

The Importance of Artificial Intelligence in Start-up, Automation, and Scalation of Business for Entrepreneurs

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Abstract - The integration of artificial intelligence (AI) into business operations has brought about a revolutionary shift, creating a wide array of applications across diverse sectors. The contributions of AI technology are multifaceted, encompassing the reduction of repetitive tasks, significant enhancement of customer experiences, and a measurable boost to employee productivity. Importantly, AI technology has been instrumental in eliminating human errors and pre-empting potential crisis scenarios, marking a transformative change in the operational dynamics. However, these significant advancements have not been without their challenges. Ethical considerations, potential biases in decision-making processes, and legal liabilities persist as complex hurdles to be addressed. This paper emphasizes the critical need for a well-structured and meticulously planned approach to AI adoption. This includes prudent strategic planning, careful budget allocation, rigorous attention to data security, and comprehensive training of staff. As the vast potential of AI continues to unfold, it signals a promising trajectory for the business world in the years to come. With mindful implementation, diligent oversight, and effective management, AI can indeed serve as an invaluable tool in achieving strategic business goals, propelling organizations towards sustainable success.

Index Terms - Artificial Intelligence, Business, Marketing, Sales

INTRODUCTION

The ability of a digital computer or a computer control robot to perform tasks having an association with an intelligent being is termed as Artificial Intelligence. It refers to the kind of a software engaging human like activities like planning, reasoning, problem-solving, discover meaning, generalizing, and learning from past experience [7].

BASIC CHARACTERISTICS

There are problems that requires human being for its solution. Artificial intelligence designs and implements such computer systems which has an ability to solve these problems. Such problems could vary from simple to most complex which a classical algorithmic method cannot solve. For this purpose, the manipulation of symbolic information is done by artificial intelligence program.

About a domain of application, AI uses various kinds of knowledge. The problems of knowledge usage, representation and acquisition are the base in AI development and research. AI does not only have association with computer science, but its projects are also linked with linguistics, logic, cognitive sciences, etc. It is also applied in different fields like finance, medicine, bank, industry, etc. Some of its domains are as follow:

1. *Theorem proving*: Without the demonstration of new theorem, the machine is still able to give substantial results. This is the reason it is important to understand the essential aspects of control and reasoning in the field of different games.
2. *Natural language processing*: It covers wide number of activities like generation and interpretation of sentences for automatic indexing, man machine dialogue, computer-aided translation, access to databases or services, retrieval of documents, etc. To understand the text or the sentence being processed, such activities necessitate efficient contextual reasoning techniques and large bodies of knowledge.
3. *Speech understanding and recognition*: In this domain, the decoding of the speech signals is difficult. For word control systems which are isolated, as for continuous speech recognition including transcription and dictation, commercial products are available. By using knowledge-based reasoning methods to understand a sentence is necessary for designing a real man machine dialogue systems by sound.
4. *Image interpretation and vision*: It is important to understand the image interpretation for inspection, diagnosis and for robot guidance, etc. Process of reasoning based on knowledge is important to understand to some extent a scene or an image.
5. *Robotics*: Mechanical engineers have made advancements in the actions and movement sequence of robots. AI methods are incorporated in different aspects of their perception, behavior, planning, reasoning, etc. There is still a need to give more knowledge to robot about

everyday life for their smooth functioning in a human environment.

6. *Expert systems:* A small amount of knowledge has made such systems capable enough to make intelligent decisions by interacting closely with a human being or autonomously. Advancements have been made in implementing and understanding reasoning modes [20].

APPLICATIONS OF ARTIFICIAL INTELLIGENCE

The first type of AI is Machine learning which has a profound impact on the development of business in today's world. It processes and analyzes large amount of data in no time and also identifies patterns and anomalies. Such artificial intelligence algorithms take time to be learned. The modelling of these algorithms gets more better upon feeding more data. For example, if a machine starts works at a capacity which is lower than its normal capacity in a manufacturing plant, this algorithm notifies it to the decision-makers after identifying it that there is a need to fix this issue. The more specific version of machine learning is called deep learning which engages nonlinear reasoning relying upon neural networks. By analyzing multiple factors at once, it detects frauds. These models are comparatively more independent, detailed, and scalable. Deep learning algorithm contextualize all the information received by sensors and make predictions which helps in future decision making after calculating this information. The ability to capture data is associated with machine learning algorithm. However, upon adding more data, the planning models improve their performance [19].

Study Research

A narrative literature review was conducted with the aim of understanding the implications of Artificial Intelligence (AI) on business operations. This method, noted for its rigor and structured approach, was chosen over other qualitative methodologies. Data for the review was entirely derived from an extensive survey of secondary sources such as academic journals, books, articles, blogs, and websites. The criteria for inclusion in the review were focused on businesses that had integrated AI within their marketing functions. From the survey, it was found that 30% of these companies asserted that the application of AI in marketing operations led to increased time efficiency and a more streamlined process. This, in turn, resulted in improvements in marketing performance including enhanced ROI, better conversion rates, and deeper insights into marketing decisions and customer information. AI-enabled software, as documented in some sources, was also being used for new product development and pricing strategies. The incorporation of AI, it was suggested, can lead to superior customer service by providing increased value, thus improving customer satisfaction. The review revealed that AI has been adopted in different ways: 40% of businesses used it for formulating marketing strategies, 30% used it for decision making, and the remaining 30% implemented AI primarily as a means of saving time [18]. Study in the

Harvard business review state that by using AI for sales, 40 to 60% of the cost can be reduced, more than 50% of the lead can be generated, 60 to 70% of the call time can be reduced. [3].

Uses of Artificial intelligence in sales

Based on historical sales results and client interactions, creation of accurate and automated sales projections can be enabled by Artificial intelligence. Lead prioritization is one of the significant role of Artificial intelligence. On the basis of probability to convert, it helps sales professionals in prioritizing their customers. It combines social media postings, customer interaction history and historical information about the client and use algorithm to rank the leads which can increase their chances of success. Sales are improved by 67% by chatbots. A tailored message generated in the beginning helps it easier to start a conversation with the customer. Artificial intelligence algorithm saves times by sending personalized messages to several customers and generating personalized emails [8].

Using artificial intelligence in marketing

Artificial intelligence plays an important role in improving operational efficiency of the organization while increasing customer experience. Team workload can be reduced, and conversion can be increased by acquiring deeper insight into targeted customers using AI. Automation of workflow is the result of optical character recognition and natural language processing. It makes all the handwritten, printed, and scanned documents capable of reading and understanding [9]. Internal operations of the company are transformed by Artificial Intelligence. To provide recommendations, maintain calendar or manage emails, Artificial intelligence bots can be used as a personal assistant. Artificial intelligence assistance can also be utilized for dealing with customers queries providing an extra time to HR to focus on implementing strategies for the growth of their business. Through intelligent personalization, it improves visitors experience. It can aid in the personalization of website experience, image recognition, push notifications and SEO optimization. Users' details can be analyzed through Artificial intelligence during interaction with the website and on the basis of analysis, most relevant offers appear on the display. For individual users with behavioral personalization, push notifications can be tailored so that they get the most relevant message at a specific time. Recommendations are also based on computer vision. To gain knowledge about the products or services used, marketers use pictures published on social media sites for analysis. In SEO, search volume tells the number of people looking for a specific product or service [12].

Using artificial intelligence in customer support

Specific audiences can be targeted using AI by identifying patterns in an individual's search behaviors, providing them the knowledge they're looking for.

Artificial intelligence is introduced in customer service through which customer service experience is enhanced and to resolve the issues of customers since it is challenging to look into the matters of each customer while scaling a business. Chatbots are considered as front-line customer service agents and they help communicate with the customers, fix their issues, and manage company's jobs. It identifies the need of the consumer and connect them to the right person. It assists consumers 24/7 and reduce their weight times without a human employee. Voice bots and chatbots have a similar function. Artificial intelligence voice bots listen to the caller, interpret their mood, and detects the seriousness of the situation. Frequent questions are usually answered by the voice bot but for other queries they are connected to an appropriate person [11].

Using artificial intelligence in accounting

AI automates tedious activities, covers the trends which are hidden and improves accuracy and efficiency. The tasks which require repetition in work can be reduced which eventually decreases employee's workload. For example evaluating employees expense report, reconciling accounts, recording data, tracking pricing changes, entering, and coordinating data from receipts and invoices, categorizing transactions, are the time-consuming and repetitive tasks which can be done with the least error by AI. Payroll is also altered by Artificial intelligence by analyzing data, learning from failures, and solving issues strategically [9].

Using artificial intelligence in Human Resources

Remote work forces are expanding, introducing new dynamics, and putting a greater emphasis on inclusion and diversity and virtual recruitment. It also analyzes candidate's potential based on their interests and previous experience of work making it easier to hire the right candidate in a hiring process. Artificial intelligence analyzes formal and informal relationships in the business to make a company more successful and sustainable. It increases exchange of information by developing businesses strategies [1].

Using Artificial Intelligence in Contact Centers

Customer relationship management system has been changed by Artificial intelligence. To remain current and accurate, few software requires heavy human interaction. AI also plays a role in relationship management by transforming the system into a self-updating and auto-correcting system. Efficient customer service is particularly important which can be achieved by Artificial intelligence which helps organization to understand their clients. To recognize the words which indicate urgency, Artificial intelligence models can be used to pick up crisis-prone words or sentences. Artificial intelligence voice bot presents the offer to thousands of people, respond to their queries, and direct them to the right person to achieve business success [16].

Using Artificial Intelligence in Operations

Complex operations are made easy with the help of Artificial intelligence by automating service processes leading towards a successful digital transformation. IT practices are improved by Artificial intelligence. It can automate cyber security and software maintenance task. It also detects threats in the system, monitors its patterns and save the company from cyber-attacks after finding the source and taking precautions to prevent from future threats, maintaining organization system ensuring smooth operations by preserving infrastructure. IT operational friction can be reduced by Artificial intelligence by the use of Blockchain technology and robotics which assists in managing information. Business processes are first automated by digitalization and then the customers are allowed to use applications based on innovative technology [15].

CHALLENGES

The increase in the application of artificial intelligence into different aspect of life is making it challenging for the organization to improve efficiency. With these developments, there is a rise in regulatory, ethical and policy issues. AI development can only be achieved with a data friendly ecosystem. The availability of data for exploration is a key to AI advancements in nations like US which ranks 8th on data openness globally [2]. AI systems can lead to biasness and discrimination. For example, Harvard business School conducted a research which stated that roughly 16% of the America-African named Airbnb users were accepted as guest than the ones with white names [10]. Face recognition software also leads to racial issues. It operates by comparing one face with all the faces present in their database. If the data is embedded with Caucasian faces, the program starts recognizing it after learning. However, if the databases is encoded with a diverse data, the attempt to recognize Asian-American or African-American feature is poor [5]. It also gives rise to ethical considerations. The major concern is the criteria which is used in automated decision-making [14]. Algorithms are used for enrolment decisions in many urban schools of United States depending upon several considerations like demographic background, preferences of their parents, income level and neighborhood qualities. The New Orleans-based Bricolage Academy provides up to 33% of the available seats to the poor applicants. In most of the cities, their preference is to prioritize children of school employees, families living within the vicinity of the school and siblings of the current students. The setup of AI system is in such a way that it can discriminate people against individuals they don't like. It also builds rosters or help with screening of people on the basis of unfair criteria. Such considerations matter a lot in the system operation and their effect on customers [17].

Legal liability of AI systems is also one of the major concern. If the infractions, harms, or fatality is caused in cases like cars without drivers then the algorithm would fall under product-liability rules.

The governing body will determine the liability and penalties that will be imposed according to the case which could be a civil fine or an imprisonment. In other areas, there is a limited liability for all the operations happening at their sites. The company puts limitations on protection of the consumers and curtail their ability to fight against the discrimination caused by unfair algorithm by demanding users to sacrifice their basic rights [4].

RECOMMENDATIONS

In business processes, artificial intelligence must be implemented wisely to resolve the issues created by the bottleneck of the system. KPIs can be improved by automation. Artificial intelligence budget should be planned since it has a greater impact on the economic development of an organization. Human resource should hire employees having expertise and knowledge in artificial intelligence technologies so that they can achieve organization's strategic goals. Organization's data must be kept secure. Data's exploitation including access to personal profiles, payment data, sensitive data, consumer history can lead to dire consequences. The adopters of artificial intelligence have a concern because there is a possibility that artificial intelligence make the wrong decisions or come to the wrong conclusions. Ensuring the best results and preparing input data are the vital prerequisite of comprehensive data sets [6].

SUMMARY

Artificial intelligence has revolutionized business from many years. By implementing Artificial intelligence into business environment, time can be saved on repetitive task, customer experience can be enhanced and employ productivity can be improved from IT operations to Sales. It prevents human errors and mistakes and detects crisis. The range of artificial intelligence applications is becoming wider with each passing day and will expand more in the upcoming years.

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