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FROM UNCERTAINTY TO INNOVATION: AI'S ROLE IN POST-2020 BUSINESS MANAGEMENT

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Abstract

Introduction: In India, the use of AI tools in managing businesses in an effective manner

Literature Review: Identify and quantify the impact of Covid 19 on businesses in India. Analysis of the business management procedures during covid 19 has been mentioned.

Method: Primary quantitative data collection has done in this study.

Findings: Analysis has done through a survey to determine the results. 3 demographic and 7 variable-related questions have been highlighted. SPSS software has been used to analyse collected data statistically

Conclusion: Businesses have had to adopt new strategies and methods to manage their operations during the Covid-19 pandemic and AI has helped effectively

Keywords: *AI tool, Business Management, Covid-19, customer preferences*

1. Introduction

Managing business is coordinating and organising activities of a business to deliver quality outcomes for the market. As mentioned by, Feuerriegel et al. (2022) the outbreak of covid-19 left a severe impact on businesses in India. The measures taken to contain the spread of the virus, such as lockdowns, social distancing, and travel restrictions, have disrupted supply chains and led to a decline in economic activity.

The problem statement of this study is the impact of global pnadfemic on business management across India. Using AI tools is able to help in managing businesses in an effective manner that is able to address the problems of this study in an effective manner.

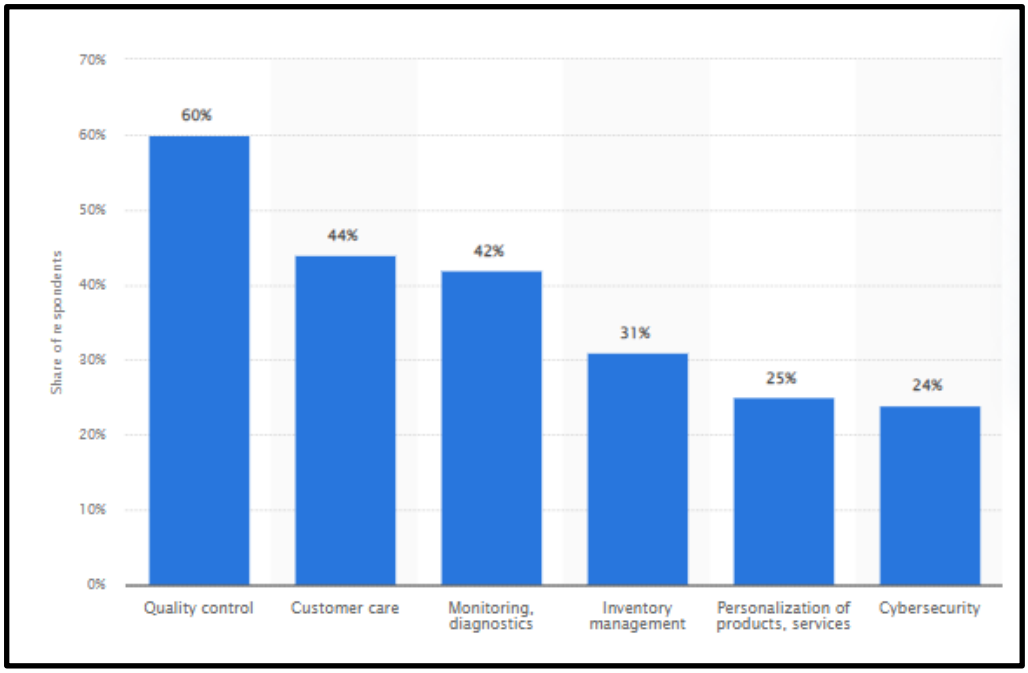

Figure 1.1: Using AI globally for healthcare and pharma in 2020

(Source: Statista, 2023)

Figure 1.1 has highlighted the utilisation of AI across the world in healthcare and pharmacy in 2020. 60% of the respondents have supported the use of AI as it has helped in improving quality control (Statista, 2023). 42% of the respondents have supported the utilisation of AI as it helps in diagnosing (Statista, 2023).

AI has played a critical role in the management of firms during the Covid-19 pandemic in India. Businesses have discovered a new path of introducing businesses and managing them in an effective manner through AI usage. The study is able to deliver the required information regarding the business management of firms through AI during Covid 19.

Aim and objectives

Aim

The study has aimed to evaluate the business management process through the use of AI during covid19.

Objectives

RO1: To analyse the impact of covid 19 on business

RO2: To discuss the challenges faced by firms due to covid -19

RO3: To understand the ways of managing businesses during covid 19

RO4: To evaluate the role of AI in managing the business during covid 19

Research Question

RQ1: What is the impact of covid 19 on business?

RQ2: Which challenges occurred in the business of maximum firms due to covid 19?

RQ3: What are the possible ways of managing the business during covid 19?

RQ4: How AI has helped in managing business during covid 19

2. Literature review

Discussion of the impact of Covid 19 on businesses in India

Global pandemic resulted in a significant economic slowdown, with many businesses shutting down and others operating at reduced capacity. Here, Fila et al. (2020) commented, this has resulted in a decline in consumer demand, leading to reduced sales and revenues for businesses. The lockdowns and travel restrictions have disrupted supply chains, making it difficult for businesses to procure raw materials and goods from other parts of the country and abroad. According to Raut et al. (2019), many businesses have had to lay off employees due to the economic slowdown. This has led to a rise in unemployment and a decline in consumer purchasing power. As mentioned by Chen et al. (2022), the pandemic has led to changes in consumer behaviour, with many consumers preferring to shop online and avoid crowded places. This has impacted traditional brick-and-mortar businesses, which have seen a decline in footfall and sales.

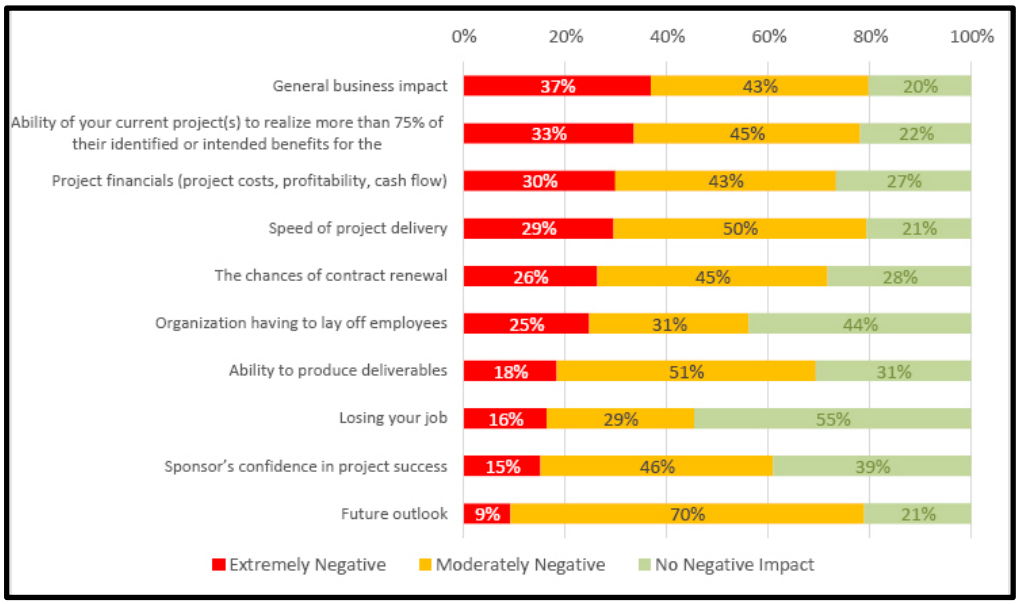

Figure 2.1: Impact of Covid-19 on business

(Source: Pmi.org, 2023)

Figure 2.1 has highlighted negative impact of pandemic of 2020 among businesses in which the percentage of the extremely negative and no negative impact of covid was 37 and 55 respectively.

Analysis of the business management procedures during covid 19

Businesses have had to adopt new strategies and methods to manage their operations during Covid-19. Here, Kumar et al. (2020) stated, businesses have allowed employees to work

remotely from home for preventing the spread of the virus in the workplace. Many businesses have embraced digital technologies to continue operating during the pandemic. In this context, Perwej (2020) explained, businesses have had to manage their supply chains more effectively during the pandemic. This has involved diversifying suppliers and finding alternative sources of raw materials and goods to ensure the continuity of operations. Businesses have had to be flexible and adaptable to manage operations during the pandemic.

Evaluation of the role of AI in the proper management of the firm during Covid 19

Many businesses are forced to shift to remote work, due to the covid 19 outbreak. Here, Chen et al. (2022) mentioned, AI can help managers in remote work to keep track of the productivity, engagement, and well-being of the employees. AI tools can monitor the workloads of employees, track their progress, and provide real-time feedback to improve their performance. On the other hand, Di Vaio et al. (2020) mentioned, AI can also help firms maintain customer engagement during the pandemic. Many businesses facing reduced foot traffic and sales, where AI-powered chatbots and virtual assistants can help customers get the information they need and make purchases from the safety of their homes. According to Modgil et al. (2022), AI can be used to predict and manage the impact of the pandemic on the operations of a firm. Through the analysis of data from various sources, including social media, news outlets, and financial reports, AI can help managers make informed decisions about how to adjust their operations to mitigate the impact of the pandemic.

Modern Management Theory

The theory of modern management has defined the role of leaders in a business to enhance the confidence and morale of workers to increase the performance of employees. This is able to help in managing the functions of a business effectively. According to Ajupov et al. (2019), the theory of modern management explains that employees are mostly motivated by income advancement options. The theory summerises mathematical analysis through the realissation of human emotions and motivation to create a working environment. The use of this theory is able to help in managing the problem faced by businesses in tough times like the pandemic.

3. Methodology

3.1 Data collection

Researchers have used the primary quantitative method in this research. Therefore, survey analysis has helped in managing the relevant information for this research study. Analysis of demographic has played an important role in this data collection method. Business management through the use of AI during covid 19 has been discussed in this study.

3.2 Data Analysis

The collected information through the primary quantitative method has been analysed through the SPSS software The descriptive analysis of the chosen topic in research is able to help in collecting more relevant data in this research section. Moreover, researchers have been permitted to analyse the statistical information through 3 demographic questions and 7 variable base questions.

4. Findings

What is your gender?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	17	26.2	26.2	26.2
	2	30	46.2	46.2	72.3
	3	18	27.7	27.7	100.0
	Total	65	100.0	100.0	

Table 4.1: Identification of gender

(Source: SPSS)

Table 4.1 has identified the gender of the participants of the survey. Demographic analysis of the research topic is being easier with the support of this analysis. 30 females and 17 males participated in this research and 18 respondents were not preferred to disclose their gender identity

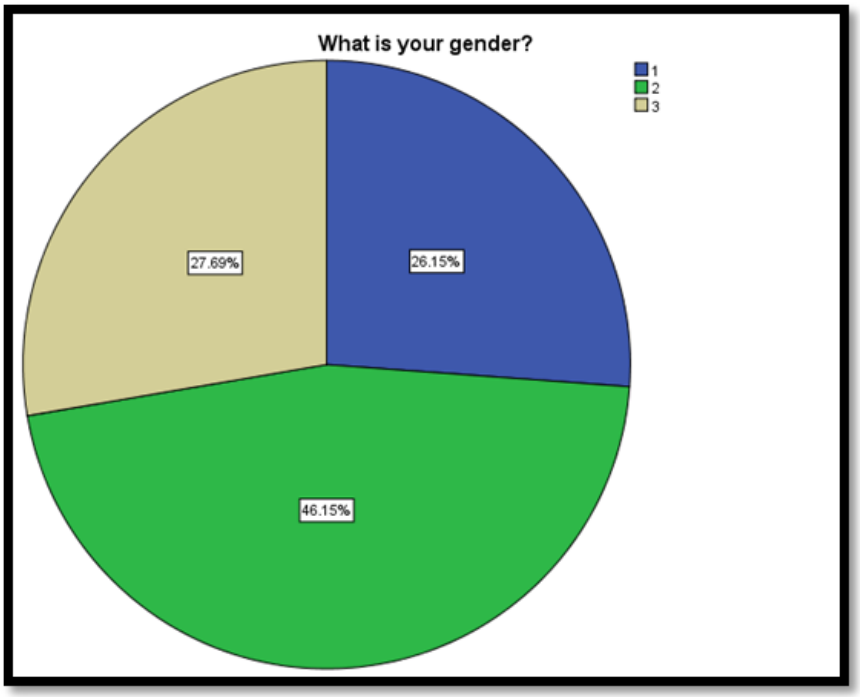

Figure 4.1: Identification of Gender

(Source: SPSS)

Figure 4.1 represented gender of participants where, 46.15% of female and 26.15% of male participants take place in this research. Therefore, 26.69% of the respondents do not prefer in disclosing their gender in this research portion

What is your age?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	6	9.2	9.2	9.2
	2	21	32.3	32.3	41.5
	3	38	58.5	58.5	100.0
	Total	65	100.0	100.0	

Table 4.2: Identification of Age

(Source: SPSS)

Table 4.2 has displayed the demographic analysis regarding the age group of participants. 21 participants belong between the 25 to 35 years age group, and 38 participants belong to between 35 to 45 years age group and the lowest response rate is the age group below 25 with 6 participants.

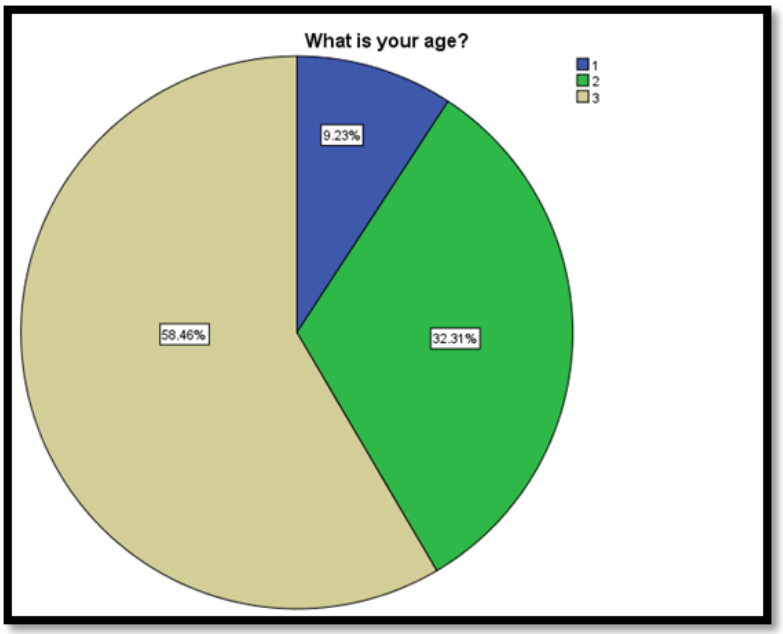

Figure 4.2: Identification of Age

(Source: SPSS)

Figure 4.2 has analyzed the response rate with the aid of demographic analysis. The maximum response rate is 58.46% and they belong between the 35 to 45 years of age group. The lowest response rate is from the age group below 25, with 9.23% of the participants.

What is your income?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	6	9.2	9.2	9.2
	2	21	32.3	32.3	41.5
	3	27	41.5	41.5	83.1
	4	11	16.9	16.9	100.0
	Total	65	100.0	100.0	

Table 4.3: Income

(Source: SPSS)

Table 4.3 helps to rectify the participants according to their income range. 11 participants belong between Rs. 45000 to Rs. 55000 income range. Therefore, 27 participants belong between Rs. 35000 to Rs. 45000 income range.

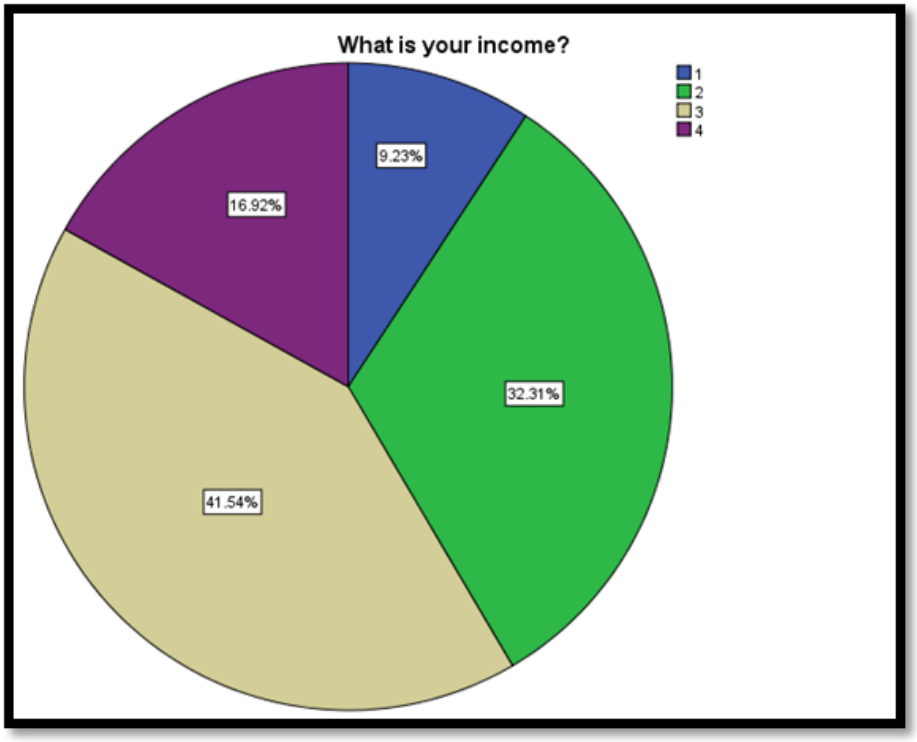

Figure 4.3: Income

(Source: SPSS)

Figure 4.3 has highlighted the income range according to the participants in the survey. The maximum response rate is 41.54% from the income range between 35000 to 45000 and the lowest response rate is 9.23% in the income range below 25000

Descriptive Statistics

	N	Minimum	Maximum	Sum	Mean	Std. Deviation	Variance
challenges during covid 19 in busineess	65	1	5	145	2.23	1.423	2.024
managing business by AI	65	1	5	145	2.23	1.423	2.024
Customer preferences have changed due to pandemic	65	1	5	145	2.23	1.423	2.024
AI tool increased the customer engagement	65	1	5	145	2.23	1.423	2.024
business managemnt through flexible working	65	1	5	145	2.23	1.423	2.024
Valid N (listwise)	65						

Table 4.4: Descriptive analysis

(Source: SPSS)

Table 4.4 has highlighted the descriptive data analysis with the support of the variable in this study. The standard deviation of the first variable is 1.423; therefore, 1.423 is the standard deviation of the second and third variables.

Regression

Model Summary[c]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	1.000[a]	1.000	1.000	.000	1.000	.	1	63	.	.[b]

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	129.538	1	129.538	.	.[b]
	Residual	.000	63	.000		
	Total	129.538	64			

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	.000	.000		.	.	.000	.000
	managing business by AI	1.000	.000	1.000	.	.	1.000	1.000

Table 4.5: Regression of challenges of Business in Covid and managing through AI

(Source: SPSS)

Table 4.5 is the combination of three distinct tables showing the accurate information of the regression of challenges of Business in Covid and managing through AI The Significant value of the factor is .000.

Model Summary[c]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	1.000[a]	1.000	1.000	.000	1.000	.	1	63	.	.[b]

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	129.538	1	129.538	.	.[b]
	Residual	.000	63	.000		
	Total	129.538	64			

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.000	.000		.	.
	Customer preferences have changed due to pandemic	1.000	.000	1.000	.	.

Table 4.6: Regression of challenges of Business in Covid and customer preferences has changed

(Source: SPSS)

Table 4.6 is the combination of three distinct tables showing the accurate information of the Regression of challenges of Business in Covid and customer preferences has changed. The Significant value of the factor is .000.

Model Summary[c]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	1.000[a]	1.000	1.000	.000	1.000	.	1	63	.	.[b]

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	129.538	1	129.538	.	.[b]
	Residual	.000	63	.000		
	Total	129.538	64			

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.000	.000		.	.
	AI tool increased the customer engagement	1.000	.000	1.000	.	.

Table 4.7: Regression of challenges of Business in Covid and AI tool increased customer engagement

(Source: SPSS)

Table 4.7 is the combination of three distinct tables showing the accurate information of the regression of challenges of Business in Covid and AI tool increased customer engagement. The Significant value of the factor is .000.

Model Summary[c]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	1.000[a]	1.000	1.000	.000	1.000	.	1	63	.	.[b]

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	129.538	1	129.538	.	.[b]
	Residual	.000	63	.000		
	Total	129.538	64			

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.000	.000		.	.
	business management through flexible working	1.000	.000	1.000	.	.

Table 4.8: Regression of challenges of Business in Covid and business management through flexible working

(Source: SPSS)

Table 4.8 is the combination of three distinct tables showing the accurate information on the regression of challenges of Business in Covid and business management through flexible working. The Significant value of the factor is .000

5. Discussion

AI can help firms manage the challenges posed by the pandemic and adapt to the changing business environment. However, it is important to note that AI is not a silver bullet and should be used in conjunction with human decision-making to ensure the best outcomes for the firm and its stakeholders (Khalifa et al. 2022). Businesses have had to adopt new strategies and methods to manage their operations during the Covid-19 pandemic. The pandemic has accelerated the shift towards digitalization, with many businesses adopting online platforms to reach customers and conduct transactions. This has led to a rise in e-commerce and digital payments (Farouk, 2021). Virtual assistants and chatbots have been used to help employees manage their schedules and tasks, and virtual meeting platforms have been used to conduct meetings and training sessions remotely. Overall, AI has played a crucial role in helping businesses manage operations during the Covid-19 pandemic.

6. Conclusion

The use of AI-powered tools has enabled businesses to maintain continuity and adapt to the challenges posed by the pandemic. This study has covered the use of AI in managing business in covid 19 and for which statistically analyzed information has been presented.

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Appendix

1. What is your gender?
2. What is your age?
3. What is your income?
4. Business management has faced many challenges during covid 19.
5. AI has a major role in managing the business during pandemic.
6. Customer preferences have changed due to the pandemic that impacted business performances in India.
7. AI tools increase customer engagement that helps businesses to increases their sales.
8. Flexibility of working during the pandemic has eased the management of business.
9. Businesses have had to lay off employees due to the economic slowdown?
10. Using AI has helped in managing employee and customer demands for the firms in India?