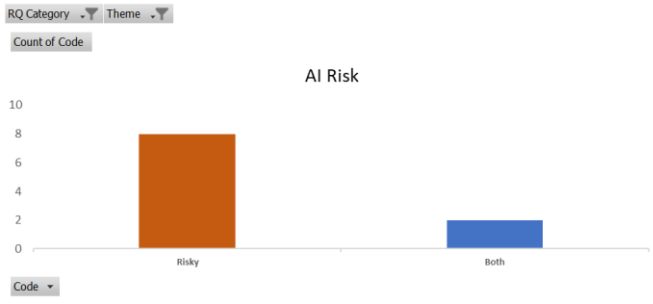
recognition software, 3D products and virtual reality models are examples of innovations enhanced by AI. Certainly. Because it will give a lot of additional dimensions might not be able to see that. That's where AI is going to play a huge role. That's where pattern analysis is all there right? You wouldn't even know that there can be additional dimension. There can be a new way of looking at the things can happen. That's what they do. It can be a huge inspiration for us. Yes, definitely because, uh, we are into the virtual world right now. And not only that, if I take one of the example like, uh, people, uh, in, in healthcare, it is, there is a very huge amount of usage they're using this, uh, like goggles they're using the standard, like, uh, VR models Okay. Virtual reality models, they are using this and they are going into that world also. So this is an example, I mean this is something which a businessman or which a retail brand might not have thought 30 years back. But now using AI they can actually see that what kind of set up in the store or even on the website increase their sales or decrease their costs or reduce wastage. Therefore, this is just an example wherein it can increase our imagination how we can use AI to increase sales or decrease cost.

AI utilization comfortability



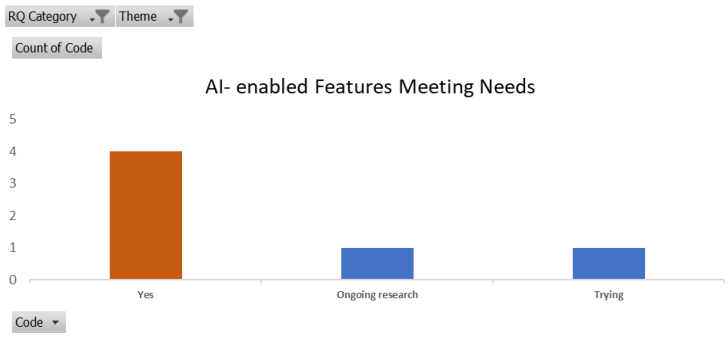
This section aims to understand whether people are comfortable with AI and how it is being utilized. Majority of the participants indicated that there is comfortability since the marketers are already benefiting through predictive analysis while a few others indicated that they people are still hesitant, and it might take some time to accept this technology. Yeah. Uh, definitely because, uh, even, uh, there are, uh, marketers who are already using it, uh, like, uh, predicting the share markets and all, and even for like, uh, pharma also, because pharma is adopting very late, but in retail they have already started using it and also consumer segments and also even not only that then also other segments as well, uh, like finance. The marketer will, will feel, feel very much comfortable. Why? Because, uh, ultimately what happens is suppose market basket analysis I told. Now the marketer is able to predict what the customer is going to buy with a certain batch of products. So, for example, a customer is coming for milk. With the help of AI, the marketer can identify that, okay. Actually, I think it will take some time in this country particularly Indian perception, anyway AI is helping out in the retail segment particularly because definitely it will help the marketers to increase the market size and at the same time reaching more customers because of their range of products, the customized solution the AI is giving to the customer, so I think definitely it will take some time in the Indian scenario. yeah you see in any industry any software program that is being implemented requires a change ok, so you are using certain tools ok currently and you are happy ok but once you use a new tool or a new process ok all the stakeholders who are involved in that chain complete process or complete supply chain you need to be acquainted to that over a period of time ok yeah initially it is definitely tricky or because it's a advancement ok so you need to see like what are the advantages of having using these products then the short term limitations ok so it is not only in AI in any software implementation the change process is very difficult and people has to agree to those changes against the benefits that they are going to get out of it in future.

AI risk



Most of the participants indicated that there is risk that comes with AI. The frequently mentioned risk is data privacy and security issues. Data is prone to hackers and bleaches which might be a critical issue when consumers' private data is leaked. There is also the issue of data ethics whereby consumers need to know how their data is being used and how safe it is. Some participants indicated that AI is both beneficial and risky based on intention of implementation. Yes, ma'am it is sort of risky because entire database will be recorded and there are chances that AI can be hijacked. Sorry hacked. There are people who can hack all these database and misuse. For example, if we do payments and everything at the store through AI the details of the payments and everything can be hacked. So security is a little issue here and it happens to be taken care a lot. They do that of course security they do take care but it can be a little riskier as compared to somebody manually you go to the counter and pay the bill there so it is a little bit riskier but can be handled. They are risky that comes with every part of the technology and that's where we are looking for the transparency, the trust and then explain ability. You know these things needs to be there without that you can use AI for various purposes right so it is something like that. There are a few risks involved like with any other system I would say one is the safety aspect of it, the security aspect of it is one big issue another issue like I was saying is maybe manipulating the user psyche to some extent that is also one. So, currently you know there is a lot of work going on in AI ethics so even retailers should probably pay attention to the ethics part so I would say both because people should know the benefits of using AI. Uh, if they are doing it in a righter way, it is good. But if they're doing, using the application in the very right way, they are putting forth in the right way, then it is good. But if they are misusing it, because it can be done the both ways, it can be used for good and it can be used for bad also. So, it depends on the marketer and, uh, the customers, how they use it.

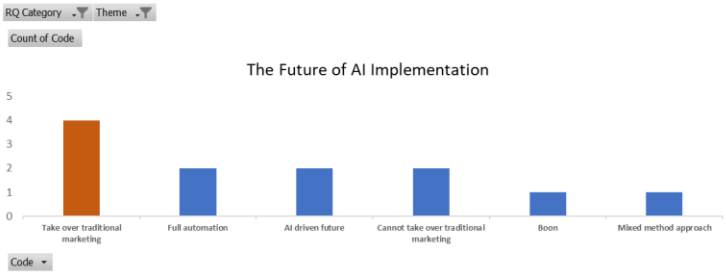
AI-enabled features meeting needs of the retail business sector



The AI-enabled features are meeting the needs of retail business especially due to their flexibility in customizing business processes and solutions according to majority of the participants. Some participants mentioned the features are trying to meet the needs. Chatbots are trying to answer the basic product questions, but they cannot catch up with human-to-human interaction now. One participant mentioned that it is an ongoing research process to evaluate the evolution of AI. The collaboration of AI and quantum computing being the ultimate target of the machine era. So, there is going to be more feature iterations in the future as AI advances. Yes. So those are the flexible. So, these AI, ML especially the features, whatever that has been coded or framed by the algorithms, those are like, to modify whenever based on the needs that fit, uh, to boost the customer satisfaction. So those are, are not reserved components. Those are flexible components, which means that we can, whenever there is a, there is a need for an announcement or there is a need for change, or did it need for a replacement? All the, uh, the features can be modified changed or enhanced at any time with cost. So, these are very flexible and we need that. Yeah definitely. I think you know you can customize them depending on the kind of product you are marketing and you know the kind of, I don't know what you are exact what is maybe channels supposing you are doing you know web based or maybe if you are doing like in store kind of thing, everywhere you can customize it according to that particular channel, I think there is a lot of scope for that. So far they are trying that because the software's which they use they develop they have all basic questions usually customers will ask to the people who are helping them in the retail sectors. Let's say which I'll what is present what is this product how it is useful basic features they are trying to implement but I'm not sure it is the same as the experience of interacting with the real human because there is one more thing when you talk to a real human about a product you get a confidence even if you are not inclined towards that the salesperson will it's his job to make you buy that. It often happens with me also I go to buy something with one particular thing in mind and salesperson will be so brilliant that I come out with three four things. That could not happen with AI. That's where the research is going to focus upon more. So we are going

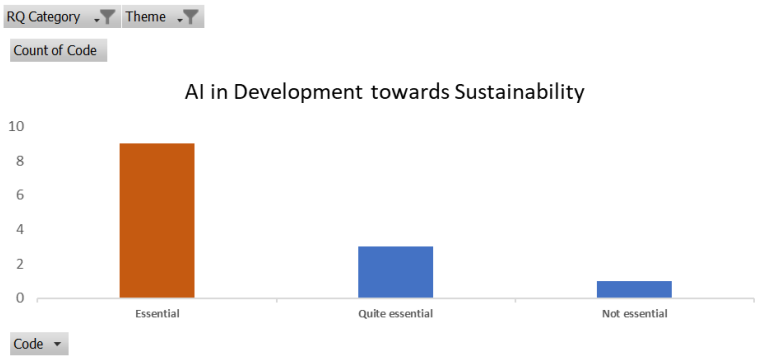
to see more iterations of the technology evolving basically and then their features that is basically more and more adoptable to us along with there is one more set of technology, the quantum technologies basically, once the quantum technologies and the AI technologies when both of these two things come together that is what we can call it as the ultimate target for machine era. Then we are going to probably see a different level of implementation altogether what we are marching towards it. And definitely the features is going to get refined as we progress.

The future of AI implementation



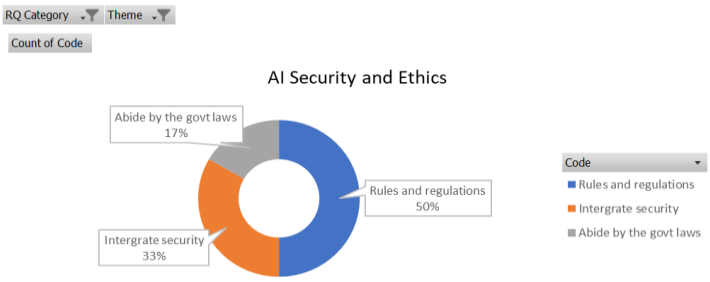
The majority of participants predicted that artificial intelligence (AI) may replace current marketing techniques because of its capacity to analyze large amounts of data and to connect with a larger audience via online platforms. Compared to human assistants, Chabot's are far more readily available and operate automatically. In an AI-driven future, automated business processes will be crucial. Some attendees mentioned that a hybrid approach would be necessary in the future to support both traditional business operations and artificial intelligence. Because predictions and recommendations made by AI are based on previous data, and because consumers' preferences can occasionally alter, this is. Accordingly, in order to track behavioral change and retrain models, it is often necessary to let customers shop without urging them. This will help to avoid bias. A 50/50 strategy is being used here. Some participants said that while AI is good at attracting more audiences, it cannot compete with some of the more effective older techniques like BTL and ATL. AI will complement current procedures rather than replace them. I think that in the Indian context, it will take some time regardless, but AI will definitely prevail over our and vanquish this traditional marketing because of the instant opportunities plays a big decision-making role, fast paced selection of the products, fast paced range of products, fast paced up the markets, fast paced up the best product, AI will help you out the customer to reach the, I mean which where is the offer in Amazon or in Flipkart you have offer or Snapdeal you have offer or any other website which is giving the offer. AI will facilitate that. Traditional marketing obviously takes time, but it will eventually succeed. They will eventually because the limitation of humans is that they can't personally reach everyone, but AI can reach everyone for example the hundred crore population everyone has mobile phones but you don't have the sales force of be it any biggest company in India you don't even have the sales force lecturing twenty crore of population. The problem is that, despite the fact that we have both human and machine components, only machines can reason in machine-specific ways. Consequently, for common knowledge. In that regard, anytime a computer thinks, it will likely simply consider the data, past data on the basket, or trend. However, occasionally, tastes may also alter, as many moods. So, in that sense, only humans have the capacity to comprehend humans. That is why it will always say mine, sometimes it will be 50/50, sometimes it will be 60/40, and sometimes it will be 70/30. What kind of mixture we are making, such as if it is digital, will determine this. When it does, it will not always be 50% physical but, 50% digital as well and rarely may it be 30% .Sometimes, it receives perhaps 70%. Depending on the circumstances. Therefore, a combination of approaches will be used. Definitely not, AI is a rather confined field, which is why. Whether talking about ATL or BTL, those platforms are covered when I've been discussing the outdated marketing techniques. Only a few people may be addressed by those platforms, which will use AI to cover the entire facility. And those select few can. This is advantageous because we are basing our decision on a sample of data. AI assists in gathering individuals. AI aids in decision-making based on a small sample of individuals, but I am currently and even over the next ten years unable to compete with BTL and ATL.

AI-enabled platforms in development towards sustainability of the retail sector



Most of the participants indicated that AI-enabled platforms are very essential especially in the current times where competition is stiff hence the need to meet maximum customer satisfaction through identifying patterns in large chunks of data. This can only be perfectly accomplished through AI. Some participants indicated that it is essential but not mandatory now due to some economic limitations that need to be addressed first. So, these days basically if you see, the start-ups are becoming very fast. Why because there is an idea and they are basically able to mobilize that idea very fast. What it means that they are able to basically go on to the dimension of a new customer experience. And then we able to serve the customers in a very drastically different from the conventional method. I would say so because given the markets everyone is competing with everyone so in order to track humongous amounts of data you can't have manual labor to analyze that data, predict those patterns so its efficient you bring the algorithms into the picture and let it do the work for you and give you the just the analyses. So yes, it is not a mandatory, but in today's technological era, it is very much essential. It will be very much essential to boost to the services and it's a development. As of now I don't think so ma'am because these are certain limitations that has to be worked on. And it's not like necessary but because we are moving to digitalization, we are moving actually being so to increase their economy and get that new skills and abilities for growth, sustainable development it is needed but right now I don't think so it is mandatory because it cannot be implemented in this stage to all sort of businesses so let's say if we overcome the limitation and drawbacks that I have mentioned then maybe it can be implemented everywhere.

AI security and ethics



This section aimed to address participant's opinions on ways that can be used to address AI security and ethical issues. The measures mentioned include; abiding by the government laws, integrating security systems in the AI-enabled features, and developing and implementing rules and regulations for AI ethics.

Uh, so, uh, in any country, so customer the business or the company is they have to abide by the laws of government and which these businesses have been running in. So, the security can be, uh, uh, integrated to the already existing, uh, applications, whatever we have and also, we, well, now there, if any of these AI programs are in any chatbots are being developed, uh, newly, so we can have the security component introduced at the level of development of these AI programs? Yes. Um, uh, the security cannot be compromised because of this flexibility or on the offerings that we have on the AI programs. So, the algorithms, whatever we have been using, uh, in the AI programming. So, uh, the programming, the core level itself will frame the rules on the set of bunch of rules and set up rules will be there. And these programs, uh, or the collection of the data or the information conduct, whether it be conduct or being any other national commission or whatever it is. So those have been, uh, uh, executed within the, the boundaries and within the sets of the rules that we have been, um, uh, which are being framed by the framed by the companies or the, uh, the retail business. So, one of

the, uh, rules that have framed by these algorithms needs to be, uh, agreed on the overall picture, needs to be, I mean explained to the legal department and they take their models. So are, so there are a lot, many rules framed within the rules and within the guidelines of the legal departments of any other country so that we have been taking care.

6. Conclusion

This research provides an empirically based addition to the understanding of how AI will impact marketers in retailing sector by conducting in-depth interviews. Although several contributions of practitioners industrial reports have populated the literature on responsible AI-researchers have recently began exploring the underlying dynamics. This study highlights the success factors, implications of AI technologies to enhance the customer experience in retailing. Findings and Results identify that participants in this study understands the relationship between AI and Customer experience and the insights provides emerging themes which are helpful in bridging the gap and also provides details of the implementation of AI in retailing which can enhance the success. The key findings are summarized below;

- **Inclusive training on AI use cases** Participants mentioned that most of the consumers are still not fully aware of how AI works hence the slow AI growth. Consumers can be educated or enlightened on the basic use cases of AI and how it is helping the retail sector grow.
- **Funding AI projects** Participants indicated that only the big companies have the capabilities of implementing AI platforms since its costly. Governments and donors can join and fund the mid-level retail sector in implementing AI projects to facilitate its growth.
- **Chatbot interactivity innovations** Majority of the participants indicated that chatbots are still in low level executions. They can only answer basic questions that can be predefined. They also do not have the emotional aspect of dealing with customers. Research collaborations can be done to improve chatbot functionalities in order to improve customer satisfaction.
- **Language adaptability and inclusivity** Most AI-enabled have not yet been configured with most languages and this has been a big challenge for customers not familiar with the integrated language as per the participants. This is an area of interest as far as AI implementation is considered.
- **Human and AI collaboration** the retail sector should enhance human and AI collaboration since AI runs on historical data and when allowed to run on its own, in the long run there might be bias especially in the recommendation systems due to the dynamism of customer preferences. A mixed method approach is necessary to ensure tracking new trends emerging from customer data without running the AI recommendation systems.

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