
Role Of AI In Strategy Formation and Industrial Relation Building

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Abstract

Artificial intelligence is one of the emerging technologies in the business environment. The study has included an evaluation of the role of AI in business, the impact of the emergence of AI on business management and operation. The study has included the current scenario of the artificial intelligence market which has analyzed market growth rate investments and consumption of AI software in different industries. Moreover, it has included inference of AI on statistical management of businesses and the impact of the AI on industrial relations. Furthermore, it has provided recommendations regarding AI in the business environment.

Keywords: Artificial intelligence, strategy formation, industrial relationship, industry 4.0, technological advancement, skilled workforce, data-driven work culture.

1. Introduction

Integration of digital technologies into different industries and businesses has changed the trends of the global industrial sector. The rise of industry 4.0 is associated with several structural changes which are the common phenomenon into the modern business environment [1]. Furthermore, the adoption of digital technologies numerous business challenges has been resolved. However, several new opportunities and issues have emerged also. Artificial intelligence is one of the popular and renowned digital devices that has been adapted very rapidly in the business environment to utilize the modern world, which consists of information and data. AI became one of the major concerns of industrial policy makers to increase efficiency of AI devices into the business operation and management. Additionally, AI implementation into a business is also effective to gain optimal output level with minimal human interference. This is the reason behind the role of AI that needs to be evaluated during the period of strategy formation and industrial relationship building process.

2 Impact of the Emergence of AI

The emergence of artificial intelligence is with the motive to incorporate human thinking into the mechanical working process. The motive behind emergence is to reduce human interference into working of mechanics and increase efficiency. Automation is being applied into several fields such as industry e-services as well as personal devices which are replacing human afford and improve quality of job, which already existed and processed by humans. For instance, in a factory where engagement of humans is associated with probability of error in the working process, engagement of robots is effective to work without any probability of human error. Therefore, the adoption rate of air has been increased over the period as it is built with a powerful algorithm and capable of complex work without any error.

The adoption of automation in industry and businesses is white fast which signifies digital transformation and technological progress of the business environment. Moreover, industry 4.0 has also accelerated the digitization process which has provided data and information regarding business and non-business activities [1]. AI is capable of handling data processing, managing and usages which makes the relevance of AI implementation in business environments. Additional AI smart decision-making process in businesses through prediction of data regarding business [2]. It is also capable of providing 24×7 services to consumers without any middleman interruptions. Therefore, it is beneficial for the business to employ artificial intelligence as a tool to manage operations, which furthermore has boosted up the emergence of artificial intelligence.

Complex problem-solving, quick response and least time for work are the common features of AI, which has been identified by several business organizations all over the world. This is why the adoption of automated technologies into the business is becoming more crucial, which provides not only cost-efficiency but also

competitive advantages in an industry. However, the adoption of is becoming costlier to an organization as it consists of several complex algorithms and highly advanced technologies [2]. Moreover, an AI based machine is not capable of providing creativity output as it is not able to think out of box ideas regarding a product or service [11]. Creativity is one of the crucial elements for businesses to provide valuable services to its consumers and retain them. Moreover, emergence of is consisting and other social issues before the policy maker and strategy developers that is unemployment and lack of ethics in working of AI [13]. Although AI is providing numerous benefits to the business environment, it also has some serious disadvantages which need to be considered for strategy formation.

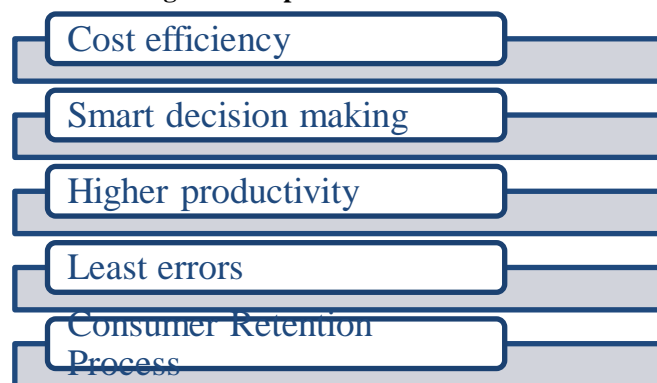
AI is one of the crucial elements of businesses in modern day which requires a highly skilled workforce to operate it directly impacts on the traditional workforce [10]. However, it also creates new job opportunities for highly skilled people who are efficient in developing automatic technologies. Hence the emergence of AI directly and indirectly impacts the industrial relations of businesses.

The emergence of industry 4.0 there are several concerns such as cyber security, data protection and others. Cyber security threats impacting the technologies. The automated technologies and devices are used to mitigate negative impacts of data security and cyber-attacks through quick response. Artificial intelligence is capable of preventing cyber security attacks and secure business data also. It increases the adaptability of digital technologies as well as AI. However, it has been also observed that AI is suffering from lack of ethics as it is omission it cannot differentiate between ethical and unethical process of working [10]. AI is also used by cyber attackers to attack digital devices and steal data and information. Thus, AI cannot be used as a replacement for human thinking and processing.

3. Role of AI in modern day business

The emergence of automatic technologies and the role of AI in businesses is expanding with time. Businesses are adopting automatic technologies for different reasons and purposes, which has been described as follows;

Figure 1: Impacts of AI on Business



(Source: [2])

3.1 Cost efficiency

Application of automated technologies into the business processes such as production on manufacturing of products are enabling low human interaction in the process, which is lowering the direct labor costs. Moreover, these technologies and devices are capable of working more efficiently which is effective for businesses to reduce its cost for operation and increase its productivity. Additionally, automated machines are able to operate several processes 24×7, which provides opportunities to expand business features and reduce cost of operation as it does not require help or assistance of any human. Therefore, the reliability and efficiency of AI devices is effective to reduce cost of business operation and gain high profitability.

3.2 Smart decision making

Capability of artificial intelligence regarding analysis of data not only provides relevant insights regarding several business factors but also reduces cost for analyzing data. Additionally, AI is efficient to provide accurate predictions regarding future demand, their need and others [2]. This information is effective to take

decisions regarding production distribution and others which is reducing cost of business operation and increasing efficiency [3]. Therefore, adoption of artificial intelligence is effective to adapt effective business decisions with accurate prediction by artificial intelligence [2]. Moreover, AI is allowing list human interference, which signifies list error into the dataset analysis that is used in the business decision making process.

3.3 Higher productivity

Production is a crucial factor of a business that is traditionally run by humans, where the emergence of AI has changed the concept. AI driven technologies are not only effective for producing products and services within stipulated time but also least error. Lack of human errors into the production process is providing high quality products as well as reducing cost of labor. This is affecting unit cost for production and increasing business profit. Additionally, these technologies are able to provide services to business organizations at 24x7 hours which is effective to produce large amounts of products as well.

3.4 Least errors

Another benefit for adopting AI technologies is that it consists of low error because of lack of human intervention into its working. Highly accurate processes are effective to engage business into large scale operations, which not only provides opportunity for increasing profit but also expanding business.

3.5 Consumer retention process

Driving technologies are capable of providing 24x7 services to the customers. The organizations which are adopting AI driven technologies, are gaining an opportunity to retain its consumers with automated communication such as online chats, calls, emails and others. Therefore, AI is effective at interacting with many consumers at the same time, it is capable of responding to all of them, which increases consumers' trust in an organization.

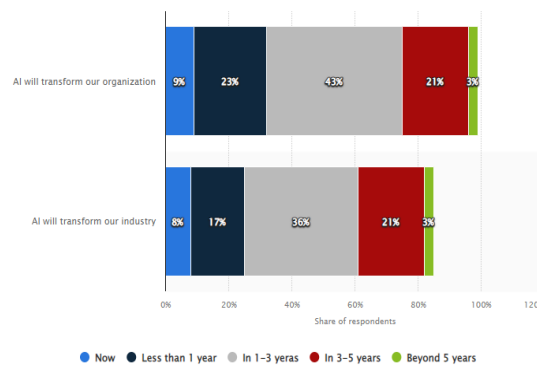
4. Current scenario

Current scenario of AI includes not only the consumption and spending on AI but also the market of artificial intelligence, investment on AI technology and others.

4.1 Market Overview

The global market size as well as revenue for artificial intelligence technologies and software are increasing because of its adaptability and efficiency [3]. The market will further grow as the organizations are focusing on adopting artificial intelligence technologies to improve their productivity and reduce cost. IBM is one of the leading business organizations which has a strong hold on the AI market, it is not only developing air technologies but also provides reliable devices which has enhanced its market share and revenue. AI technologies are transforming business organizations very first which shows a high adoption rate of this technology in future.

Figure 2: Business organizations' transformation statistics

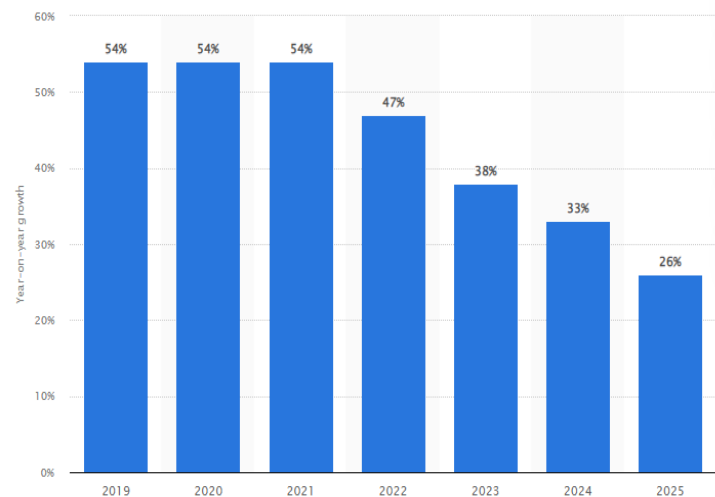


(Source: [4])

4.2 Market Growth rate

The future expected growth of AI market share is also significant. Figure 1 is representing that the current growth rate of the AI market is nearly 54%. The reason behind high year-on-year growth rate of AI market is the fast adoption of air technologies by business organizations. It also signifies that in future there is a high probability to engage AI technologies into all business operations.

Figure 3: Expected year on year growth rate of AI market (2019-2025)

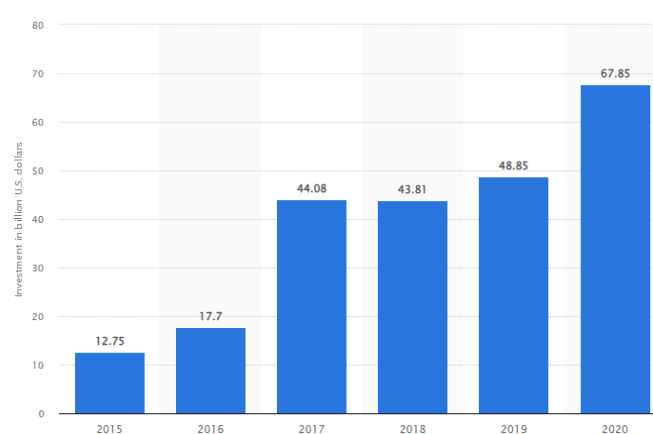


(Source: [4])

4.3 Investments

The global industry is adopting AI-driven technologies increasing over a period of time. However, it has been observed that the investment on AI was high during financial period 2020 [4]. which signifies that during the covid-19 pandemic business and industry has focused on automated business management processes to ensure high productivity with less human intervention.

Figure 4: Investment on AI technologies (2015-2020)



(Source: [4])

4.4 AI consumptions

During the period of the covid-19 pandemic the consumption of artificial intelligence technology was highest which was consumed by different industries. It has been observed that the adoption rate of artificial intelligence was highest in the retail sector and financial services because of Data analytics features of AI. It is sufficient to provide accurate predictive data regarding consumer demand preference and other insights and also analyze financial statements. Inclusion of humans is associated with chances of error where it is providing

output more accurately and less time-consuming device which provides value information. Moreover, AI has also been incorporated in healthcare, infrastructure and other industries.

Figure 5: AI adoption worldwide 2020, by industry

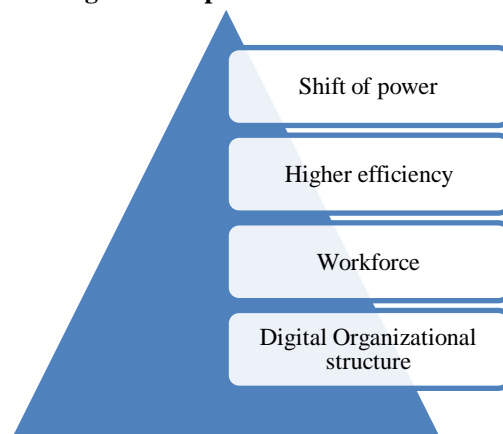
Characteristic	Human resources	Manufacturing	Marketing & sales	Product/service development	Risk
All industries	8%	12%	15%	21%	10%
Automotive & Assembly	13%	29%	10%	21%	2%
Business, legal, and professional services	13%	9%	16%	21%	13%
Consumer goods/retail	1%	19%	20%	14%	3%
Financial services	5%	5%	21%	15%	32%
Healthcare/pharma	3%	12%	16%	15%	4%
High tech/telecom	14%	11%	26%	37%	14%

(Source: [5])

5. Influence of AI on organizational management

Adoption of AI technologies in a business organization consists of several changes in its internal environment and workplace, which directly impacts performances and productivity of that business. Impact of these changes is as follows;

Figure 6: Impact of AI on Business



(Source: [6])

5.1 Shift of power

Adoption of artificial intelligence into a business organization signifies a sudden change in controlling of business activities. Before the adoption of artificial intelligence, the controlling and monitoring processes were handled by humans, whereas artificial intelligence is capable of monitoring and managing all organizational activities alone. Therefore, the power of administration and monitoring shifts from humans to machines, which is a radical change in a business organization and its working environment. Additionally, AI does not require

human intervention in its working process which highlights list human interaction with machines that is a reduction of workforce [6].

5.2 Higher efficiency

Human intervention into the production and manufacturing process consists of probability of error into the business operations, whereas working of AI consists of high accuracy and list errors. Therefore, the efficiency of artificial intelligence is higher than the human work force. Moreover, AI driving machines are capable of working 24/7 without any break, which is highlighting the effective productivity of AI driven technologies [7].

5.3 Workforce

Adoption of automatic technologies reducing traditional work force volume and maintaining a highly skilled workforce [7] A highly skilled workforce is sufficient to provide more valuable output to a business organization so that it can operate its businesses more efficiently. Moreover, reduction in the number of laborers is effective to reduce wage costs, with increasing output.

5.4 Organizational structure

Adoption of artificial intelligence is changing the organizational structure. The emergence of AI technologies is enabling distributed responsibility. Moreover, it is enabling decentralized decision-making and working processes where AI is providing relevant information regarding business information such as demand for products and others. This adoption of AI technologies is changing the requirement of skills for management and changes in the structure of and business organization to utilize these technologies efficiently.

6. Influence of AI on Strategy formation

Artificial intelligence is very much even with the business strategy formation as air technologies are incorporating in the business landscape [8]. AI is one of the crucial components in development and execution of AI in modern businesses.

6.1 Positive impact of AI on strategic management

To enhance competitiveness in the period of technological advancement in the business environment it is necessary to include automated technologies into the business strategy to improve organizational management [9]. Inclusion of a is consisting of several dimensions in a business which are as follows;

6.1.1 AI-driven Strategic management

Strategic management of business operations is becoming easier for the organization which has adopted AI. AI driving strategic management of business processes includes collection of business data and its analysis for gathering information and insights over organizations position and state. Analysis of data related to the business organization provides several insights regarding the business process which reflects drawbacks and flaws, from which the business is suffering and also provides data enabling the decision-making process to apply changes more efficiently. In other words, emphasis on organization structure changes so that it can improve its business operations and enhance its productivity. Strategic management process not only provides relevant information and internal environment of a business but also analyses external situations of business [10]. Data best realistic position reflection provided by AI is effective to analyze organizations market position. Therefore, analysis of business data provides an opportunity to improve the strategic management process of a business so that it can achieve long run goals and objectives through its operations.

6.1.2 Improving organizational strategies

AI-driven technologies are also improving a business organization strategy for its posse activities such as marketing production distribution and others [11]. For instance, the data analysis provides accurate predictions regarding future trends of business such as consumer demand, required materials and supplies, seasonal fluctuations and others [12]. It is effective to enhance efficiency of the business regarding production inventory management distribution channels and others. Moreover, AI is capable of working automatically without

human interaction. This reflects increasing productivity of business which also enhances changes in marketing distribution and other channels.

In addition, innovations of smart technologies services "smart warehouse management systems", automated devices are improving operations and utilizing allocated resources [12]. It enables effective control of business processes and reduces waste. Therefore, it is effective to reduce operational cost of a business organization and strategic operations.

6.2 Negative impacts on business

Adoption of AI is also associated with negative impacts on business letters to workforce skills and others [12].

6.2.1 Impact on workforce

Adoption is one of the technological advancements of a business organization. However, the workforce of the business is suffering from lack of skills to manage AI devices. Lack of skills impacts workforce performances as well as the utilization process of automated devices. In addition, it is impacting jobs of traditional laborers and reducing the cost of direct wages. This incident negatively impacts on employees of and business. Moreover because of lack of communication between employees and management, upskilling processes are being interrupted, which again disrupts the AI adoption process.

6.2.2 Impact on Creativity

AI is not capable of thinking creative ideas for products are services which reduces product differentiation. Due to lack of differentiation and creativity the business can fail to achieve its long-term goal. Lack of creativity affects reliability on AI technologies [12]. It can be said that AI technologies are efficient to produce products mechanically.

6.2.3 Ethics

AI has incorporated into the business to manage activities suggest production consumer services and others. There is a lack of ethics regarding working process AI [13]. AI needs to follow ethical as well as legal framework regarding data collection processes which often violate privacy policies. Because of this issue businesses are facing several challenges in implementation of AI technologies.

6.3 Recommendations regarding AI strategy formation

To address issue and challenges in AI regarding business management process are as follows;

6.3.1 Increasing communication

Internal communication needs to be more effective to encourage the adoption of AI. Communication can be effective to reduce challenges and internal issues regarding changes initiated in businesses. Effective communication is also effective to upskilling process.

6.3.2 Make changes in organization policies

Organization which is adopting artificial intelligence in its business structure needs to incorporate changes in its organizational strategies and policies to make a balance in the workforce [14]. Organizational policy requires to adapt a multidimensional approach to maintain stability of productivity in the workplace.

7. Impact of AI on industrial relations

Industrial relations refer to the relationship between employer and employees in an industry. It is clear that adoption of artificial intelligence is greatly influencing industrial relationships as the technology is capable of working more efficiently compared to human resources or laborers. The industrial relationship is mainly responsible for Major functions of a business such as production, marketing and operation. AI is also capable of operating these functions more efficiently and accurately. Therefore, the relationship between employees

and employers is negatively impacted by the emergence of artificial intelligence. Artificial intelligence is capable of working more efficiently which reduces the scope of traditional labours. However, the emergence of AI is providing new job opportunities for highly technical skilled persons and employees who are capable of developing AI.

7.1 Impact on traditional labor force

Traditional labour force was associated with business operation functions since the first industrial revolution period. However, in the fourth industrial revolution period, automation has changed the concept of the traditional work environment where the majority of the work is handled by automatic technologies which requires less human intervention. To operate AI technologies such as robots, automated chat processing units and others requires skills on technological advancement. Because of technological changes in business organizations, labour relationships with employers have been affected. The organizations which have adapted AI technologies require less laborers and employees which provides low cost of wages but reduces human resources volume. In other words, the emergence of AI technologies into business increases job losses and unemployment. However, it has been observed that new jobs are also created through this adoption process which signifies the shift of workforce from "low skill" to "high skill" employees [10].

The technological change has impacted the physical labour environment where the wages are directly correlated with skills. The new working environment of business organizations is run by real time data. The data is providing better insights regarding market and other business factors that the traditional labour force was not able to provide such insights more accurately. Association of low skilled labour force has a higher probability of errors in the functioning that result in loss in business. However, automatic technologies are working with high accuracy, which is profitable for business. Furthermore, these technologies are capable of working without any human intervention as well as any break. Therefore Automated technologies are more preferred by the business.

8. Recommendations

Artificial intelligence adoption process required in new work culture to utilize more efficiently.

8.1 Adoption of work culture

Data driven work culture is one of the crucial elements which is required to successfully adopt AI technology. Algorithms and implementations are focused on real-time Data collection process and analysis. However, a low skilled workforce is unable to process our work with AI technologies. Therefore, instead of technological changes in a business organization it requires to change its work culture primarily to successfully implement AI technologies.

8.2 Identification of business problem

Adoption of technologies in business organizations requires identifying business problems, which are affecting profitability and productivity. Identification of business problems helps to implement appropriate business strategy changes. It is also effective to make balanced changes in the workforce to maintain industrial relationships as well. A business strategy formation request to take all factors into consideration for maintaining work environment balance.

8.3 Communicate with stakeholders

Maturity of the internal conflicts arising because of lack of communication with stakeholders, particularly internal stakeholders. It is a result of lack of communication which needs to be mitigated through establishing effective communication channels among business organizations and stakeholders. Effective communication is also useful to get the support of stakeholders by providing them a reason behind as a reduction of AI. The support of the business community can provide a highly efficient workforce and business profit.

9. Conclusion

It can be concluded that the emergence of artificial intelligence is one of the major business environments changing tools which not only increases efficiency of business but also provides several facilities along with

higher profit margin. It has been also observed that AI has a great influence over strategic management of business but also industrial relationships. Incorporation of automatic devices and technologies are providing numerous benefits such as 24/7 hours support low intervention of humans and locus business operation. However, the direction of digital technologies consists of concerns such as lack of ethics, cost of devices and low creativity, which affects business directly as well as indirectly [15]. Industrial relation is greatly influenced by artificial intelligence as AI is changing different segments of industrial relations such as public relations, employee's relation and relation with competitors. The emergence of AI is directly affecting industrial relations positively as well as negatively.

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