

Critical Research On How AI Will Help Make Better Marketing Decisions

Dr. Ritika Singh¹ , Ms. Priya Pandey²

¹Assistant Professor, Sri Balaji University, Pune

²Assistant professor, Alard institute of Management Sciences, Pune

Abstract

The main purpose of this present study is to evaluate the current literature related to artificial intelligence in the field of business decision making at strategic level. The system of AI is liable to reduce the human efforts in such processes and adding fuel to other respective areas of business operations. For the sake of assessment the researcher has considered secondary in the form of previous studies and tried to relate the same to the present day operations in business. There are strong implications for all businesses, particularly large businesses in competitive industries, where failure to deploy AI in the face of competition from firms, who have deployed AI to improve their decision-making could be dangerous. Till the present time minimum efforts are being made to assess the relation of AI with strategic decision making process, hence the researcher feel that this present piece of study will certainly add value to the overall gamete of AI application to business.

Keywords: Artificial intelligence, Strategic decision making, comparison to conventional mode of decision.

Introduction

The definition of Artificial Intelligence as given by Accenture states that AI is the use of numerous technologies with the help of high configuration computers that can sense, analyze, provide knowledge outputs and relate the same to the higher level intelligence of computer. Many of the individual experts and organizations have used these features for the purpose of upgrading their present state of knowledge and even business, some have presented really astonishing results, like in the case of education, manufacturing, processing and even services. But marketing as separate process is still in the brainchild state. **Awalegaonkar et al (2019)**

AI is that specific branch of computing that is associated with the development of intelligent machines and these machines are able to process the information in more precise form and provide results as

human think tanks. The backdrop of this AI can be traced back in 1950 when a turning test was conducted to assess the closeness of results from computer intelligence and human beings, the result stated that computer is able to achieve the cognitive process of thinking like human beings. AI is based on the perils of machine learning, as AI enables the involved machinery to learn and save the experiences automatically and process the same as and when required. Then there is another term involved in the same i.e. deep learning, this is related to the neural network and collection of countless algorithms that can mimic the human intelligence. For example the 'People also ask' popup while running query on Google. The overall system of AI works on the basis of above said neural network and algorithm sets, very closely related to the problem solving ability of humans and replacement of the same with machine generated results. Here it is important to mention that in the year 2015 Google developed the 'Rank Brain' algorithm that was capable of answering the query of users on its own, this is based on the power of AI that can learn, experience and respond to queries on its own. This system not only answers the recent queries but also forward the same answers to all the likely queries raised on Google at any point of time.

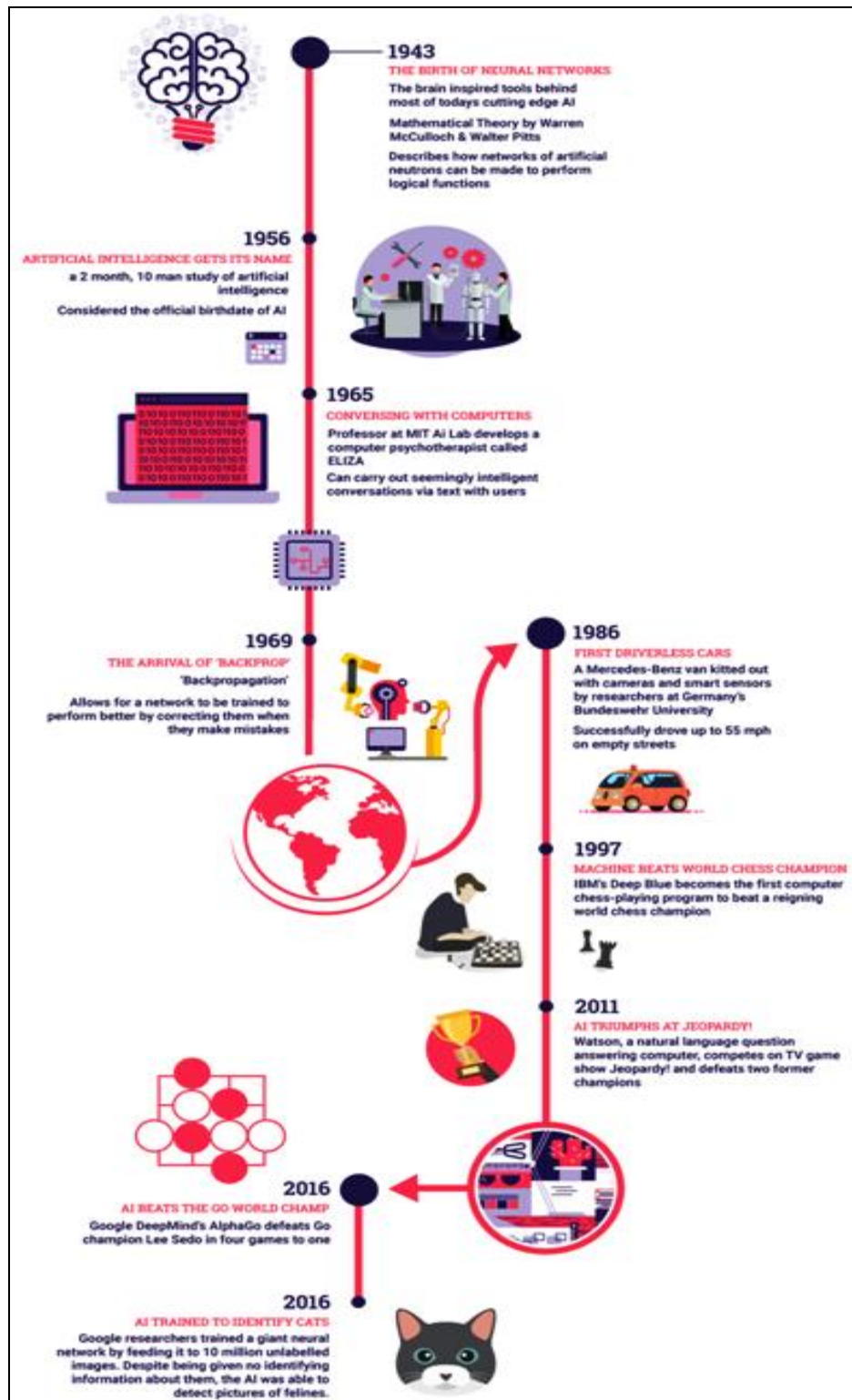
In the final years of 20th century AI was introduced to the business and since then it has taken a number of shapes and forms, many relevant formats of the same were added and deleted every now and then. As a matter of fact, collaboration of human beings and computers is becoming more strong in case of decision making, these decisions are related to human resource management, warehousing, inventory management, hiring, etc. in terms of marketing the most basic operations are related to STP (Segmentation, Targeting and Positioning) that is very closely related to customers and products/services that the company is offering in a given market. Some other AI enabled processes can be designing, advertising, pricing, etc. that can increase the market value of the given organization. **Marinchak et al (2018)** apart from the above mentioned areas AI is having certain other applications like selection of business models, choice of strategies, selection of profitable markets, forecast competitive positions, etc. many of the multi-national corporations have made progress of certain level in these areas and some others are waiting for right timings and favorable market conditions.

Strategic application of AI is not generally discussed in public domains as because it is a costly affair and need structural changes to be made in the basic infrastructure of the organization at the operational level. Although some of the international players (specially in IT sector) have made substantial amount of progress in this regard but still they have not made the resultant and projects public, may be this was a trade secrete or the line of trade secrets. **Schrage (2018)** Some of the social groups and human welfare

groups persist that AI is the replacement of human beings from basic operation of business moreover at strategic level. This can also be connected to decision making power of human over machines and respective quality of these decisions. But still it is to be understood that main application of AI lies in the precision level of decision making process i.e. the decisions can be made quickly, tailor made solutions are available, best suited (simulated with multiple outputs) decisions and even related to theoretical framework of the decision making criteria. **Brock et al (2019)**

AI Marketing

AI marketing can be considered as a process of adding value to the available data of customer, now there was time when such data was maintained CRM process and messages, flyers, etc. were send to them for the new products/services but in the 21st century this data is processed to the highest level of precision and may be used to predict the next move of a given customer at a given point of time. The data science was having its effect in education till the final years of 20th century but the market players have taken the opportunity to use the same for strategic opportunities in the open market. Previously any data was stored with the CRM department of the organization and lots and lots of memory use to exhaust with digital dump, but in the present times only the data of strategic use and high relevance is saved.



Source: <https://hurree.medium.com/> (June 2021)

Figure 1: History of Artificial Intelligence

On the other hand, with the progressive development of technology storage space is increasing on different platforms, like cloud storage, virtual storage, etc. till the year 2020 40 zettabytes of data was created at global level and 23% of the same was created by corporate worldwide. Here it is important to mention that most of such data was not structured and created in evolved manner. Thanks to development of advance analytics that has provided solutions for the structuring of such data in the times to come and even made it easier for the corporate to use these data in more efficient manner. Actually AI can process all the structured and unstructured data in a more precise and exponential form, this can also be stated that such processing is more precise than human mind in certain forms. Machine learning is the key to success i.e. merely stating customer point or the decision points is not sufficient organizations are required to leverage the customer data in right direction.

Objective

This present study is taken up to analyze the different components related to artificial intelligence and appropriateness of the same in business decision making on strategic level. As a matter of this study will also assess the need of AI as a tool of precise decision making at all levels.

Research Methodology

Type of Study

- The nature of this present study is exploratory hence the researcher has considered secondary data for the same. Apart from the orientation of this present study the researcher has considered secondary data for the purpose of understanding background of study and also to reach the basic objectives of the study.

Sources of Data

- Where ever secondary data is used for studying a given phenomenon then it becomes very important that the sources of data are authentic in their approach and also the basic sources of data are reliable. In the present study researcher has mostly considered the secondary sources of data and kept the track that the respective sources are authentic.

Some of such sources are given below:

- Websites
 - Ministry of Information Technology, Government of India
 - World Economic Forum

- International AI related forums
- Annual reports of IT industry (India and Abroad)
- Published sources
 - Articles published in national and international arena
 - Various research articles and papers published in national and international journals

Period of Study

The respective period of study is around 10 years i.e. 2010 to 2019, main reason of considering this period was that maximum development in the field of AI had taken place in the last ten years. On the other hand in various basic resources for the development of AI had emerged in this period, like IT related infrastructure and peripherals, advancements in internet spread, development of software industry, developments in the field of software industry, etc. as a matter of fact some of the related advancements are taking place on regular basis.

Part A-Process Evaluation

Background of AI Application in Marketing

The orientation of AI in business, specifically in marketing can be considered as a growth process i.e. the development was slow at the initial stage and then gradually reached a progressive stage. Advance analytics in computing and software industry has provided this a boost, here the term analytics state the problem handling ability of the overall system. The ability has taken years of research and evaluation to reach a suitable height. It is important to mention that at the initial level the overall system was unstructured but after the stride was taken up at the global level and experts understood the application and reliability of the same then, with some important inputs, this system was defined as AI. In actual sense there is some sort of difference between advance analytics and AI i.e. the capability of automation, system of returning back to basics, use of inverted loops and continuous improvement; all this is very closely related to machine learning.

This is a well known fact that the overall system of marketing is related to real time decision making and these decisions are generally wide ranging and the resultant use to decide the future of the given organization. In the present scenario the process of marketing has also become IT enabled and the new term was coined in the recent past i.e. 'Marketing Technology', this is now religiously used in front line marketing operations like contact centers of the marketing related resources and management centers.

Such centers assist in the deployment of AI in marketing, this process can be understood in a manner where extensive use of computers is made in the different aspects of marketing and the data generated in the process is used to support the marketing related decision. This system is somewhat different from the real life simulations.

Data Related Issues

This can be a million dollar question i.e. How ethically the customer data can be used? Because the present day marketing system is focused on emotional side of the customers and also making different use of their data (mostly personal) then computer based decision making system is involved in the process in the form of AI, more over this system is taking decisions as well. It is not so that legislative agencies are not involved in the same but then again it is difficult to differentiate between good and bad data or the good/bad usage of the same. **Wright et al (2019)** This can be explained in a way that a company might know that what product or service is considered by which customer when a customer is going to visit a particular store or a mall. As the marketers state that serious infringement of data is not made but then again it is a matter of observation for them.

Channelization of Customers

Services are the new regime of customer expenditure including government services and this also includes government expenditure. Services are able to extract a rich amount of data on consumer behavior, their usage pattern and even the purchases. **Stone et al (2017)** More and more people are getting closer to the smart devices their patterns are getting recorded and these patterns are helping organizations to channel their products and services to the customers in a profitable manner. This overall system of channelization has emerged on surface after the advent of online retailers like Amazon, Flipkart, e-Bay, etc. as far as advertising is concerned Google has topped the for a long time as it gathers piles of AI enabled data and using the same to identify customer patterns of website visit to final purchase of a product.

Part B-Use of AI in Strategic Management

Strategic Decisions

Decision making is one topic, on which piles of material can be produced and even then a meager percentage of the same is covered. Strategic decision making is covered as a subject in most popular business schools and every single student is required to attain a particular level of perfection in the same. All this popularity and importance attained by strategic management is because every company

wants to know about the process and specific outcomes of the same. There are a number of instances where the wrong decisions had cost highly to the organization. Such decisions are based on the following criteria:

- Endogenous and extrogenous factors
- Readily involvement of top management
- Behavior and thought process of top management
- Consideration of other employees to work together
- Various issues and concerns of the team involved in the same
- Appropriation of technology at different levels
- Most of the issues related to cognitive processes of the organizations

System of Planning

Planning process in the organizations is as old as 50 years or so, at the initial level most of the work was handled by the management consultants, then at the later stage many of the processes were managed by the academic experts, here most of the experts were related to specific field of study. Gradually these processes handled by the academic experts were handed over to a number of other expert groups i.e. market experts, AI enabled services, IT enabled infrastructure, variable systems, etc. here it is important to mention that in most of cases classic research agencies were involved in the process and had taken the same to next level of association. **Woodcock (2014)** previously used CRM system was converted into the digitally enabled market support system and the same was appreciated by the corporate at large. **Chaffey (2019)** this association of data was not easy to handle i.e. machine learning, digital support, experts of the field and many other concerned agencies joined hands to bring a better impact on the governed systems. **Aberg et al (2017)** one relevant issue was the quality and authenticity of data i.e. sources from where the data is coming and processing of the same at the home ground, both were variable at the same ground and importance of the same can be understood as the positive or negative decisions made by the firms. **Lee et al (2019)**

Tools used

At the strategic level number of tools were used to take a specific decision and then a successful strategy is formulated, there are a number of tools available in this regard i.e. SWOT analysis, ANSOFF Matrix, BCG Matrix,, etc. but these methods were orthodox to be used in the same form they were available to the public. At the next level these systems were integrated with digital platforms and a

number of other systems were integrated with the same. This was not an easy task i.e. it took a long time to bring the system to a substantial stage where the experts can extract value from the same.

Apart from this some of the help was taken from the different field of studies like Operations Research, Statistics, Computer Science, etc. and then all of them were associated to the basic system of AI.

Part C- Perils of AI in Strategic Decision Making

Important benefits

As discussed above AI is having a number of advantages as far as its application is concerned, the first and foremost advantage can be associated with the pace of decision making i.e. the expert views and systems are liable to increase the pace of decision making (at right time and place). As a matter of fact new data is always coming in from different sources and the responsibility lies with the experts to analyze the same on real time basis and keep the organization in a decisive position. **Johnson et al (2017)** Then on the other hand, there are certain instances where the data is missing from the database i.e. customer deny to re-visit or re-purchase the products/services or may be new market is added, such data can be identified on the basis of geographical segmentation of the markets. Then AI is suppose to assist the organizations in identifying and increasing the rationality at different levels and also helps in keeping the human biases aside as this can hinder the overall system of decision making. AI is suppose to prepare a rational and common basis for the decision making of the experts and this has to be done at the right time and right place. **Stone et al (2014)** Then the machine learning is required to store all the experiences on real time basis and come out with certain decisions as and when required; these leanings are unbiased and rational in nature. Also the quality of decisions taken by the system of AI is more profound as compared to the human interventions.

Application Areas

S.No.	Area	Application
1	Target Markets	Information can be acquired and assessed on real time basis and automated at the same time, this enables the decision makers to increase the pace of decision making. Here the outcomes of different strategies can be compared and test-market the results.
2	Branding	The brand evaluation system has emerged on virtual platforms

		and comparison with other companies can be done without any extra cost. Strong presence of a given brand can be established in a given market. This is also related to the shifting of brand image, social media presence and real time feedback of the users.
3	Product	Various inputs from the side of customers can be tracked, like in case of product design, appearance, etc. some sort of product customization can be handed over to customers as well. simulation results can be applied at the same time.
4	Price	Tailor made pricing can be offered which was not possible in the conventional mode of advertising and promotion. This will increase to tracking efficiency of the brand value in terms of product price.
5	Making PR work	AI will increase the value of a given brand on virtual platforms and the efforts of the organization can be directed to more crucial issues. In the present times public reviews are having apex importance in case of online or offline buying. Good relations with the customers can be made over virtual platforms.

Conclusion

Artificial intelligence is helping the organizations to put their efforts in a more refined manner and attain higher returns from the same market, machine learning process and producing tailor made solutions to age old issues are some of the major USPs of this overall AI system. Shift of procedural aspects from conventional mode to virtual format has taken a long time and still there is no end to the development process. **Foss et al (2018)** But still there is a need of more versatile and deep research in this regard i.e. it is required to ascertain that what is next level of collaborating IT with decision making process of the organizations at strategic level. **Saebi (2018)** Till the recent past such decisions were taken over a round table and multiple options were kept at hand to replace the less profitable once but AI has shorten this process and brought down the time and efforts of the organization to minimum. Then on the other hand cultural aspects and wide attitudinal aspects of the customers' need more rigorous

studies as these are the important aspect in case of business decision making process. Also the decision making environment may change at the pre and post decision making scenario.

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