

Pandemic Impact and Challenges on Work Culture: A Study with Reference to Kerala

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Abstract. The pandemic caused by the flow of Corona virus lead to drastic workplace transformation that forced numerous employees around the world to work from home (WFH). The pandemic made an enormous effect on the routine work culture and family as well. WFH, physical distancing, online education and virtual meetings became the normal routine of life of every individual.

To save the cost and to increase productivity a great number of the multinational companies have incorporated WFH concept but in India especially in the state of Kerala the idea of WFH was novel for almost all public sector and private sector organizations. Therefore, under this circumstance every organization either public or private is trying to enhance their employees to cope up with this new trend by indulging digital infrastructure which enable employee's to exhibit their duties from anywhere. In this context, the present research paper, attempts to focus the impact and challenges of pandemic caused by corona virus on work traditions in the state of Kerala.

Key words: Pandemic, WFH, work culture, organization culture.

INTRODUCTION

The mysterious cases of pneumonia which were detected in the city of Wuhan of china on December 2019, which was later named as Covid 19 by WHO on January 7 2020 emerged as a global pandemic within a flash of time. The initial case of Covid19 was reported in Kerala on January 27, 2020. As a consequence of rapid increase in reporting of Covid cases Chief Minister of Kerala announced statewide lockdown on March 23, 2020 till March 31, 2020. In March 25, 2020, nationwide lockdown was declared by the Prime Minister of India. The strict rules and regulations impose during lockdown forced many companies to adopt WFH culture which entirely swap the work tradition of an entire organizations. After the cease of the lock down the regulations imposed by concerned ministries like social distancing, repeated hand washing, wearing masks in public places and avoiding visits to mass gathering places, 50% work force, quarantine rule etc. forced the companies to continue the same pattern of culture which entirely changed the social, cultural and routine existence of employees. Fear of job loss, change in work schedule, non availability of leisure time and travel, management of private and professional life concurrently posed critical challenges on the subsistence of employees. The foremost aim of the present paper is to analyze and understand the pandemic impact and challenges on work culture in an organization with reference to the state of Kerala. Hence the study explores the emerging trends in work pattern and consequences of pandemic caused by corona virus in the work tradition of organizations.

OBJECTIVES

1. To identify the impact of Covid 19 pandemic on work culture.
2. To evaluate the challenges faced by organization due to pandemic.

SCOPE

The core area of the study is focused on the overall impact and challenges of Covid19 on work culture of an organization for both public and private department with special reference to Kerala.

REVIEW OF LITERATURE

Mithilesh Kumar and Dr Vijay Kumar(2020) in their article “Impact of Covid-19 Pandemic on Working Culture: An Exploratory Research Among Information Technology(IT) Professionals in Bangalore, Karnataka (India)” the core area discussed was Covid-19 repercussion on work tradition and they also examined the emerging trends due to wider acceptance of WFH. In their study they infer that the present situation of covid19 had changed the socio-cultural frame work and organization’s work culture. The present situation poses both opportunities and challenges for both organizations and workforce. In organizations they provided best talent without much administrative and office space cost and employees benefited with alternative working hours. It expanded the physiological stress, affected work life boundaries, increased communication gap among group members, absence of interpersonal relationship, concern over work safety and diminishing organizational culture.

Dr Meenakshi Kaushik and Neha Guleria(2020) in their study “The Impact of Pandemic Covid -19 in Workplace” in their study they explored the basic concept of WFH throughout the Covid-19 pandemic, studied the present situation of WFH, the facet which influenced WFH for employees were analyzed, and they also tried to interpret the sway of Covid-19 on job performances of workers who accept WFH. The interpretation resulted that WFH culture is an option which is accessing to be a constant attribute in the business world. In the present scenario WFH was an effective tool for ensuring the performance of an entity and also for providing work life balance for the workforce. This has both economic and also productivity benefits if managed effectively. Even though, WFH is not a remedy for all organization problems rather WFH should bear on a rational way that assure workforces are properly motivated, equipped and harnessed to impart the best from them for achieving business objective.

Alok Bansal (2021) in the article on “One year of Covid pandemic; how the pandemic changed the work culture, and what will be the future” he concluded that both employers and the employees are looking for modernized work place. After this pandemic situation flexible work schedules have been incorporated and the proactive organizations will take up this as a new normal, which will give them dominance over the industry to which they belong. Gradually every organization will make up to handle this confused situation and turn up this situation into a new opportunity.

RESEARCH METHODOLOGY

The data required for present study is collected only from secondary source and this study takes up under descriptive method of research. The data was collected from various publications of economic reviews, online journals, newspaper, articles and websites.

RESULT AND DISCUSSION

1. Organizational Culture

The organizational culture can be defined as system of shared beliefs and attitudes that develop inside an organization and it guides the behavior of its members. The main element that leads a company toward success is its organizational culture. The organizational culture influences all facets of a business, from punctuality, organization structure to employee benefits. There are various intrinsic and extrinsic factors which determine organizational culture. Some of the internal factors are organizations beliefs and values, norms, policies, working environment, leadership styles, etc. When workplace culture aligns with your employees, they are probable to feel more comfortable, supported, and valued. If the organization maintains a good working culture, then the workforce and the management can easily adapt with the change. It is considered as an essential factor that attracts employees towards an organization. Majority of the workforce consider organizational culture as a top indicator of employee gratification and the major factor that employees retain in their job.

2. Work Culture Transformation Owing to Covid 19

Every organization has their own organizational culture which makes each organization unique. The traditional way of functioning organizations faced drastic changes after Covid 19. The Covid 19 was an outbreak which affected the whole world. Most of Kerala's work culture depended on outsourcing work received from foreign countries, the situation generated a fear of loss of job among employees. This forced employees to adapt the changed work culture. The regular office time of employees has been changed. The employees were facing compulsion to do their job on different time schedules in outcome of the changed situation. Beside from this the leisure time availed during office time, office gatherings; outdoor meetings etc. were also changed after this pandemic situation. Many organizations also adopted salary cuts to tackle with the situation. This also affected the employee's morale and productivity. The hopeful prospect of this scenario emerged in the realization among the employees that every day they need not go to office and working is also possible from inside the home. With the aid of a computer with steady internet connectivity every work and meetings can be completed within the confines of their own home. This pandemic situation also changes the working pattern of organizations. Organizations realized the proposal of cost effective working by reducing administrative and office space costs. As per the situation majority of companies, especially IT companies are opting for a working model with a mix of employees who are doing their job from home and office simultaneously. In view of the gender factor the new moms and women also got advantage from this new WFH culture as they got additional time to look after the children and the family along with their work. When Covid-19 was declared as a pandemic by the WHO, the working culture changed in many of our lives. There was an extreme shift towards WFH while some of others retrench from their jobs. Segregation of job scheduling took place which build to the forming of significant workers and at present, some portion of the employee's future looks as uncertain. So in this situation

the relevance to ask the question—how has Covid-19 changed our work culture, and how will the organization culture look in the postpandemic future is very crucial. After the arrival of this pandemic Covid 19, a large-scale workforce shifted their job to remote locations, and some employees left their large office spaces and opted their homes for work. The corporate cultures were the main victims as numerous companies lost their tangible aspect of the business. The rejuvenating factors that the organizations offered to their employees like coffee times, restrooms, gyms and the socialized meetings, ended up in the corporate world. Hence, both public as well as private sector organizations lost their traditional organizational culture with the outspread of this pandemic.

3. Technology Enhancement in Organization Culture

It can be said that organization culture will not be the same for the post-pandemic period. Therefore, this provides an ample opportunity to reevaluate and revise how we can function the organizations. For so many years, 9 to 5 was considered as the unofficial watch word of almost every organization. This stiff layout swap during Covid-19 period and organizations eradicated unwanted meetings and rigid office timings to minimize Covid 19 spread. From a workers perspective, they were allowed to make flexible choices about the working conditions, and they could get their work-life balance on track. Businesses who are worthy to blend with this new method of corporate work culture will definitely gain a competitive advantage in the industry as they will be acceptable to maintain agility within the organization together with the spirit of cooperation. Latest studies have discovered that a minor portion of work force desire to go back to the full-time office job. The biggest thread facing most of the employers is that they lack in clarity around their hybrid work schedule which is more of technology upgraded. It was found that a flow of latest technologies loaded on those employees who did WFH during pandemic. The evolution of 5G spectrum enabled working from any place without any boundary and with the up gradation of artificial intelligence powered through laptops as well as Virtual Reality headsets, office meetings were being organized with workforce through this media all over the universe. During this technology era, firms are conducting online conference and employees generally are less attending those conferences when compared with offline conference. Organizations are now trying hard to integrate their employee's needs within their gatherings through online mode, and organizations are also realizing the enormously complex lives that their work forces are facing. Gradually organizations are switching to a hybrid work stead and the majority of the employees will definitely favor WFH and the remaining minor part of employees who work on low paid jobs or the daily wagers will be in a threat of losing their earnings as their jobs may disappear. Hence it can be considered as a major issue for theeconomic recovery of us because it can be a threat against equitable growth of all individual of our state.

4. Impacts of WFH on Work Productivity

Since the outcome of Working from Home will have a direct effect on work productivity. In Kerala the working culture of many of the organizations has changed because of the negative and positive effect of Covid 19 and therefore the work output of employees had marked. From the analysis it was found that the work productivity of numerous employees who are choosing WFH reduced, this is due to absence of amenities to support work such as

computer system, internet connectivity and few other disturbances like feeling saturated due to being within the similar environment for a very long time along with constrains on social life that has got to lessen the outspread of COVID-19 like social distancing, Mask etc. Moreover, for most of the organizations in Kerala, WFH was not a major notion or working culture that has been implemented. Under these circumstances, numerous organizations and workforce isn't able to adopt WFH. Besides, other psychological disturbances were also appeared to be faced by many work groups like angst of the COVID-19 outspread which were the intention behind the WFH so that they were more curious about finding novel details on the COVID-19 wave and to what extent the authorities have talked about the matter. This ultimately leads to so many work held up in every organization. When it comes to productivity of employees both male and female employees were equally productive. The female employees were having so many distractions in between their WFH because a Kerala woman is even now surrounded by a system where they must be always devoted in serving her family and if they don't meet their responsibilities as a wife and a mother, it is regarded as a gesture of sin. Even though women employees faced these distractions while performing WFH they could overcome it to an extent because women are known for their multitasking. When the inclusion of technology into work space came, it is generalized that men are having an upper hand than woman employees as it is observed that female are less interested into technological enhancement but interestingly the usage of electronic devices, laptops and social media platforms in their day to day routine enhanced the women employees work productivity because now the female workforce better know the utilization of technology as well as other media that are used to assist WFH. Hence it can be conveyed that the impact of WFH has ensued in better productivity for both male and the female employees.

CONCLUSION

To conclude it is being assumed that, the foremost takeaways from the emergence of Covid 19 are specifically it has acted as a catalyst for cultural transformation. In Kerala an entire transformation of work culture has occurred. For instance, many organizations have witnessed an increase of confidence among employers and employees with a rapid and agile decision-making potential. The organization that is successful within the conversion from pandemic to post-pandemic workplace is ending to find ways to sustain these cultural benefits and avoid a cultural retreat. Nowadays job timings are substituted and the companies who are proactive will come up with this new culture as a new habitual, this will give the employees and the employer's a finer place throughout the industry. Gradually, all the organization will intensify to grab this complicated condition and transform this into a fresh slot as the third wave is on its way.

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IMPACT OF COVID-19 ON PILGRIM TOURISM WITH SPECIAL REFERENCE TO SABARIMALA TEMPLE

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Abstract

Pilgrimage is considered as the foremost tourism mode to come into existence a long time ago. Pilgrimage Tourism helps pilgrims to flourish mentally and spiritually. Tourism contributes to developing the socio-economic culture of a nation along with individuals. Tourism is reviewed as a major source of revenue for the States. This article tries to study the impact of Covid 19 on Pilgrim Tourism in Kerala with special reference to Sabarimala. The data used for the study is secondary data like newspaper articles, magazines, and media Reports. The findings suggest that the pandemic and the measures adopted by government to overcome the pandemic situation had adversely affected the revenue and administration of Travancore Devaswom Board (TDB)

Key Words: Pilgrim Tourism, Covid-19, State Revenue, TDB -Travancore Devaswom Board

INTRODUCTION

Pilgrim Tourism is a journey to a Shrine or Holy Place in search of new or expanded meaning about themselves. Pilgrimage is a journey of moral or spiritual importance. Humans travel to different sacred places of their beliefs and ideology for gaining spiritual satisfaction. A person who makes such a trip is known as a pilgrim.

Pilgrimage Tourism is popular in our Nation as it is multi-religious. Kerala, which is known as God's own Country is a traditional destination for tourists. Pilgrim Tourists also found Kerala as a destination for pilgrimage. Some important pilgrim sites in Kerala are Sabarimala Temple, Guruvayoor Temple, Anantha Padmanabha Swamy Temple, Vallarpadam Basilica, Malik Deenar Juma Masjid, St. Francis CSI Church, Cheraman Juma Masjid etc.

The Sabarimala synagogue in Kerala which is known as "Sannidhanam" is one of the largest holy expedition locations in the world. The Sannidhanam is a sacred place of devotion that comes across Sabarimala hillock surrounded by the Periyar Tiger Reserve, in the Perinad Village-Pathanamthitta region, Kerala, India. It is one of the greatest periodic pilgrimage spots in the world with around 4 to 5 crores devotees visiting every year. The synagogue is open up for devotion only at the days of *Mandalapooja* (around 15th November - 26th December), *Makaravilakku* / "Makara Sankranti" (14th January) and Maha Thirumal Sankranti (14th April), and the first five days of every Malayalam month. This holy place comes under the administration and management of TDB and around 1248 temple's administrative expenses were meeting by the two month annual pilgrimage of Sabarimala. During the pandemic the Kerala Government had restricted the count of worshippers to visit the temple and this had a negative impact on the revenue and adversely affected the administration of TDB. This study focuses on the influence of covid-19 on Sabarimala Pilgrimage.

OBJECTIVES

- To study the overall effect of covid-19 on Sabarimala Pilgrimage
- To study the impact of covid-19 on annual revenue of Sabarimala Pilgrimage

SCOPE OF THE STUDY

The study particularly focuses on impact of covid-19 on Sabarimala Pilgrimage

LITERATURE REVIEW

Libison K B and K P Muraleedharan (2009) "Economic benefits of pilgrimage tourism: A case study of sabarimala pilgrimage with special reference to pandalam rural locality in Kerala (India)" In their study they mainly focused on the micro economic development of local economy and impact of sabarimala pilgrimage on the living conditions of regional community. The study disclosed that the mainly the household income of peoples in pandalam are generated

from Sabarimala pilgrim season. People increase the average monthly income by providing transportation facilities to pilgrims. Also the standards of life of Pandalam local peoples are higher in this pilgrim season.

Bindu, K (2015) in her study “A study on pilgrim tourism in Kerala”, focused on Kerala Temple pilgrim tourism and try to analyze the performance of tourism in the international, national and state level, the management of Devaswom Boards and its the revenue and disbursement of Devaswom Boards and temples in the State. The nature of staff pattern in both Devaswom Boards and Temples. The study concluded that, there is no significant difference between growth rate of tourism arrival at international, national and state levels. Major revenues are driven from temple pilgrim tourism and there is absence of supporting facilities but DB staff are making an attempt to increase the number of tourists.

Abdul Nizar A (2018) in his study “Tourism in Kerala An Evaluative Study”, tries to evaluate the major pilgrim centers in the State, the value of services and facilities provided in each pilgrim centers, attracting factors towards kerala pilgrim centers, difficulties faced by the pilgrims in different centers also social economic and environmental effect of pilgrim tourism from the perspectives of pilgrims together with host community. The study concluded that the pilgrim tourists are attracted by the spiritual cause and the beauty of the places. Group visiting is the preferred method of pilgrim tourism. There is a problem in infrastructure and transportation methods are good in some centers. Cost of transportation service & infrastructure are very high in pilgrim centers.

Joice K. Joseph(2018) in his study “Socio ecological study on the dynamics of crowd behavior and associated risk in mass gatherings with special reference to Sabarimala pilgrim destination in Kerala India” finds that there are probable health threats on person to person communicable diseases in the Sabarimala destination . A lot of health issues are pointed out in the mass gathering at Sabarimala destination .This study also finds out that there is a lack

of coordination in the health department towards mass gathering, inadequate medical facility and unavailability of medical staff, and local transportation issues are there.

RESEARCH METHODOLOGY

This study is based upon secondary data. Data were collected from newspaper articles, magazines, journals and websites.

RESULT AND DISCUSSION

The Sabarimala shrine faces a number of adverse incidents during 2018-19 like flood and violent protests against the tribunal order on September 28,2018. Covid -19 was another core issue which adversely affected the shrine. The pandemic had a negative impact on Sabarimala Pilgrimage. Around 4 to 5 crore devotees visit the holy shrine during the season of pilgrimage. During the pandemic, the Kerala Govt had restricted the count of devotees to enter the temple, as part of the Break the Chain initiative. Only 1000 devotees were allowed to visit the holy place a day and on Saturdays and Sundays 2000 devotees were allowed during 2020. Now around 25000 devotees are permitted to the shrine on a daily basis. The Kerala government had also issued guidelines like virtual queue system, RT-PCR negative or double dose vaccination certificate and aadhar card are mandatory for devotees to enter Sabarimala. No pilgrims were permitted to camp at the synagogue. These restrictions and guidelines reduced the flow of devotees.

Unorganized retailers and taxi drivers in Erumely , Pathanamthitta, Kumily places near to Pamba and Sabarimala earn a higher revenue in mandala makaravilakku season than other days. The depletion in the number of pilgrims also affects the local people who provide facilities to the devotees.

In accordance with the article of The New Indian Express, the Travancore Devaswom Board relies on the revenue of annual pilgrimage of Sabarimala to fulfill the administrative expenses of the 1248 temples under its ambit. During the pandemic the Travancore Devaswom Board found it hard to meet the administration cost of the Board as its main source of revenue i.e., from

Sabarimala was very low. The below mentioned table indicates the annual revenue of Sabarimala during the last four years.

Table 1.1 Sabarimala Pilgrimage Season Revenue

Year	Revenue
2020-2021	Rs.21.17 Crore
2019-2020	Rs.269.37 Crore
2018-2019	Rs.179.22 Crore
2017-2018	Rs.277.96 Crore

Source: The New Indian Express

The above table clearly shows that the revenue from Sabarimala was high during 2017-18 followed by Rs.269.37 Crore in 2019-20. In the course of 2018-19, there was a slight decline in revenue due to the flood and protests against the Supreme Court order. During the Covid period the earnings was only Rs.21.17 crore which means a huge drop of annual income by 92.2 percent.

Other revenues from auctions of shops during pilgrim season and offerings of pilgrimage also fall off. Revenue from auction of shops during 2019-2020 was Rs. 450 million which declined to Rs. 40 million in 2020-2021. Offerings during 2020-21 was only Rs.8.62 Crore which means a decline of Rs. 88.84 Crore was incurred in comparison to Rs.97.46 crore in 2019-2020. This will affect the revenue of local governments like panchayats also.

The pilgrims from other states mainly from Karnataka, Tamil Nadu, Andhra Pradesh, and North Indians were stay at different temples administered by local religious group, known as “Edathavalam” , had earn receipts in the form of offerings which is an additional revenue of such temples, were also fell down during the pandemic. Mostly the income from Sabarimala is utilized for the functioning of other temples and reinvest in infrastructure development of Sabarimala in each season. The diminishing level of income forces the TDB to borrow to meet the expenditure.

The Government of Kerala had adopt various additional facilities for devotees during the pandemic like additional KSRTC buses to Pampa, Covid Test Center at Nilackal, services of

expert doctors and trained staff nurses and other medical facilities, free ambulance service and emergency medical centers and oxygen parlors were arranged at five places along the journey from Pamba to Sannidhanam. Medicines and safety equipment were also provided. These additional facilities charge extra costs to the Administration.

Coming to the overall view, the effect of the pandemic affected the depletion in the number of devotees which reduced the environmental pollution. As per the article in The Economics Times, 125 million solid waste is generated in each Sabarimala pilgrim season, especially plastic waste, food waste and human waste. These were reduced and water contamination in the Pampa river also reduced. This will help to lessen the spreading of diseases caused due to waste and environment pollution.

The Shrine lies close to the buffer zone of Tiger Reserve at Periyar and is surrounded by mountains and forest. Around 40% of the devotees use the traditional pedestrian routes (forest route) to reach Sabarimala. During the pilgrim season, mass gatherings of human beings in the forest area affect the wildlife ecosystem and also generate solid waste and pollution in the forest. But during the pandemic, there is a drop in the number of devotees, which results in less interaction of humans with wildlife. This helps to sustain the wildlife ecosystem.

CONCLUSION

This study tries to reveal how the pandemic situation affects the Sabarimala pilgrim tourism revenue of TDB and Kerala Government. Restrictions in arrivals and halting reduces the devotees and the revenue from them. The local lives of nearest areas whose main income was the Sabarimala Pilgrim season was very bad in condition. The Govt. is under high risk to compromise the expenditure on additional facilities and infrastructure development in Sabarimala. The reduced level of income of TDB also faces a crisis in the functioning of other temples under TDB. Another impact is the depletion in revenue of temples, edathavalam, which provides accommodation facilities was met with problems in their operations.

From this study it can be inferred that even though the pandemic had created a drastic decrease in

the state revenue, the government restrictions on avoiding mass gatherings of devotees at temples has helped the prevention of the mass spread of covid 19 in Kerala.

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Managing Pandemics: India's Responses to COVID-19

Managing Pandemics: India's Responses to COVID-19

India has witnessed the emergence of the COVID-19 with a confluence of complex economic and public health challenges. The Government recognized the threat posed by COVID-19 and accordingly responded in a stratified fashion in tandem with the rapid progression of the pandemic across the States. The Indian response can be dissected into three intersecting phases like controlling the borders to limit international travel, curb the spread of the disease within the country through primary and secondary contacts of travelers and nationwide lockdown to curtail local/ community transmission of the COVID-19. The Indian response to COVID-19 with panoptic inputs from citizens, civil society organizations, the private sector and the State and Central governments was exhaustive, all-embracing, strenuous and calibrated. The book, "Managing pandemics: India's responses to COVID-19" portrays the Indian responses to curb and mitigate the pandemic in a robust and dynamic manner. This book is useful for academicians, policy makers, scholars, researchers, public health professionals and people involved in emergency preparedness and conceptions.

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A study on Covid-19 emergencies and impacts in higher education, with special reference to MES College Erumely

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The covid 19 pandemic and the social distancing that followed have effected all walks of society, also education. In order to keep education running, educational institutions have to quickly adapt to the situation. This has resulted in an unprecedented push to online learning. Many including commercial digital learning platform providers, have rushed to provide their support and solution for free. The covid 19 created a sellers market in ed- tech. Before covid-19 there has been increasing critique of how ed- tech is redefining and reducing concepts of teaching and learning. The covid- 19 pandemic has caused the largest disruption of education in history, already had a near universal impact on learners and teachers around the world, from pre- primary to secondary schools, institutions, universities, adult learning, and skill development establishments. The children lack daily access to school and the basic support schools provide for many students, but they also loss out on group activities, learn sports and recreational options.

The present study explains the impact of sudden covid-19 emergencies and contingencies in the field of higher education. The study found that there is a positive and negative impacts of covid-19 affected on higher education. Positive impacts like enhanced digital literacy, improved use of electronic media etc. Reduced employment opportunity is the main negative impact of covid-19.

Keywords

Covid-19, higher education, emergencies and impacts

INTRODUCTION

The corona virus disease (COVID 19) global pandemic has resulted in unprecedented public health measures. This has impacted the education sector with many universities halting campus based teaching and examination. We have described and quantify the casual effects of Covid-19 outbreak on a wide set of student outcomes/ expectations. In particular we analyzed enrollment and under graduation decisions, academic performance, major choice, higher studies etc. For this purpose we

surveyed graduated students. The survey was explicitly designed to not only collect student outcomes but also to recover counterfactual outcomes in the absence of outbreak. Even the education sector has been fighting to survive the crisis with the different approach and digitalizing the challenges to wash away the threat of pandemic. In this research we highlighted some measures taken by government of India to provide seamless education in our India and also the positive and negative impact of sudden covid emergencies and contingencies on the students graduated in the year 2020 are discussed and served fruitful suggestions are pointed to carry out educational activities during the pandemic situation.

OBJECTIVES

- To study the effects of covid pandemic, lockdown and the current uncertain situation on the higher studies of graduates.
- To find out whether the current emergency has resulted in a confusion and tension in the minds of the graduates due to this sudden change in educational environment.
- To analyze what is the impact of this situation on students and job seekers who had plans of moving abroad.

REVIEW OF LITERATURE

According to Sakshi Agarwal & Jaya Shankar Kaushik:- Corona virus pandemic has not only impacted human life but also impacted medical education and residency training all over. With principles of social distancing, all face to face classes were suspended due to the ongoing COVID 19 pandemic. COVID pandemic made us realize the importance of online training for our pediatric postgraduate students. Students' satisfaction levels with online learning were comparable to the previous studies. In the view point of **Pravat Kumar Jena:-** The impact of pandemic COVID-19 is observed in every sector around the world. The education sectors of India as well as world are badly affected by this. The education sector has been fighting to survive the crises with a different approach and digitizing the challenges to wash away the threat of the pandemic. This paper highlights some measures taken by Govt. of India to provide seamless education in the country. According to **Amit Kumar Arora, R. Srinivasan** Work from home (WFH) has become the norm,

especially for service organizations. Following government instructions, even the academic institutions had to shut down temporarily, affecting academic delivery. Less attendance, lack of personal touch, and lack of interaction due to connectivity issues were found to be the significant drawbacks of virtual classes. The study also suggested the ways to overcome the above challenges, drawbacks, and reasons behind non - adoption of virtual classes.

SAMPLE PROFILE

That among 60 respondents, 51% of respondents are 'Female' and 49% of respondents are 'Male'.

It is clear that 10% of respondents are 1st year students, 30% of the respondents from 2nd year degree and 60 % of the respondents are from final year degree. It is evident that final year students are more active in giving response for the present study.

METHODOLOGY

The present study was made on the basis of both primary and secondary data. Primary data were collected from respondents of graduate students, by administrating schedule in google form. Secondary data needed for the study were collected from books, journals and reports. Also some materials collected from the world wide web have been appropriately used in this study. The data collected were properly analyzed to arrive at realistic results. Primary data were collected during the year 2020.

RESULTS AND DISCUSSIONS

POSITIVE IMPACT OF COVID-19 ON EDUCATION

- **Rise in online meetings-** The pandemic has created a massive rise in teleconferencing, virtual meetings, webinars and e-conferencing opportunities
- **Enhanced Digital Literacy:** The pandemic situation induced people to learn and use digital technology and resulted in increasing the digital literacy.
- **Better time management:** Students are able to manage their time more efficiently in online education during pandemics.

- **Demand for Open and Distance Learning (ODL):** During the pandemic situation most of the students preferred ODL mode as it encourages self-learning providing opportunities to learn from diverse resources and customized learning as per their needs
- **Improved the use of electronic media for sharing information:** Learning materials are shared among the students easily and the related queries are resolved through e-mail, SMS, phone calls and using different social Medias like WhatsApp or Facebook.

NEGATIVE IMPACT OF COVID-19 ON EDUCATION

- **Reduced global employment opportunity-** Some may lose their jobs from other countries and the pass out students may not get their job outside India due to restrictions caused by COVID-19. Many students might have returned home after losing their jobs overseas due to COVID-19. Hence, the fresh students who are likely to enter the job market shortly may face difficulty in getting suitable employment. Many students who have already got jobs through campus interviews may not be able to join their jobs due to lockdown. The students who have been doing their jobs abroad may lose their jobs. Recent graduates are of also fearing for integrated with a present-day mainstream higher education system.
- At current times, access to technology and internet is an urgent requirement. So, the digital capabilities and the required infrastructure must reach to the remotest and poorest communities to facilitate the students to continue their education during the pandemics.

The study determined that of the 90.5% students study plan has affected, of the other surveyed 71.4% students are not interested to study offered online and 71.4% students don't agree to pay huge amount of fees for further education courses and attend it online.

SUGGESTION

- Govt and educational institutes should plan to continue the educational activities maintaining social distancing.30-40% students and teachers may attend schools/colleges in two shifts per day to carry on educational activities by obeying guidelines for COVID-19.
- Give guidance on missing course credits required for graduation, Financial support for the expected income losses, provide adequate motivation for the online classes.
- Provide more options for practical possibility to find jobs through online during this pandemic.

LIMITATIONS AND SCOPE FOR FURTHER RESEARCH

The opinion of the respondents may vary from person to person and from place to place or from the same person from time to time, which results in some difficulties in data collection.

Collection of data from the respondents was a time consuming task as many of them not willing to respond. Non availability of network is difficult to collect the response. The study was conducted among the graduate students in MES college Erumely in the year 2020. The theoretical scope of the study covers the emergencies and impacts of covid-19.

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Chapter-26

Computational Linguistics: Scope, Future, and Challenges

*Tintu Sebastian**

Abstract: Computational Linguistics (CL) is the branch of linguistic; it is concerned with the comprehension of spoken or written forms of language from a mechanical or computational perspective. It can explain as the application of computer science in the field of linguistics. This paper aims to study the scope and application of Computational Linguistics in different fields. Also, discusses the challenges facing in recent times. Now computational Linguistics is used in speech recognition (SR) systems, interactive voice response (IVR) systems, search engines, text to text speech (TTS), and language instruction materials. But in this era of technology, computational Linguistics can grow beyond than this status. It can do something more in different advanced and modern interdisciplinary fields like Machine Learning, Artificial Intelligence, and Neuroscience...etc. In addition to this, there are a lot of job opportunities exist in the field of computational linguistic. In private-sector tech software companies hire computational linguists to work on natural language processing; it helps human beings to communicate with technological devices through Voice User Interface (VUI). In the area of translation and writing, computational Linguistics can work effectively, even with a business goal. This is a developing system however it still facing certain challenges like it lacks the naturalism of human communication and certain issues related to technological errors.

Keywords: Computational linguistic, Artificial intelligence, Technology, Library, Medical field

Language is defined as the medium of communication. Human beings are transmitting their ideas in different ways. It may be spoken or written and even gestures can use as a mode of conveying

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ideas. But speaking is an effortless and straightforward way of communication and believed that speaking is the peculiar feature of human beings. Language and technology are two different entities in historical concepts. The advancement of technology, as well as language, subverts that traditional notion. In recent years the language is applied in several technology-related areas for different purposes. Language is a system that always growing, and technology too. The application of linguistics can be recognized in several areas. For example, it's introduced in the field of Medicine, Education, Psychology, and Anthropology. Consequently, even there is a branch developed in linguistics named 'Applied Linguistics'. Applied linguistics is an interdisciplinary system of linguistics, which studies how linguistics can understand and make solutions to real-life problems in various areas. As Brumfit said, "Applied linguistics is the theoretical and empirical investigation of real-world problems in which language is a central issue". (27) It enriches the relationship between theories to practical implementation. This practical exertion is visible in advanced computerized technologies. As a result of this implementation, a subfield of Applied Linguistics emerged with the name computational Linguistics (CL) and it's growing as one of the main branches of linguistics.

Computational Linguistics is concerned with the comprehension of spoken or written forms of language from a mechanical or computational perspective. It can elucidate the application of computer science in the field of linguistics. This field makes a scientific study of language from a technological or computational aspect. The main aims of computational linguistics are to create a system that can understand the human language and embellish the circumstance of man-machine interaction. Now computational Linguistics is used in Speech Recognition (SR) systems, Interactive Voice Response (IVR) systems, Search Engines, Text Text Speech (TTS), and language instruction materials. But in this era of technology computational Linguistics can develop beyond its contemporary level. It can do something more in different advanced and modern interdisciplinary fields like Machine Learning, Artificial Intelligence, Neuroscience...etc Nowadays the interaction between machines and human beings is quite usual therefore the future of computational linguistics is hopeful. Before aims it's future, one should grasp some ideas about the past of computational linguistics.

Computational Linguistics is often presented as the coeval of Artificial Intelligence but it existed early, before the advent of Artificial

Intelligence. Originally Computational Linguistics was born in the 1940s in the United States to translate texts, automatically from foreign languages especially Russian Scientific Journals to English. It was in 1954 first public demonstration of machine translation was happened. Even though it failed, the incident makes a milestone in linguistics as well as technology. After that great demonstration, the famous computer scientist David Hays coined the term 'Computational Linguistics' in 1962. 1964 witness a revolutionary discovery in this area by Professor Joseph Weizenbaum who developed the first chatterbox. It is named 'Eliza' that imitates human conversations. The development of this area is very significant in the late 90s; machine translation is getting diverted into machine learning. At the beginning of 2000, this subfield of linguistics explored more different paths to interconnect the human race with technology. It opens more opportunities and futures for computer scientists and linguists as well.

In the beginning, the term computational linguistics has been very closer to the school of Linguistics, in contemporary times it's more related to Computer science or Machine Learning. Computational linguistics is always associated with Artificial intelligence (AI), both fields are grown simultaneously. Artificial Intelligence is just as opposed to natural intelligence; it imitates or mimics the cognitive characteristics of human beings. In this programming, the device turns the acquiring data into actionable information by going through different rules. These rules are called algorithms, which steer the computing device to assorted steps to complete the given task. Artificial intelligence requires special hardware or software for writing and training these algorithms. So AI system works with trained data it analyses the relation between one's predictions and the correct response. A chatbot is the best example for this where language identification and image recognition are possible. The main intention of AI is reasoning, planning, learning, and the processing of natural language. Also, the ability to solve arbitrary problems is the long-term goal of this field. AI application is quite common in recent times, from Google search engines to the face recognition mobile device are the numerous ways that human beings are interacting with AI. It also exists in, recommendation systems used in different social platforms like YouTube and Facebook. Alexa is another example of AI, which is developed by Amazone. It is capable of voice interaction, music playback; playing audiobooks, providing news, setting alarms...etc. Linguistics plays the main role in the progression of AI because without

linguistics the machines cannot understand the human language. The linguists argue that, for developing a machine that understands the human language, linguistics should place at the center of that AI project. Machines are functioning based on prefixed encoded rules so the difficult and complex nature of human language is always a challenge for Artificial intelligence. As legendary computer scientist Professor John McCarthy's opinion "natural language does not have a full set of inference. At least linguistics hasn't identified them yet". That means human language is a more complex system that cannot be understood by technological devices. So the application of linguistics may help to improve the learning and comprehensive connection between human language and machine. NLP - Natural Language Processing is a remedy for this problem. It's an area of AI linked to computer science and computational linguistics that helps to reduce the problems between computer learning and human communication.

In the higher education system as well as in research programs NLP and AI open unique doors for linguists and computer scientists. It also presents the hope of a great career in professional writing and translation of works. In current days some universities like the University of Toronto offer courses in computational linguistics in association with the Department of computer science. Likewise, they hire computational linguists as the professors of these courses. A computational linguist can work with tech companies. Big multinational companies and government authorized NGOs are hiring linguistic professionals to design and develop lexical tools and for expanding natural language processing tasks. Tech giants like Amazon, Google, Microsoft, Facebook...etc have been hiring linguists in the last few years especially for developing Voice User Interface (VUI). Voice User interfaces permit the human being to interact with a system through voice command. Google Assistant and Alexa are widely using VUIs. The great advantage of these is to provide a hand-free and eyes-free interaction even if focusing on some other works. So the computational linguistics simply makes strategies for human-technology interaction. Additionally, computation techniques are used by marketing companies to collect feedback from customers and to understand the consumer's priorities. Through telecalling, they ask some automated questions and seek responses to improve their services.

Moreover, this field is important in medical and healthcare-related services. In the medical field, Computational Linguistics helps to

collect the correct information about the patient and his medical history through using certain keywords. New software is developed by the juxtaposition of medicine and technology, called BioNLP - Biomedical Natural Language Processing. BioNLP intends for computers to automatically understand the human language and produce results about patient care, updated information about diseases or things related to public health. It was in 1969 NIH researchers Pratt and Pack explain the scope of BioNLP in the paper "Automated Processing of Medical English". They said, "The development of a methodology for machine encoding of diagnostic statements into a file, and the capability to retrieve information meaningfully from [a] data file with a high degree of accuracy and completeness is the first phase towards the objective of processing general medical text."

In this era of pandemics, BioNLP provides an easiness to approach the medical field. In this isolated situation, all people are suffering without good medical support, especially the aged ones and children. Several superficiality hospitals provide telemedicine facilities with the assistance of NLP. Even an old man or others can share their worries about health and NLP will answer their questions automatically. Through understanding the keywords from incoming questions it provides a solution by searching the database of known answers. Otherwise, it finds out the answer by summarizing the Pubmed or Medicine plus article. So this quick access is valuable and trustworthy to save time and cure disease. Speech comprehension, Speech analysis, and Speech generation software of computational linguistics also help physically handicapped people especially the blinds. They can spontaneously get the solutions through speaking with these applications. Telephone inquiries are similarly using the benefits of Computational Linguistics, like the telebanking and plane or train tickets inquiry system. These are the ways that make human life effortless and convenient.

Computational Linguistics tries to solve the problems related to writing and the literary field. It assists the writer in spell checking, grammar checking, style checking, makes automatic hyphenation, text summarization...etc. CL supports with Machine Readable Corpus (MRC) it's useful in automatic lexical analysis. MRC procures synonymous for the words and their parts of speech and other terms related to the specific word through lexical analysis. Information Retrieval System (IRS) is considered as the application of CL. That design as a system explores in a large database and searches for

relevant information it may be a scientific technique or business files. Natural language interface (NLI) and Natural language generation (NLG) are associated with the computational linguistics. NLI enables human beings to interact with machines in any language it may be English, Malayalam, or Tamil. NLG on the other hand it transforms computer data into normal human language. Optical Character Recognition (OCR) produces the text information and details of the given image. It is useful for students as well the artists to find out the relevant information about a particular image. Cross-Language information retrieval (CLIR) is a suggested term associated with the application of computational linguistics, which aims to break the wall of language and make all language accessible for everyone respective of region or culture. CLIR works with the user's common language and provides the data in the target language through using Machine Translation.

All these new generation technological applications are strengthening computational linguistics to grow and flourish. Also with the new technological innovations and endeavors, machine translation is still relevant for computational linguistics. Even translation can do with business goals; it translates a text from one language to another. The Novel Data Acquisition method has been developed recently to make a large set of translation processes. Human translation has a lot of challenges and problems but at the same time machine translation can produce translated text with quality. In the case human translator at least he/she should be proficient in the source language as well as the target language. Otherwise, that translator will fail in translation and human translation takes a long period. But in Machine translation, the software can find out and use words from any other language within a limited time. It has been many years Translation Memory System been commonly used in the Translation of Documents; it enhances the consistency of translations. CLAT - Controlled Language Authoring Tool increases the speed of this Translation Memory system it assists the authors to produce documents within a limited time. Now the Google translation is popular among people who are using smartphones, which helps to translate any language to English. In libraries, the applications of computational linguistics are very effectively used to search the essential text from the catalog. Any reader or researcher can easily access the information from any part of the word by entering the keywords or voice searching. The audio library is a great innovation in

this field by the application of CL. This advanced system is extremely beneficial for students, especially for blinds. By using voice searches they can access the audio files of particular information and through listening, they can acquire knowledge without the assistance of a companion.

However, computational linguistics confronting plenty of challenges even in this present so-called 'technological era'. The first and foremost problem of this system is it's not accessible for the common people who were unaware of these technologies. Computational linguistics is always followed a highly professional approach so educated and technological experts can only get the benefit. In a country like India, the people are not tech-advanced, especially the older generation. Technological errors are quite common in this field. If the database isn't created carefully there will be a possibility to produce wrong information. Unexpected breakdown in the system is another issue. Breakdowns or errors in applications can't be predicted, it will create discomfort among people. Similarly, there may be a possibility of erasing all databases from the software due to these errors. Technology is in its growing stage so it may take a long period to eradicate that errors and it needs the work of excellent techies. AI is constantly aimed to develop software with human speaking ability, but it is not practically possible yet. Machine speaking is always in a robotic model like in Google maps and navigation. The errors in input and comprehensive level may produce unsatisfied output because the application works based on a set of programs. The speech recognition will be difficult for the machines if the intonation or articulation is different. Especially for a non-native speaker of languages, may not have excellent pronunciation in that particular language. Likewise, most of these tech devices are systematized and practiced in foreign languages particularly in English so the dialect usages are not available in its service. Nevertheless, there should be hope with the emerging power of technologies computational linguistics eradicate all of its faults and flourish beyond its current status.

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