AN IMPACT OF ARTIFICIAL INTELLIGENCE ON BUSINESS

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ABSTRACT: *In current technological era innovations and advancements are happening at the blink of an eye and thus this is perhaps the most thrilling period of human history. Working robots in industries, self-driving cars, fitness watches, and online tutorials are some of the Artificial intelligence (AI) technological innovations. AI has become an integral part of our lives and today and is impacting human, society, as well as business. Last few years have been remarkable for Artificial intelligence and today almost every business is reshaping their strategies and business models for adopting AI in each and every business processes. However businesses are yet not aware of the consequences of this AI adoption and thus its impact needs attention. Through this paper, we intend to find out the impact of AI on businesses by investigating business decision-makers and regular employees in business firms of Rajasthan state of India. The online survey tool is employed for data collection from sample. We have analyzed the data using various frequency table and graphs and one way ANOVA method. For the analysis 4 different parameters of business are considered that will help in ascertaining the influence of AI on business. Results of the analysis here shown that AI holds numerous opportunities and potential to transform the workplace and is now widely accepted. AI will help the businesses to get themselves ready for facing the challenges due to the rapid technological advancements in human life and business. AI has been proved to impact all the business operations positively, as it enhances sustainability and market leadership.*

Key Words: *Technology, Robotics, artificial intelligence, business models, automation.*

INTRODUCTION

The father of Artificial Intelligence, John McCarthy expresses a definition for AI which says that "Artificial Intelligence is the science and engineering of making smart machines, particularly intelligent computer programs".

Artificial Intelligence (AI) is intelligence shown by machines. In software engineering, the field of AI characterizes itself as the investigation of "intelligent agents". For the most part, the expression "artificial intelligence" is utilized when a machine recreate capacities that human's associate with other human personalities, for example, learning and critical thinking.

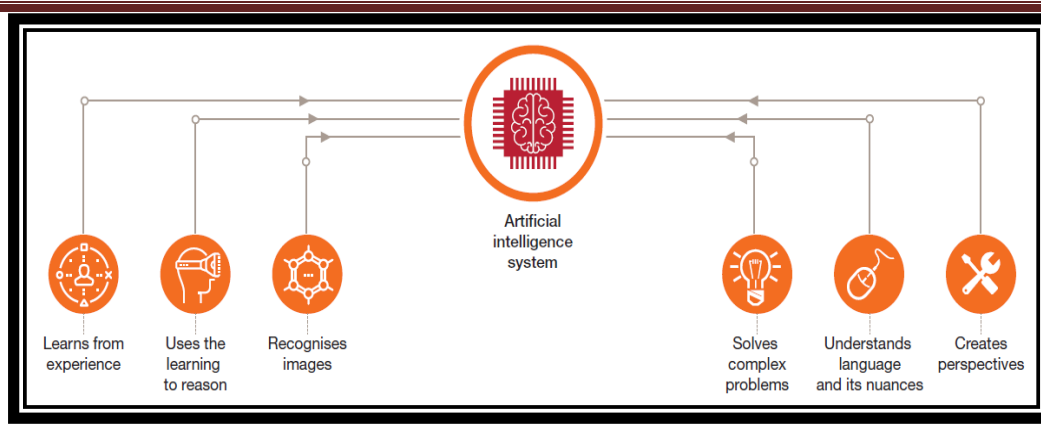
Over the most recent couple of years, there has been an entry of a huge measure of programming that uses components of artificial intelligence. Subfields of AI, for example, Machine Learning, Natural Language handling, Image Processing, and Data mining have turned into a significant point for the present tech mammoths. “Machine Learning is actively being used in Google’s predictive search bar, in the Gmail spam filter, in Netflix’s show suggestions. Natural Language Processing exists in Apple’s Siri and Google voice. Image Processing is necessary for facebook’s facial recognition tagging software and in Google’s self-driving cars”. Information Mining has turned into slang for programming industry because of the mass measures of information being gathered each day. Organizations like Facebook and Google gather a lot of measurements from clients consistently and need an approach to decipher the information they get.

Artificial Intelligence has effectively demonstrated to be helpful new apparatus in the present technology overwhelming society.

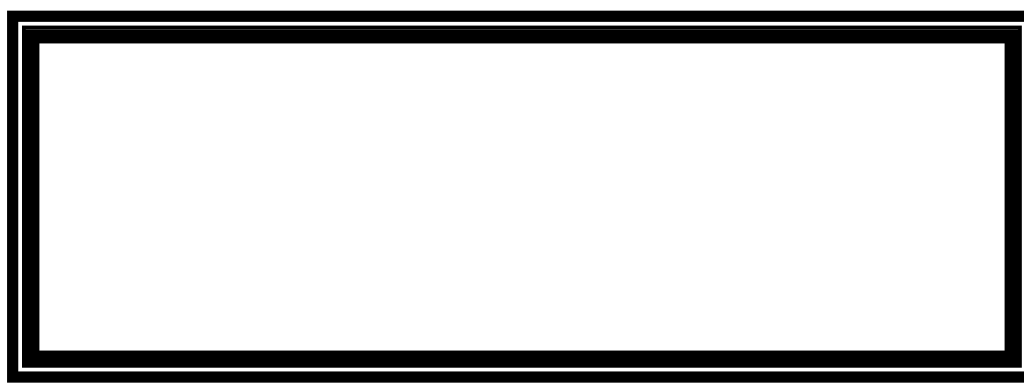
ARTIFICIAL INTELLIGENCE

Artificial intelligence (AI) refers to the “ability of a computer or a computer-enabled robotic system to process data and produce results in a manner similar to the thought process of humans in learning, decision making and solving problems”.

In addition, the goal of AI systems is “to tackle difficult problems in ways similar to human logic and reasoning”.



Source: - PwC analysis



REVIEW OF LITERATURE

As per Nilson, the rise of AI as an autonomous field of research reinforced and was additionally fortified by three significant meetings – "A 1955 session on Learning Machines held in conjunction with the 1955 Western Joint Computer Conference in Los Angeles, a 1956 summer research project on Artificial Intelligence convened at Dartmouth College and a 1958 symposium on the Mechanization of Thought Processes sponsored by the National Physical Laboratory".

Artificial Intelligence (mechanical technology) in the present scenario has the capacities to copy human intelligence, performing different errands that require thinking and learning, take care of issues and settle on different choices. Artificial Intelligence programming or projects that are embedded into robots, PCs, or other related frameworks provide them fundamental reasoning capacity (Zhang et.al 2016).

Artificial Intelligence can possibly copy human character or practices [Turan et al. 2017]. Moreover, Artificial intelligence is right now somewhat created without cutting edge capacities to learn alone however rather offered directions to follow up on. This will be a definitive eventual fate of artificial intelligence, where the AI machines will be perceived the human conduct and feelings and will prepare their part according to it [Martınez and Fernandez-Rodrıguez, 2015].

Artificial Intelligence (AI) is changing the idea of nearly everything which is associated with human life for example work, economy, correspondence, wars, protection, security, morals, social insurance and so on. But, we are yet to see its development in the long haul, regardless of whether it's driving humankind towards making this planet a superior spot to live or a spot which is brimming with catastrophe. Each technology has its preferences and impediments however favourable circumstances consistently exceed disservices for the technology to make due in the market. In any case, for Artificial Intelligence we are not yet sure whether in the long haul constructive outcomes will consistently continue exceeding the negative impacts and if that that isn't the situation, at that point we are in a difficult situation. if we check around us, from one viewpoint, we appear to grasp the change being brought by technology, be it "smart home, smart healthcare, Industry 4.0 or autonomous cars." Then again, we frequently ended up challenging the administration with regards to joblessness, charges, security and so forth. As AI advancement is accelerating, more robots or self-ruling frameworks are being conceived and supplanting human work. This is the present circumstance; in any case, in long haul, results appear to get all the more fascinating (Tyagi, 2016).

OBJECTIVE OF THE STUDY

Keeping in mind the rapid changes in business processes due to AI author has proposed the following objectives for his study;

1. To understand which areas within businesses and our lives are most likely to be affected by these AI transitions
2. Level of the comfort of individuals with AI technologies
3. Role and impact of AI on business models and strategies

RESEARCH METHODOLOGY

The author has selected 50 business decision-makers and regular employees engaged in Rajasthan's firms. For the purpose of data collection online survey is used to explore the perception and awareness of respondents towards AI and its current and future implications on society.

To understand the impact of AI, a survey was conducted to understand consumer and business perceptions on the importance and anticipated impact of AI across sectors and our daily lives. We also reached out to Indian businesses—decision makers and regular employees—across a wide range of sectors such as financial services, technology, and manufacturing via an online survey to explore attitudes toward AI and its current and future implications on society. The survey was conducted among adults employed in full-time/part-time or self-service roles in organizations under consideration.

Organizational leaders and managers who influenced key choices on technology, service development and other critical aspects of the business were identified as business decision-makers and influencers. A wide range of sectors such as financial services, technology, and manufacturing was considered for the survey.

For the purpose of the analysis, author has chosen 4 different parameters of businesses that are getting impacted by AI. Analyzing the impact of AI on these parameters will help to give a velar picture of how AI is influencing Business models and strategies.

ANALYSIS AND INTERPRETATION:

Reliability Statistics	
Cronbach's Alpha	**Number of Respondents**
.899	50

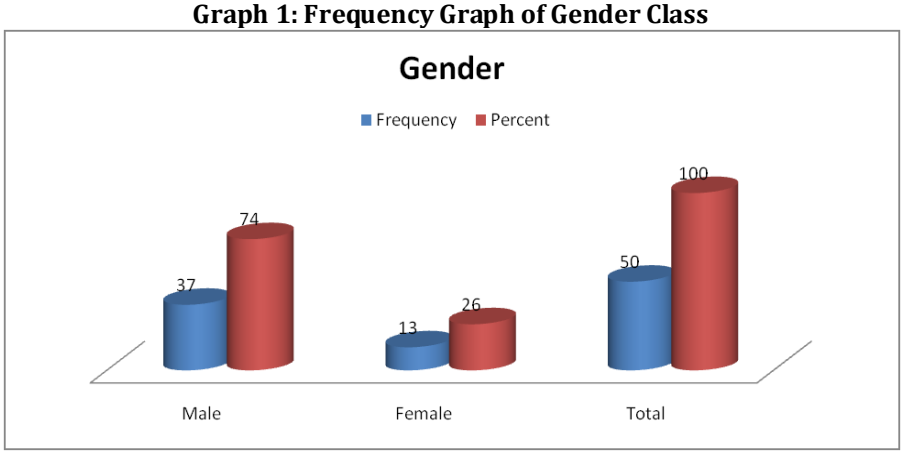
Source: Author's Compilation

Table showing the Reliability Statistics which calculated on 50 respondents and found the value of Cronbach's Alpha is .899, therefore it could be recognized that Cronbach alpha value for the 50 employees of various organizations along the study was found .899 which is an excellent representation of the quality of data that confirms approx 89 % reliability of the collected data. Hence the data is much enough reliable for study.

Table: 1 Frequency Table of Gender Class

Gender					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	37	74	74	74
	Female	13	26	26	100
	Total	50	100	100	

Graph 1: Frequency Graph of Gender Class

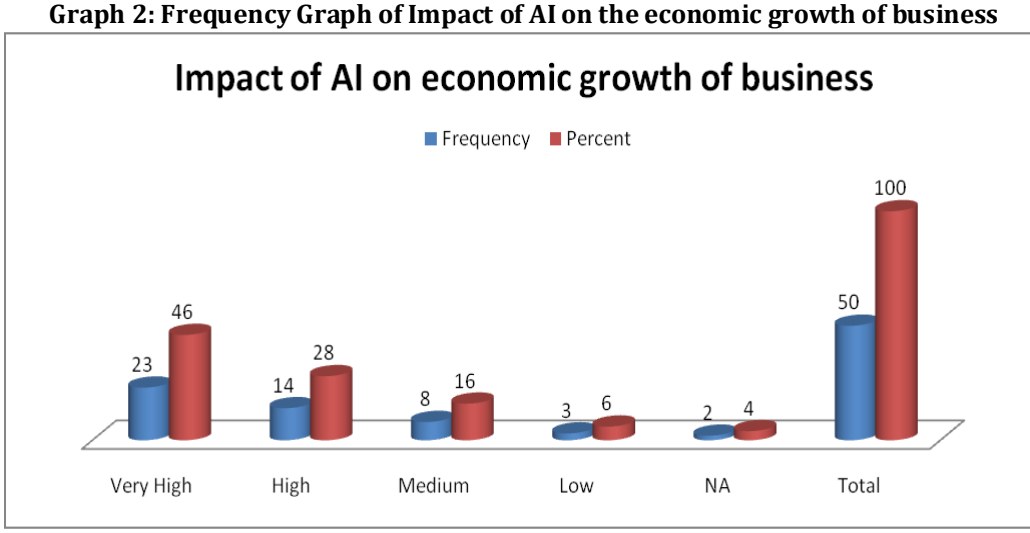


As shown in Table 1 and Graph 1 first important demographic variable enquired was gender. According to the table frequency of gender indicated that from 50 respondents 37 (74%) of respondents were male and remaining 13 (26%) were female. It displayed that the number of male employees was high in comparison to the female employee.

Table 2: Frequency Table of Impact of AI on the economic growth of business

Impact of AI on the economic growth of business					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very High	23	46	46	46
	High	14	28	28	74
	Medium	8	16	16	90
	Low	3	6	6	96
	NA	2	4	4	100
	Total	50	100	100	

Graph 2: Frequency Graph of Impact of AI on the economic growth of business

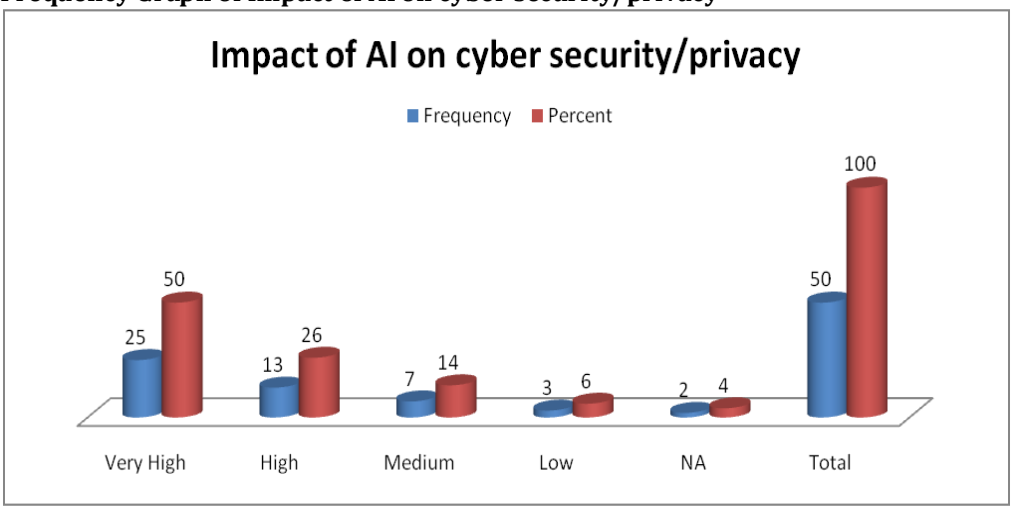


As indicated by the above table and graph out of 50 respondents 23 (46%) think that impact of AI on economic growth is very high. 14 (28%) respondents think that impact of AI is high on economic growth while 8 (16%) respondents think that the impact is medium. 3(6%) respondents think that the impact is low and remaining 2(4%) not answered the question. Thus according to majority of respondents the impact of AI on economic growth of business is very high.

Table 3: Frequency Table of Impact of AI on cyber security/privacy

Impact of AI on cyber security/privacy					
		Frequency	Percent	Valid Percent	Cumulative Percent
	Very High	25	50	50	50
	High	13	26	26	76
	Medium	7	14	14	90
	Low	3	6	6	96
	NA	2	4	4	100
Valid	Total	50	100	100	

Graph 3: Frequency Graph of Impact of AI on cyber security/privacy

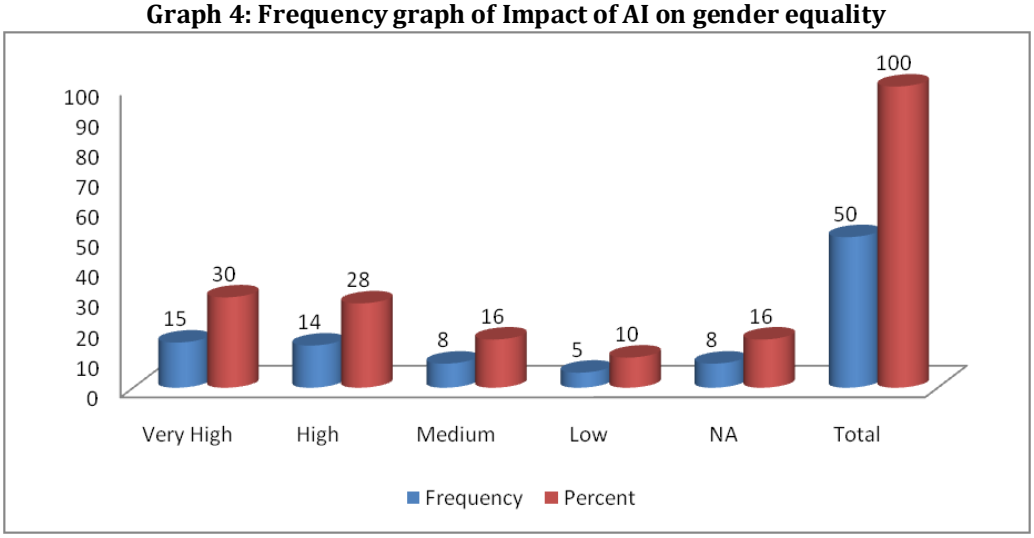


As evident from the above table and graph, even after knowing all the potential benefits of AI, which are predicted to assist humans, people still have concerns regarding data privacy and are concerned to share data for a better experience. A vast majority of participants agree that they have major concerns regarding data privacy to the point that it is near-unanimous (90%) and that they are hesitant to even share medical results knowing that it could help provide some personalized knowledge about their health.

Table 4: Frequency table of Impact of AI on gender equality

Impact of AI on gender equality					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very High	15	30	30	30
	High	14	28	28	58
	Medium	8	16	16	74
	Low	5	10	10	84
	NA	8	16	16	100
	Total	50	100	100	

Graph 4: Frequency graph of Impact of AI on gender equality

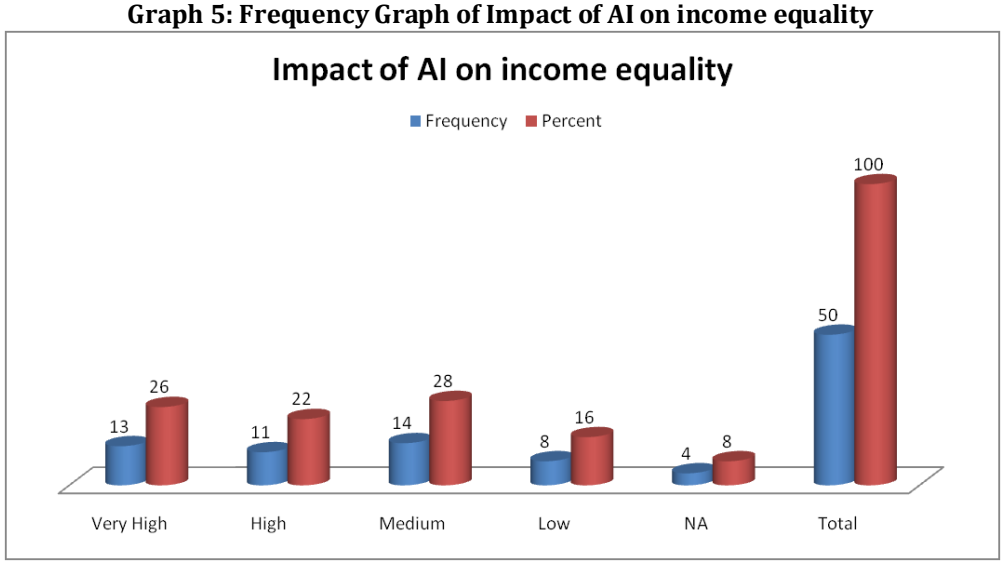


From the above table and graph, we can say that majority58% of the participants favourably indicated their perception of AI helping in improving gender equality. However the number of respondents who denied this fact is 10%.

Table 5: Frequency Table of Impact of AI on income equality

Impact of AI on income equality					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very High	13	26	26	26
	High	11	22	22	48
	Medium	14	28	28	76
	Low	8	16	16	92
	NA	4	8	8	100
	Total	50	100	100	

Graph 5: Frequency Graph of Impact of AI on income equality



As the above graph and table indicate, almost 48% respondents believe in the notion that AI is important for the cause of income equality. Yet 16% said that AI does not influence income equality.
For finding the significant impact of AI on business parameters following hypothesis has been conducted and further evaluated using one-way ANOVA;

Hypothesis

H_{01}:- There is no significant impact of AI on the economic growth of the business.
H_{11}:- There is a significant impact of AI on economic growth of business.
H_{02}:- There is no significant impact of AI on cyber security/privacy.
H_{22}:- There is significant impact of AI on cyber security/privacy.
H_{03}:- There is no significant impact of AI on gender equality.
H_{33}:- There is a significant impact of AI on gender equality.
H_{04}:- There is no significant impact of AI income equality.
H_{44}:- There is a significant impact of AI income equality.

Table: ANOVA

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Impact of AI on the economic growth of business	Between Groups	2.063	1	2.063	2.308	0.02
	Within Groups	47.937	48	0.894		
	Total	50	49			
Impact of AI	Between Groups	2.481	1	2.481	2.612	0.042

on cybersecurity/privacy.	Within Groups	47.519	48	0.95		
	Total	50	49			
Impact of AI on gender equality.	Between Groups	2.182	1	2.182	3.554	0.062
	Within Groups	47.818	48	0.614		
	Total	50	49			
Impact of AI income equality.	Between Groups	1.984	1	1.984	3.386	0.037
	Within Groups	48.016	48	0.586		
	Total	50	49			

In the **Table,** the variation (Sum of Squares), the degrees of freedom (df), and the variance (Mean Square) are given for the within and the between groups, as well as the F value (*F*) and the significance of the F (*Sig.*). *Sig.* indicates whether the null hypothesis – the population means are all equal – has to be rejected or not.
It can be seen from above table that there is good difference between the two Mean Squares (2.063 & 0.894, 2.481 & 0.95, 2.182 & .614 and 1.984 & .586), resulting in a non significant difference (*F* = 2.308 ; *Sig*. = 0.02, *F* = 2.481; *Sig*. = 0.04, *F* = 3.554; *Sig*. = 0.062, and *F* = 3.386; *Sig*. = 0.037).
The Sig. value is lower than the Sig. level of 0.05 for **H_{01}, H_{02}, and H_{04} and hence these must be rejected and their alternatives are accepted** which states that there is a significant impact of AI on economic growth of business**,** There is a significant impact of AI on cyber security/privacy, There is a significant impact of AI income equality. Whereas, **H_{03}** must be accepted as the sig value is greater than 0.05which states that there is no significant impact of AI on gender equality.

S. No.	Hypotheses	Difference	Status
1.	**H_{01}**	Significant	Rejected
2.	**H_{02}**	Significant	Rejected
3.	**H_{03}**	Non-Significant	Accepted
4.	**H_{04}**	Significant	Rejected

CONCLUSION

We have seen that AI has the capability of transforming the business with the help of latest technological innovations and scientific know-how. AI has insightful impacts on governments, society, business, and people. AI has been proved to be beneficial for business as it increases productivity, reduces time and cost, human error reduction, rapid decision making, customer choice forecast, and sales expansion through automation and data analysis. Given the fact that AI is widely accepted and there is lack of skilled talent, there are opportunities where AI-based solutions can fill this gap and transform the workplace. Overall, people believe that humans are more prone to errors than AI systems and that the designers and managers of these systems are at fault when they malfunction or fail. This is of significance in fully autonomous applications of AI, where speed and response times are critical and that AI systems can only behave as intelligently as they are designed to do so. Thus we can now conclude by saying that there is a significant impact of AI on economic growth of business**,** on cyber security/privacy, and in bringing income equality. Thus AI holds the potential to create a better business model in the world. Artificial intelligence will continue to grow in the forthcoming and transform the picture of business. Therefore, both people and business are required to be prepared for the upcoming demands of technology by accepting the innovation to be successful in the future.

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