

The Application of a Systematic Conceptual Model of Artificial Intelligence to Snowballing Consumer Delight in Digital Age

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ABSTRACT:

Artificial Intelligence (AI) is being integrated into the field of consumer behaviour in order to generate consumer traffic and AI aids in effectively keeping consumers happy in today's digital world, which is administrated and controlled by complicated and cognitive focused algorithms. Artificial intelligence has the potential to create a device that is as intelligent as a human being and can mimic humanoids' abstract manner of thinking and acting. This topic describes how technology and artificial intelligence are the driving factors that contributed the most advanced and innovative concepts in the field of consumer behaviour. The term "consumer behaviour" characterises a vast ocean of never-ending knowledge and principles that must be thoroughly understood through research. Artificial Intelligence (AI) is a human invention that attempts to duplicate the way our human minds understand and process information via the use of machine learning and complex analytical programming. As a result, Artificial Intelligence is a trusted human partner because it has led to many new marketing innovations, particularly in terms of consumer-related research and study, as (AI) is able to accurately map out exactly what the consumer's expectation is, how to satisfy consumer's desire, and how to retain them through the use of specifically most dominant modes of (AI) such as the Internet (online mode), digital marketing, Chabot's, and so on...as (AI) has brought new evolutionary trends in.

KEYWORDS: Artificial Intelligence (AI), Internet of Things (IOT), Return on Investment (ROI), Over-the-Top (OTT),

INTRODUCTION:

Humans are the most developed and zenith types of living things in this world with the most perplexing, scholarly, thinking and activity system, which by very nature is hard to get what is happening to one. Human brain is continually occupied with some kind of dynamic cycle regular explicitly concerning purchasing choice, which again is classified into two perspectives viz., Low-association and high-contribution choice's, the previous one might happen either through cognizant or oblivious exertion regarding buying, yet last option might occur through genuine and exhaustive cognizant exertion and these interaction has set of reliant and autonomous factors with high to low inclusion of mental develops, but to understand and foresee above said confounded shopper purchasing process Artificial Intelligence (AI) comes into picture as (AI) was first utilized in field of instructive in the year 1956 and Artificial Intelligence roots its self from formal disclosures of brain science, data hypothesis and robotics, which further prompted finding of electronic mind which was a speculations structure back in The Second Great War period explicitly in the year 1943, which later on get its speed as far as exploration subsidizing and developed into what we as a whole know it as Artificial Intelligence (AI) in this 21st century.

In the 21st-century Artificial Intelligence is the norm of the day as its presence can be visibly noted in all our daily lives, predominantly in forms of Internet of Things (IoT), online commerce or E-commerce, digitally integrated marketing, and human bots like Siri of Apple Corporation, Alexa origin of Amazon Company, and search engine like google, Microsoft bing, Baidu of china origin and many more all of these have one sole intention to analyse and map-out consumer behaviour and tailor marketing efforts accordingly for seamless deliverables which increases consumer satisfaction and thereby, engaging consumers positively.

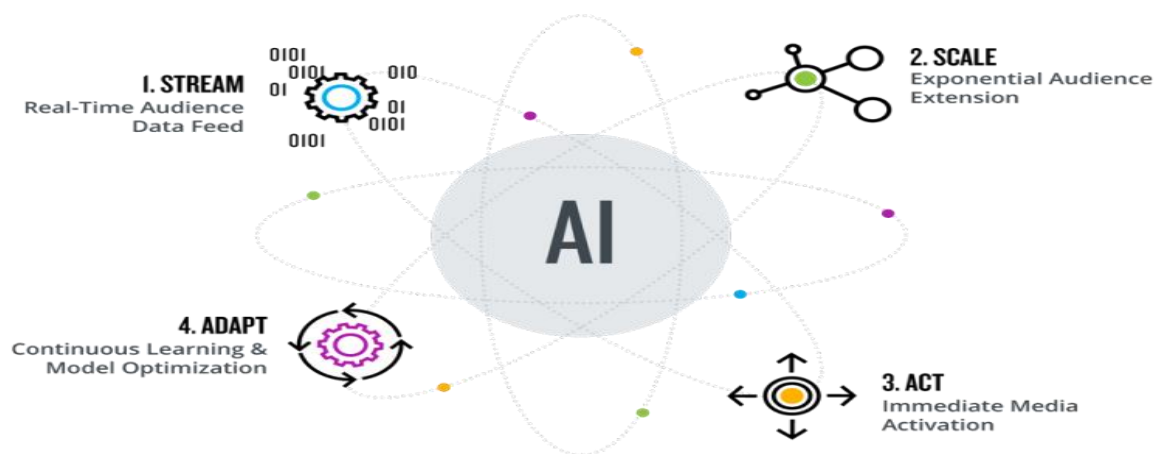


Figure 1: Basic AI Structure and its conceptual framework, (Nielsen,” 2017)

Stream: A real-time stream of device linked audiences statistics in binary format (0101), AI learns many things about a brand's customers, from the media they watch to the products they buy. And as this information changes, the tool adapts.

Scale: Here right consumer prospect will be produced using the previous step and targeting the correct consumer will be carried on.

Act: Precise segmentation across all social and media platforms, such as search engines, social media, emails, videos, mobile devices, Over-The-Top (OTT) platforms like amazon prime video and apps.

Adapt: AI collects and simultaneously groups these audience learnings databases from all types of media and online platforms of marketing and starts using those data for further self-optimization and for the sake of better prediction of consumer expectation and how to precisely address them with the right combination of product mix and finally leading to a high level of consumer satisfaction and retention.

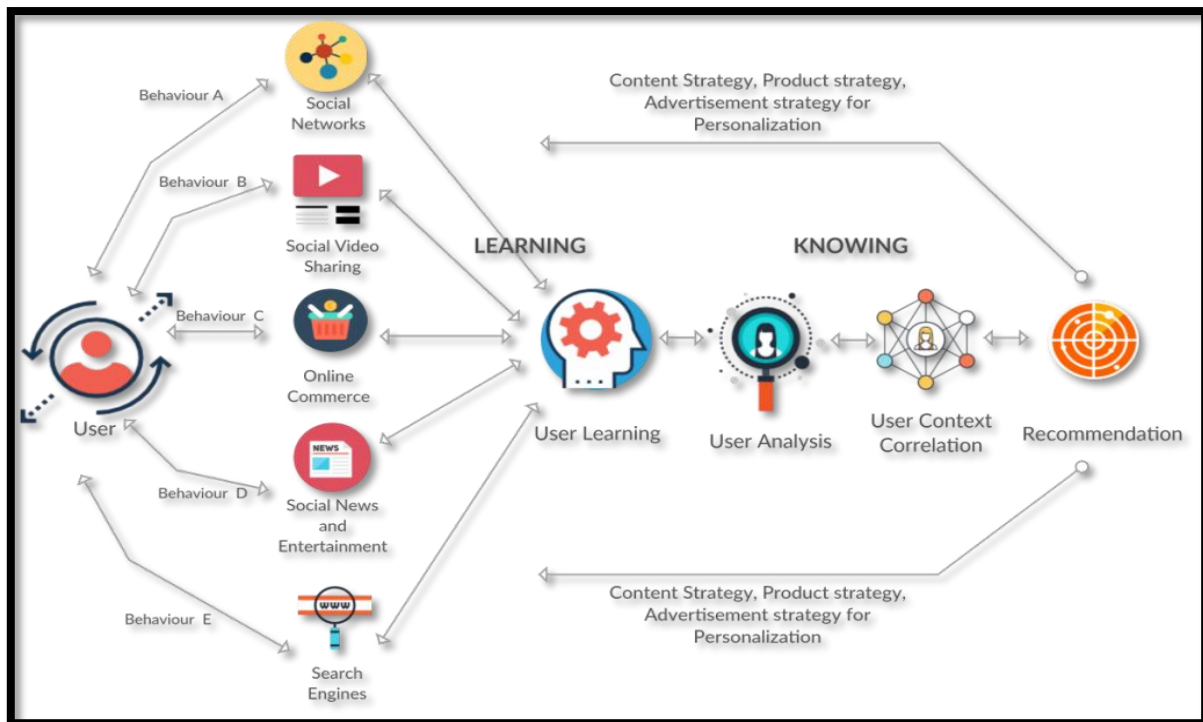
Due to increased uncertainty especially due to this bothersome pandemic (COVID 19) effect on society and its impact on the consumer's steered many large business firms to depend majorly on Artificial Intelligence as their prime marketing tool apart from other conventional and technological tools of the pre-pandemic era, as (AI) is viewed as an asset for any business organisation in this pandemic era, due to pandemic lot of offline business firms got closed due to pandemic's disruptive effect which became a curse to offline retailers, but on the other hand the pandemic turned into a benefit for online retailers as they used (AI) as their key tool to understand consumer behaviour with reference to online shopping preferences and quickly they adopted a new type of (AI) augmented logistics and supply chain to achieve super-fast delivery timeline, also (AI) combined feedback mechanism was used and thus it led to increased consumer satisfaction.

1. How firms are using Artificial Intelligence to understand consumer or end-user behaviour?

The moment we hear word Artificial Intelligence most of us will be thinking about robots, cyborgs or some sort of automated machines which works similarly to human and specifically people keep on thinking scientific-fiction thriller movies and artificial intelligence's character represented in such a way where machines take over the world. But the truth is that (AI) is already among us. It exists in our smartphones, in fitness trackers that measure our heartbeats, and refrigerators that tell us the expiry dates of our stored foods or the weekly grocery shopping list etc... Artificial intelligence keeps on evolving every day as it is programmed in such way that it learns from close interactions with

consumers activates over the smart devices, it also has potential to comprehend consumers perception towards some products or services just by tracking their online activity best example is – while shopping on Amazon artificial intelligence will identify the best matches depending on the background of use. Thus the system forecasts activities like “jogging” from consumer queries like “Puma athletic shoes” or “track suits”

Figure 2: (AI) model used by E-commerce firms to understand user behaviour (Capgemini, 2021)



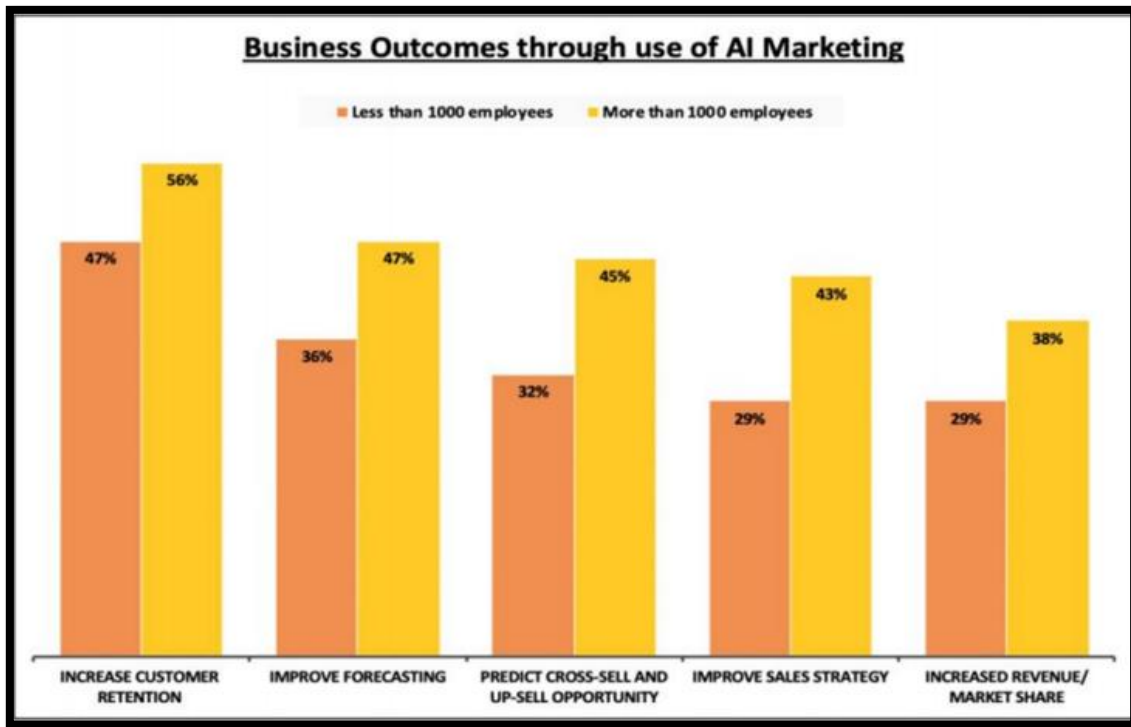
From above figure we can infer that there is a constant learning, evaluating, correlating and recommending stage which has error filters that keep the sanity of the data and accuracy of the system.

The world is majorly depended on artificial intelligence, wherein users or consumers are deeply indulged in online activities across multiple circumstances and this is what business firms cash-on by planning promotion campaign in terms of cross selling, up-selling and many other techniques implemented by understanding consumer behaviour, which in-turn helps consumers to plan their buying activity without much hassle which enhances consumer satisfaction and increases association towards that particular firms offerings.

The below figure clearly illustrates that by usage of artificial intelligence on consumer behavioural study resulted in synchronized marketing effort and helped company to understand consumers’ needs and wants precisely by aligning their offering to match consumer requirements, which in-turn helped

organisations to achieve more sales and revenue and at the same time consumers also felt satisfied and thus it can be visibly voiced that artificial intelligence has given an edge to consumer retention strategy followed by the companies.

Figure 3: Benefits derived by consumer and business by using artificial intelligence, (IJRASET, Manas, 2021)



Artificial Intelligence is such a potent tool which can be used to monitor and analyse consumer behaviour patterns and new upcoming trend study, as these characters by their very nature a dynamic process as it keeps on mutating as per the changes in overall business environment. Consumer behaviour study and knowing what are ways in which a consumer interacts with his immediate environment while purchasing or buying goods or services is very valuable information for business firms to come out with accurate marketing and sales campaign, which sequentially produces more positive Return on Investment (ROI) and good profit margins, understanding a consumer is key to success of a business organisation in longer run.

Whenever it comes down to old-style consumer behavioural research or survey it is very time consuming, costly, more effort, and complex analytical procedure involving more human capital, but artificial intelligence handles it with ease of operation and operating cost is less compared to orthodox style of consumer research and moreover, it is very convenient to apply in multi-principled areas as well, its usage may eliminate human error in collecting data and also it is capable of doing analysis

and presenting final results, the data collected by (AI) is so advantageous as it contains consumers vital behavioural factors like geographical location, weather, events, or personal preferences, which will be used by business firms to so that they can specifically focus on precise consumer's desire, individual buying behaviours, and also the channels preferred during interaction, appropriate personalised content can be delivered to customers at the exact right time and through the most appropriate channels, some of the notable example are Amazon.com uses smart artificial intelligent algorithm which can forecast quantity of consumers ready to purchase a new product launched and also studies relative consumer behaviour regarding how they select the products among available choice's. Amazon's (AI) is capable of providing personalised recommendation to its consumers.

2. Application of Artificial Intelligence on Consumer satisfaction and retention:

To comprehend consumer needs and match their expectation Artificial Intelligence needs in-depth understanding of features of Artificial Intelligence and its correct way of application in subject of consumer behaviour, following are significant features and its potential application in field of consumer behaviour which includes:

- (1) Artificial Intelligence has been extensively used in field of gaming to give more immersive and humanly experience to players as ultimately these players will become loyal buyer of that particular brand in future as it will be able to hook on to consumers mind for a longer span of time.
- (2) Its dominant application in E-commerce is by mapping-out and unravelling consumers shopping preferences through website analytics, browser history and hidden monitoring of customers online activity using cookie data and thereby, deciding accurate online marketing campaigns.
- (3) Real time application happens during customer service like (AI) powered Automatic call responders and automatic Chabot's which precisely understands nature of consumer's query and address it accordingly, as these mechanism is being used by all larger business establishments who have huge number of consumers like UPI payment company example: Phonepe and paytm, which tries to solve consumers payment issues quickly without breaching Service Level Agreement (SLA), as ultimately it will lead to greater consumer satisfaction.
- (4) Application in Internet of Things (IOT) devices as all of those devices like (AI) driven smart self-driven house floor vacuum cleaner are interconnected through internet and constant feedback mechanism is established between company and its customers on regular basis wherein company will

be able to identify loop-holes in their current product and improvise the same, which will ultimately enhance consumer satisfaction level and helps in retaining consumers.

(5) Artificial Intelligence powered speech and text assistant like Siri, Google Assistant and Alexa, can understand what consumer wants just through verbal conversation and tries to interact back with solution, also based on the consumers previous web activity AI powered assistants will suggest products and services relevant to consumer.

(6) Application in health care devices like CT scanner and MRI scanner for better diagnosis of patient's vitals and future predictive analysis of patients health, as this will surely help in increased customer satisfaction when right diagnosis is arrived.

(7) Real-time application happens in navigation and travelling i.e., Google Maps is an intelligent GPS locators, thorough route guider with auto-route correct mechanism, as this helps smooth traveling experience for a consumer.

(8) Agricultural application for automated (IOT) sensors making sure both soil and crop receive optimum level of irrigation thus enhances optimum nutrition balance of crops, as this application of (AI) helps farmer who is a consumer and also a customer feels satisfied through this precise and stress free farming practices.

(9) Autopilot which is (AI) driven is a ground breaking discovery thus, reducing risk of accidents while driving and surely this will help in increased level of customer satisfaction and consumer tends to become loyal brand ambassador for the same due it's ingenious contribution in terms of safety features.

(10) Usage in stock market applications helps investing consumers to forecast future stock price variation without dependence of stock broker who may not be trustable, the artificial intelligence application sorts out consumer's uncertainty of future stock prices and helps them feel secure due to this consumer and may feel satisfied.

(11) Application in telecommunications like tariff plan recommenders which is works on AI algorithm, which smartly tracks user's data usage and incoming, outgoing call usage history and recommends best tariff plan among the basket of choices.

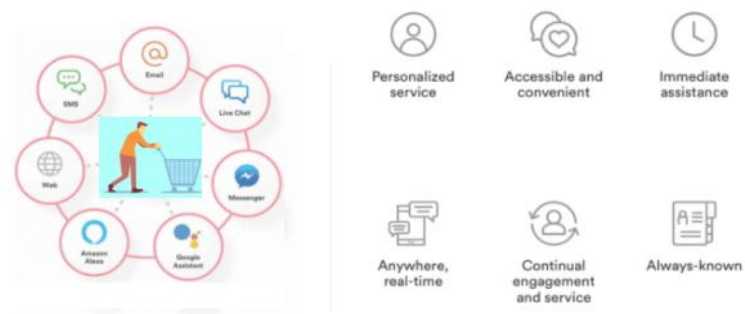
3. Impact of Covid 19 pandemic on consumer behaviour and role of AI:

Covid 19 was an event for which the human race was not ready for and when it engulfed the entire globe through its stronghold by a virulent transmission which changed the entire way in which humans functioned on a day-to-day basis since the pandemic massive amount of online traffic

streamed in a short span of time due to Covid 19 curbs which led some consumers to force themselves to switch from offline to online and mix of both modes of shopping which gave more emphasis on the robust structure of artificial intelligence implementation to serve massive growth of consumers and satisfy their need online, some of the important transformations which were (AI) driven specifically towards the topic of consumer behaviour are:

- Consumers expect more safety while shopping, which has given a huge opportunity for online business establishments to utilize this opportunity and address a new set of needs of customers like contactless delivery, quick delivery timelines.
- Some set of consumers chose a mixture of both offline and online shopping as per the nature of product example: buying vegetables from the nearby grocer and non-perishables from online mode, but today even daily grocery including perishable ones are delivered in less than 2 hours from ordering, all this is possible due to artificial intelligence handling automatic inventory and replenishment management which has eliminated human error and quick delivery time likes are possible.
- Consumers have become more conscious in terms of shopping only necessary items i.e., shop only which is having the need and not just impulse buying, seeing this new trend in consumer behaviour the marketers by utilizing (AI) powered digital marketing started advertisements across all online media and shopping platforms with the frequent advertisement of a particular product or services depending on past and current online activity of a particular user which induces and creates temporary stimuli to buy things which maybe not required for as per planned budget of a user.
- As consumers began to spend most of their time at home and began to work from home itself due to frequent Covid 19 restrictions they spend more quality time with family has led to a greater entertainment demand and consumers began using the OTT platform frequently which gives theatre-like experience to consumers at their home itself and at a lower cost compared to cinema ticket prices. Thus, it is clear that consumers were satisfied using OTT's services offered.

Figure 4: Changes in consumer Behaviour and New expectation with reference to (AI)



Source: Smart Insights (Marketing intelligence) Ltd

4. Drawbacks of (AI) regarding consumer satisfaction and retention:

Every technology has its own pros and cons likewise artificial intelligence has its fair share of advantages and disadvantages, following are the list of drawback of (AI):

- **Ethical usage concerns:** As all consumer shopping related activity data is stored by the organisation from shopping preference to all payment related details, which is gross breach of security at individual level still some marketing agencies collect these consumer data and sell it for a price to other organisation in need of this vital consumer data which raises privacy issues. This itself can discourage consumers in longer run and switch to more secured platforms of buying which is safe.
- **Market Collusion and Concentration:** The nature of AI technologies makes AI-driven markets very prone to collusion and market concentration, ultimately resulting in loss of choice and higher prices for the end consumers. Studies also talk about M2M (machine - to - machine) communications and self-learning algorithms figuring out ways to coordinate prices without their developers/users being aware of it; or how the increasing use of pricing algorithms combined with growing market transparency could result in tacit collusion. (Source - CUTS CCIER - Udai Singh Mehta and Shubhangi Heda - 2020)
- **Disparity in pricing:** Some organisation may try to manipulate prices using geo-location specific data and charge different prices for different region of consumers for the same amount services offered online.

5. Conclusions:

Both Artificial intelligence and (consumer satisfaction, retention) go hand in hand as both are dependent variables and very vital aspect of 21st century, especially post pandemic artificial

intelligence has proven its grip on increasing consumer or user satisfaction level by actually understanding their deep subconscious desires towards a product or services just by merely tracking their online behaviour across all (AI) driven devices and simultaneously it is able hook on to customer for a specific brand for a longer duration, it is evident that artificial intelligence is able to serve consumer needs very precisely and it is proven that artificial intelligence is a boon for humans and helps in scaling up business positively as it would have helped organization with vital feedback and information about consumer's expectation which can be thoroughly analysed and addressed. Thus, in simple terms artificial intelligence has direct bearing on increased level of consumer satisfaction and retention strategy.

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