APPLICATION OF ROBOTIC PROCESS AUTOMATION (RPA) IN SERVICE SECTOR DURING COVID 19

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Abstract

Robotic Process Automation in different segments of society and business has been gaining popularity with the developing technology. In past few years this trend has been on rise. However, recent outbreak of COVID 19 has forced nations to go into lockdown to implement social distancing to avoid the rate of infection. This unprecedented situation while has resulted in collapse of the world economy, it has also provided new opportunities for implementation of automated processes in the social spheres which were either untouched or had slowest RPA implementation before the outbreak. Service sector has also affected largely during COVID period. It has applied in vast pace in service sector. Robotic process automation is an effective tool in combating the threat of COVID 19 not only in stopping and discouraging of the infection rate but also in saving the economy from downfall. In this paper, application of robotic process automation has been explained in service sector during COVID 19.

Keywords: Robotic Process Automation (RPA), COVID 19, Essential services.

Introduction

In the fall of 2019 and start of year 2020, the world has been threatened by an unseen threat in the form of a deadly virus COVID 19 which has tolled thousands of lives within a span of a couple of months and brought the entire world to a standstill in the form of worldwide lockdown

to contain the pandemic and avoid the further spread of the virus. COVID 19 has affected all facts of life without any discrimination and world economies have come to their knees. The world is now facing imminent threat of worldwide economic recession.

India has also affected widely by the pandemic and a nationwide lockdown has been imposed by the government. Meanwhile, the health care agencies, public administration, scientists and essential service providers are attempting to find new ways to defend against the spread of the virus and mitigate the impact that could have long-term effects on businesses and the economy. As it is known that the spread of virus is through the human contact, it is necessitated that a system of contactless business environment is fostered and to achieve this goal robotic process automation comes as a ray of hope to salvage the economy from imminent threat and slowdown.

Robotic Process Automation and its Role in Combating COVID 19

Automation provides tools and solutions to strengthen the society to face and venture into the modern days problems as well as to equip it for combating unforeseen challenges in form of virus or bacteria related diseases which have high infection rate. COVID 19 is a threat not only to the lives of the people but also to the economy and in order to save the both, automation is necessary to make human contact and intervention minimum. Robotic automation process, creates a work environment which reduces or replaces the human work force with that of computer program and artificial intelligence. Robotic process automation can enable businesses to stay connected across different platforms, teams and systems, maintain customer support and offer stability in times of economic disruption caused by pandemic. As per the report of Economic Times[1], according to the findings of a survey conducted by professional services firm EY, the impact of the Corona virus pandemic will be felt by organisations beyond six months. The survey titled 'HR resilience planning – COVID 19 impact and preparedness' showed that around 70% of the organisations believe that the single biggest concern for continued remote working is fall in productivity. "More than 70 per cent of the organisations are now moving to virtual methods of recruitment, and emerging technologies like Artificial Intelligence, Robotic Process Automation and Machine Learning are leading this change"[2]. The report further suggests that, "the opportunities for organizations lie in institutionalizing digital ways of working, rethinking workforce models and resource plans, revamping traditional employee engagement models and techniques, redesigning the performance management process and restructuring

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[1] https://economictimes.indiatimes.com/news/company/corporate-trends/covid-19-impact-will-be-felt-beyond-6-months-shows-ey-survey/articleshow/75084037.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst

[2] https://economictimes.indiatimes.com/news/company/corporate-trends/covid-19-impact-will-be-felt-beyond-6-months-shows-ey-survey/articleshow/75084037.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst

benefits and policies". Robotic Process Automation is an effective tool in combating the threat of COVID 19 not only in stopping and discouraging of the infection rate but also in saving the economy from downfall.

Government Efforts in Adopting Automated Process in Dealing with COVID 19 Situation During Lockdown

The first case of the COVID 19 was identified in Wuhan City of China in end of December, 2019 and in India first case of the same came to be reported on January 30, 2020. Immediately thereafter, the Government of India started to implement certain restriction on immigration at International Airports and finally on 24.03.2020, the Prime Minister imposed a nationwide lockdown looking to the increasing cases of the virus. In the lockdown, the government allowed certain essential services such as supply of essential groceries, milk, vegetables, fruits, medical and pharmacies etc. The government directed to ensure minimum contact while making purchase of essentials. The government allowed E-commerce retail service providers to provide services for essential items by adopting electronic automated process of accepting orders, billing, payments and contactless delivery.

Automated Lockdown Pass

Several State Governments including State of Rajasthan provided electronic platforms for the citizens to apply through Automated Process of issuance of passes for going out during the lockdown period. The citizen involved in providing essential services such as fruit vendors, vegetable vendors, milk suppliers, e-commerce deliveryman, government employees, healthcare service providers and other specified essential services could obtain pass for supply of essential services. The applications were processed through specific Mobile Applications to the concerned authorities and the passes were issued through the automated process without any or minimum human contact/ intervention on the basis of information provided in the applications. In Rajasthan, the applications for Lockdown Pass are processed through mobile application titled as RAJCOP CITIZEN. The applicants are required to provide relevant information and necessary documents could be attached in the application. The issuance of pass or rejection of the application is then communicated the applicant through email. In case of the acceptance of application pass is issued which is saved in the app in electronic form and can be accessed any time by the user.

Arogya Setu Application: COVID 19 Tracker and advisory mobile application

The Government of India launched a mobile application "Arogya Setu" with a view to make effective contact tracking of COVID 19 Positive Cases with the help of Automated Process using GPS and Bluetooth based capabilities. The application not only helped in contact tracking but also worked as proximity alarm for the user in case he comes in contact of a COVID 19 person or comes around possible COVID 19 "hotspot" area. Government also sensitized necessary information and updates through the application. The application also warned the users of the

areas where maximum cases of COVID 19 were found and thus it helped in prevention of community spread also.

E-Commerce and Application of RPA
The cases of virus infection started to multiply in the mid of March and in the last week of March, 2020 the Government forced to impose complete lockdown with conditional relaxation of supply of essential goods including groceries, medical, vegetable and fruits, milk and dairy withing specified hours with. The E-commerce companies immediately adapted to the changed circumstances and started supply of essential goods through their websites and mobile apps in a very secure, safe and contract less manner. The entire system was devised in such a manner that there was zero or minimum human interference with all precautions as advised by the concerned authorities. The use of Automated Process by these companies ensured continuous supply of essentials including grocery, medicines, fruits, vegetables, milk etc.

Role of Robotic Process Automation in Different Segments of Society During COVID 19
The effect of COVID 19 in implementation of RPA in different segments of society is discussed as under.

Students
Education sector is one of the sectors which are severely affected by the lockdown due to COVID 19. Schools, Colleges and the Universities have been shut down due to lockdown. The spread has knocked at the time when the schools, boards and universities were either in middle of the annual examinations or in preparation of the annual examination. The lockdown has abruptly disrupted the teaching functions of the educational institutions and has resulted in postponement of the examinations sine die. After the lockdown the schools in the urban areas and the universities immediately adopted online education. Online classes and study materials have been arranged by the educational Institutions. There is a rise in various education tools and applications for different platforms. Several schools, education ministry, education boards, universities are also engaged in development of online education platforms and utilization of artificial intelligence for the same. The spread of pandemic has paved a way for the implementation of robotic process automation and development of education bots in education field. Though the lockdown has resulted in implementation and new experiment in field of education, the desired result is distant goal as the implementation and use of latest technology for education is limited to few urban public schools and universities only. An Education Ministry data, 65.2% (113 million,) of all school students in 20 states go to government schools (2017)[3]. The students in Government schools come from lower middle class or below poverty line and cannot be expected to have basic requirement of online teaching such as computer and internet

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[3]   https://www.hindustantimes.com/education/in-5-years-private-schools-gain-17-million-students-government-schools-lose-13-million/story-6FV1ic7RLttmWc0ZkhBQBM.html

connection. Apart from this, a good number of government schools suffers from negligence of administration and lack of basic amenities, under these circumstances expecting them to resort to latest technological methods of teaching is in vain. The governments are required to address the problem and to provide basic infrastructure to the government schools to adept to the technological changes and development.

Employees

The outbreak of pandemic has affected the world of work profoundly threatening top economies around the globe. The Indian service sector including BPOs, KPOs, IT Companies etc. are at the receiving end and suffered huge loss due to implementation of lockdown. However, the service sector immediately adapted to the changed circumstances and adopted work from home to keep the business going. About two-thirds of the 4.3 million ITBPO workforce across the country have moved to a work-from-home model to keep services uninterrupted during the lockdown. Experts say some companies are likely to move to WFH permanently[4].Work from Home is a new normal trend. The government is also insisting on work from home to avoid the spread. The service sector is ready and prepared to implement work from home which is more cost effective since it will help in minimizing the resources such as office space, electricity, maintenance etc. It would also tend to increase work efficiency of the employees and reduce burden of traffic from the roads. Work from home is also a boon to the female employees and would encourage more participation from women. In order to support this need in a fast-changing world, several IT Companies working the field of robotic process automation software and artificial intelligence, have mobilized their resources in more research and development of robotic process automation software to cater the need of different sectors.

Research Gap

Based on the above literature, it has been observed that the application of robotic process automation in service sector during COVID 19 not yet been studied.

Objectives

Following are the main objectives of the study:
1. To assess the role of robotic process automation during COVID 19.
2. To identify automated process employed by private organisation.
3. To analysis the application of robotic process automation by customers of various segments

Hypothesis

H_0: There is no existence of RPA in present business environment in service sector

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4   https://m.economictimes.com/news/company/corporate-trends/companies-see-work-from-home-as-a-viable-long-term-option-if-regulatory-issues-can-be-addressed/articleshow/74985839.cms

H$_1$: There is proper awareness about the business environment in service sector.

Research Methodology

Universe	:	Users of service and commercial sector in Jaipur
Sampling	:	Convenience sampling method
Data collection	:	Structured questionnaire through online

Data Analysis and Interpretation

The data analysis and interpretation are shown as follows:

Diagram: 1 Social Distance during COVID- 19

1. Robotic Process Automation (RPA) is an important tool in maintaining social distancing during COVID 19 situation?
200 responses
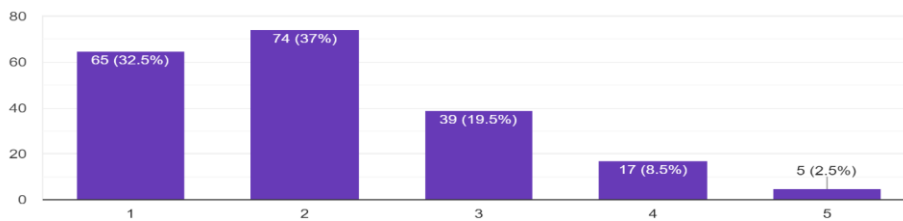
The above chart shows 139 respondents out of 200 which constitutes 69.5% of total respondents, considers RPA as an important tool in maintaining social distancing during COVID 19.

Diagram: 2 Supply of Essentials and Other Services

2. The application of RPA is helpful to maintain supply of essentials and other services during lockdown?
200 responses
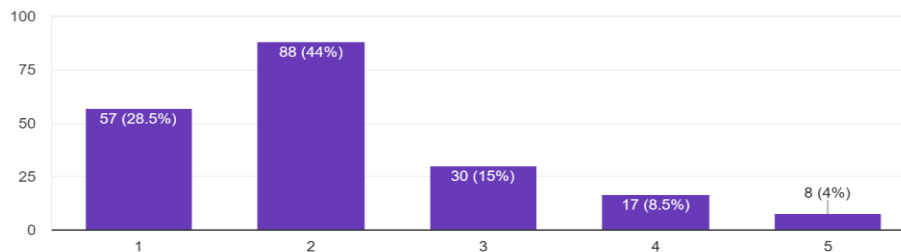
The survey reflects that 72% respondents agree/ strongly agree that RPA is an effective mode to maintain essential goods and services during the lockdown. 15% of the respondents are not forming any opinion, only a very small number of respondent disagree with the effectiveness of the RPA as an effective mode to maintain supply chain of essentials during the lock down.

Diagram: 3 Adoption of Robotic Process Automation

3. The RPA adopted by suppliers has been able to contain the spread of COVID 19?
200 responses
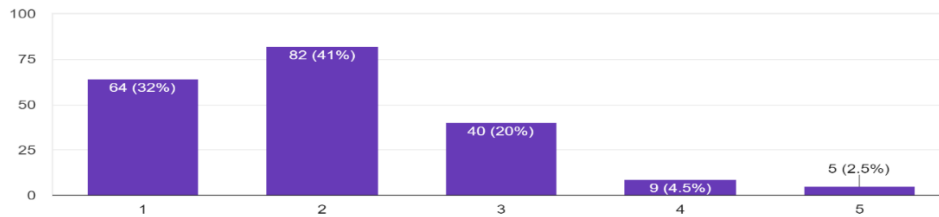
This chart shows 146 respondents out of 200 which constitutes 73% of total respondents, agree this RPA adopted by suppliers to contain the spread of COVID 19.

Diagram: 4 Implementing Social Distancing

4. The mobile applications by governments to issue lockdown pass served purpose of implementing social distancing?
200 responses
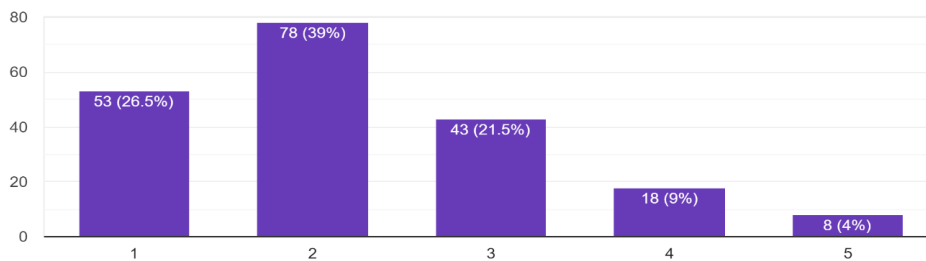
The survey reflects those 131 respondents out of 200 which constitutes 65.5% of total respondents agree that mobile applications by government to issue lockdown pass for implementing social distancing effectively has served the purpose.
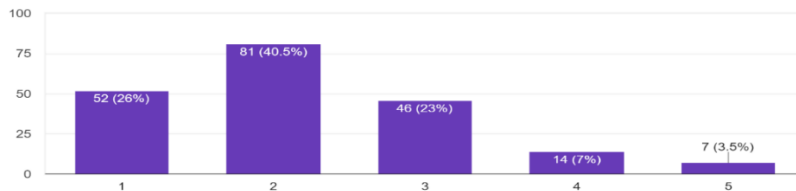
Diagram: 5 Arogya Setu Application

5. The use of automated process in form of Arogya setu application helped in tracking potential risk of infection?
200 responses
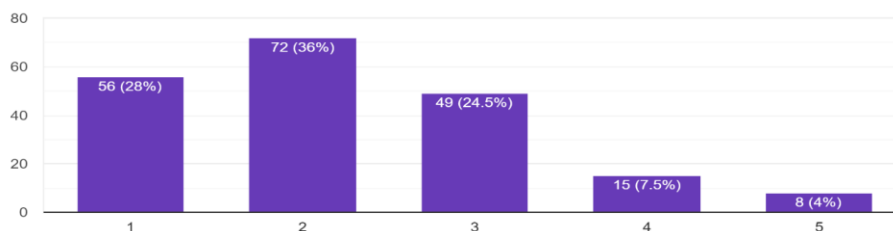
According to the data 128 respondents out of 200 thank that automated process in firm of Arogya Setu application has helped in tracking potential risk of infection.

Diagram: 6 Guidance of COVID-19

6. Arogya setu application provided sufficient information and advisories to guide the public in combatting against COVID 19?
200 responses

The survey reflects those 133 respondents out of 200 which is 66.5% of total respondents that Arogya Setu application provided sufficient information and advisories to guide the public in combatting against COVID 19.

Diagram: 7 Services of E-Commerce

7. Services of E-commerce websites have been completely automated with minimum human contact?
200 responses
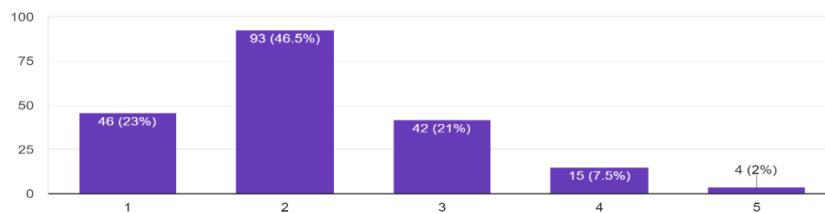
A considerably large number of respondents which constitution around 69.5% believe that services of E-commerce websites have been completely automated helping in minimum human contact.

Diagram: 8 Smooth Operation

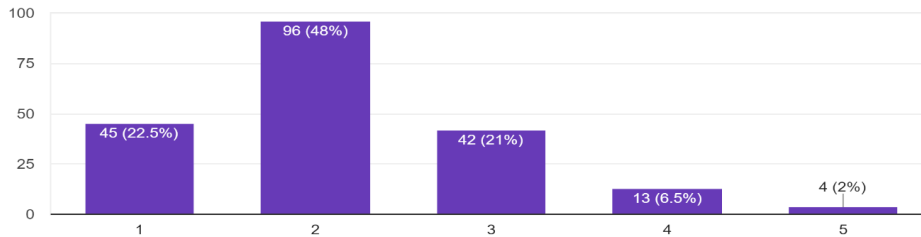8. The use of RPA is helpful for running business smoothly?
200 responses
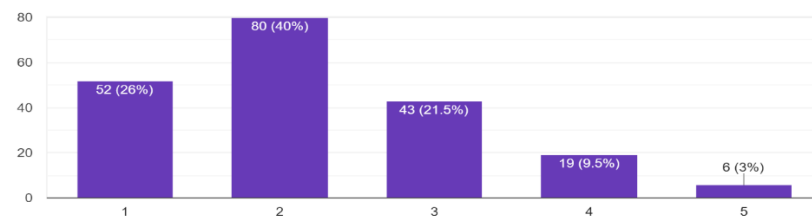
132 respondents out of 200 agree that of RPA is helpful for running business smoothly.

Diagram: 9 Goods/Service Delivery

9. The RPA has improved goods/ service delivery and all necessary business transactions during lockdown?
200 responses

This chart shows the 141 respondents out of 200 which constitute 70.5% considered that RPA has improved goods/service delivery and all necessary business transaction during lockdown.

## Diagram: 10 Security of Data

10. The RPA can completely avoid the transmission of virus?
200 responses
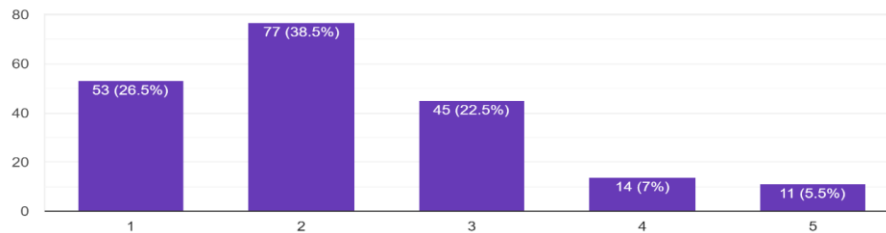
65% of respondents believe that RPA can completely avoid the transmission of virus respondents are agreeing.

Diagram:11 Useful for Government and Suppliers

11. Robotic Process Automation attempts by government and suppliers have served the purpose?
200 responses

http://www.webology.org
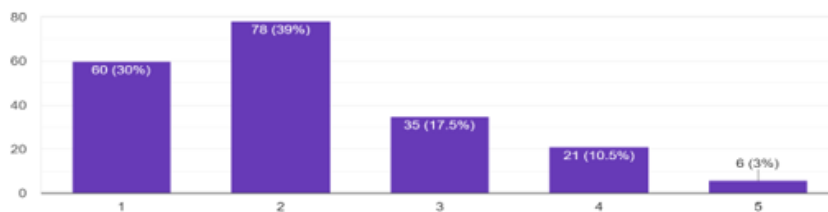
The attempts by the government during pandemic in maintaining the social distancing and supply of essentials have been welcomed by majoring of respondents. 138 respondents out of 200 agree that the RPA attempts by government and suppliers have served the purpose.

Table: 1 Respondent of Responses

S. No	Research problems	% Of Responses
1	Robotic Process Automation (RPA) is an important tool in Maintaining social distancing during COVID 19 situation	69.50
2	The application of RPA is helpful to maintain supply of essential and other services during lockdown	72.50
3	The RPA adopted by suppliers has been able to contain the spread of COVID 19	73.00
4	The mobile applications by governments to issue lockdown pass served purpose of implementing social distancing	65.50
5	The use of automated process in form of Arogya Setu application helped in tracking potential risk of infection	64.00
6	Arogya Setu application provided sufficient information and advisories to guide the public in combatting against COVID 19	66.50
7	Services of E-commerce websites have been completely automated with minimum human contact	69.50
8	The use of RPA is helpful for running business smoothly	66.00
9	The RPA has improved goods/service delivery and aa necessary business transactions during lockdown	70.50
10	The RPA can completely avoid the transmission of virus	65.00
11	Robotic Process Automation attempts by government and suppliers have a served the purpose	69.00

Conclusion

On the basis of above analysis, it can be concluded that Robotic Process Automation plays an important role in managing all operational activities in business. During COVID 19, all the activities such as marketing, selling and financial transaction were completed through Robotic Process Automation. With the help of Robotic Process Automation various segments were benefited by applying techniques and models in their business transactions. Robotic Process Automation have increased revenue satisfaction and growth. It is one of the important future tools for expansion, satisfaction and future sustainability. At the end, it can be concluded that Robotic Process Automation is not only a technique but a source of expansion, satisfaction and sustainable development for future transparency and authenticity for both customers and manufacturer as well as government.

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