



Data Analytics For Contrasting The Brunt And Leverages Of Covid-19 On The Entertainment And Media Industry

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Abstract: Covid-19 is considered to be one of the biggest threats to people's lives. A worldwide lockdown was imposed, and it affected many important sectors, one of them being the entertainment and media industry. People were stuck in their houses and had nothing to do but enjoy the 'new normal'. They switched to Ott platforms for entertainment and from digital to print media. They also switched from hard copies of books to e-books. Because of this flare-up of Covid-19, the entertainment and media industry saw some positive effects but many negative ones. The authors have tried to portray these statistics through the collection and representation of data, and also state reasons for the same.

Index Terms - Entertainment, Media, Covid-19, Social-Media, Viewership, Unemployment, Print Media

I. INTRODUCTION

It was December of 2019 when Covid-19 came into the picture. It turned out to be a humanitarian catastrophe for everyone alive [1]. During the pandemic, the government implied various measures to control this fatal virus's spread. The offline stores were closed, and people couldn't go to halls and cinemas, the bookstores were closed, malls were closed, and the shooting of various tv shows and movies was stopped which also caused unemployment in this industry. In this phase, people started binge-watching and reading new stuff. People got stuck in their houses when the lockdown was imposed and they had no other option left, other than making their lives comfortable in the 'new normal'. People switched to new forms of entertainment. There was a phenomenal increase in the statistics of the rise in viewership of Ott platforms [15]. Social media platforms also witnessed a huge increase in their users and downloads[16]. Gaming and online streaming boosted up. In the time of Covid-19, the entertainment industry faced a very positive escalation quality-wise. Shows as Ramayana and Mahabharata aired on television again, giving a good sense of perspective and values to today's generation [2]. Likewise, media is the most powerful tool used for mass communication. As the Covid-19 cases increased, people became more careful about their own health and what all is going on in the world, so they started watching more and more news channels because of which digital media had a great augmentation. On the other hand, the print media faced a very unfortunate consequence [6]. This paper emphasizes the positive and negative impacts of Covid-19 on various elements of Entertainment and Media. The authors have tried to collect data that shows the accretion and abatement of the statistics and state reasons for the same.

II. LITERATURE REVIEW

This section tries to draw a parallel between the positive and negative impacts of Covid-19 on the Entertainment and Media industry. Covid-19 got the governments and authorities to impose lockdowns in countries to control the spread of the virus, because of which people stayed inside their houses and found replacements to entertain themselves. The positive impacts are termed the 'brighter side' and the negative impacts are termed the 'darker side' of this scenario.

A. Brighter Side

Most of the global population spends their time on OTT platforms and this increased rapidly during the lockdown [5]. The expected growth of these platforms was \$104.11 billion in 2019 whereas the recorded growth was \$161.37 billion in 2020, thus the growth rate (CAGR) observed here is 55% which signifies the impact of Covid-19 on these online streaming platforms. Digital entertainment platforms observed high numbers of subscribers, therefore the growth rate of revenues of these entertainment platforms has increased drastically in the last quarter of 2020. It has been observed that among the total online searches, the percentage of online video streaming has been the largest (94.1%). Netflix, Amazon Prime Video, Disney Plus, Hulu became the top online entertainment platforms that made huge profits during the quarantine. As most people were trapped inside their houses, they chose these platforms for entertainment, to reduce their stress, and to divert their minds from the negativity of the alarming pandemic. The average time spent on these platforms was increased by three times as compared to 'before lockdown' data. The total expenditure on these platforms population also increased, as they got addicted to the online content streamed. YouTube [8] became the 5th most used social media application in 2020 whereas Instagram [9] users just doubled from 2018 to 2020. This also gave opportunities to various micro-influencers to get a good engaging audience because of which they posted more often which resulted in a good growth rate for them and their channels. Rerunning the 'old classics' on television really had a very positive outcome at a time when people were going through abundant mental stress. Covid-19 made sure that no generation would miss the quality content, thus popular shows like Ramayana and Mahabharata were back on the timeline once again. Door darshan was never expected to break records in this digital era, but somehow it was the second time that it became the most-watched channel. It was the first time that the viewership of repeat telecasts had such a high television rating point (TRP). Total views of these iconic pieces also increased on online streaming platforms like YouTube. The pandemic turned out to be quite melancholy for the bookworms as the offline bookstores got shut throughout and the print stores were also facing a challenging period as people refused to buy hard copies because of the fear of infection. This resulted in high sales of E-books [7]. People preferred buying e-books over hard copies of books even after Covid-19 lockdowns. Thus, quarantine changed people's preferences from books to e-books which also turned out to be quite beneficial to the environment as there was less cutting and usage of wood pulp which saved trees and resulted to be very helpful to the environment. Digital media also faced a major gain in viewership as people kept watching news channels for getting all the new information related to the pandemic so they don't miss anything.

B. Darker Side

Covid-19 as a pandemic had unlucky impacts on various industries, like the decline in print media, unemployment in the film industry, the shutdown of bookstores, etc [3]. All these were miserably hit during the lockdown in numerous ways. Print media struggled a lot during the lockdown times, as they could have become the cause of the spreading of the deadly virus around the world [2]. The print media industry faced huge losses as their main source of income generation was done by publishing advertisements, and after that, the circulation of newspapers and magazines dropped so excessively that the advertising companies did not wish to invest in advertising anymore, which caused a dropdown in their business [6]. Excessive change in the circulation of newspapers and magazines was again the reason for unemployment in this industry. The shutting of books stores gave a massive shock to people who usually read books as part of their entertainment ventures. The film and Television industry faced unemployment, telecasting issues, and postponement of new releases [12]. According to the data, the media infrastructure faced the maximum loss because of any pandemic that occurred to date (became \$1 billion from \$2.6 billion for the movie industry itself), many popular personalities left their roles in the upcoming shows/movies which resulted in a huge drop in revenue generation from the industry. It took a lot of time to heal both the print media business losses and the film industry's backbone [10].

III. ANALYTICAL STUDY

This section highlights the quantitative analysis showing the impacts of Covid -19 on various factors. The increment and decrement of different factors are stated and conclusions are drawn on a similar basis. A study showed that mobile data consumption grew from 2146 in 2019 to 1869 in 2020, whereas smartphone penetration shot up from 46% in 2019 to 58% in 2020. People did not have many things to do and their offline approach to various activities was also deprived, so they shifted to mobile phones and digital entities [13]. Another survey demonstrated that the usage of WhatsApp was the most, among all other social media platforms in the year 2021 i.e. 94.67% for males and 100% for females, Facebook usage was 82.67% for males and 70% for females, and YouTube usage was 86.67% for males and 67.21% females, concluding that irrespective of the gender, people have used a lot of social media platforms in the year 2021 because of the outbreak of the pandemic.

Table 1. Different OTT platforms and their revenues pre-Covid-19 and post Covid-19

Year	Netflix	Prime Video	Hulu
2018	15794.34	14168	3488
2019	20156.45	19210	9159
2020	24923.62	19700	16923

Table 1. represents the increase in Netflix revenue from 20156.45 in 2019 to 24923.62 in 2020, Amazon prime video from 19210 in 2019 to 19700 in 2020, and Hulu from 9159 in 2019 to 16923 in 2020. This increase in revenues is because there has been a sudden shift to the Ott platforms during the time of Covid-19. When it comes to the global streaming revenues as a whole, there has been an increase from 50.5 in the year 2019, 59.1 in the year 2020, 72.2 in the year 2021, and 84.3 in the year 2022. This increase clearly demonstrates the increase in the viewers on Ott platforms. This increase is because most of the people were stuck at home and had to rely only on the Ott platforms and digital media for their entertainment.

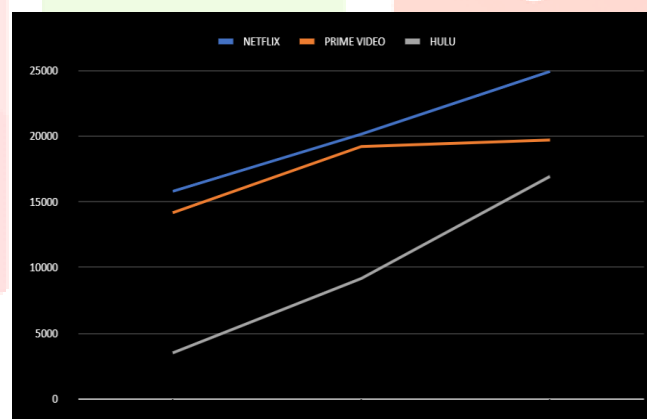


Figure 1. Different OTT platforms and their revenues pre Covid-19 and post-Covid-19

Figure 1 is a visual representation of Table 1. It verifies the conclusion more accurately.

Table 2. Game streaming data pre-Covid-19 and post-Covid-19

	Facebook Gaming	YouTube Gaming	Twitch
Q1 2019	0.16	0.72	2.77
Q2 2019	0.19	0.74	2.76
Q3 2019	0.26	0.72	2.79
Q4 2019	0.46	0.95	2.66
Q1 2020	0.55	1.07	3.11
Q2 2020	0.83	1.51	5.11
Q3 2020	0.81	1.67	4.74
Q4 2020	0.9	1.92	5.43

Table 2 represents the increment in game streaming from the first quarter of 2019 to the fourth quarter of 2020. It is concluded that the streaming in Facebook gaming was 0.16 in the first quarter of 2019 and reached 0.9 in the fourth quarter of 2020. Similarly, YouTube streaming increased from 0.72 in quarter 1 of 2019 to 1.92 in quarter 4 of 2020, and game streaming on Twitch increased from 2.77 from quarter 1 of 2019 to 5.43 in quarter 4 of 2020 [4].

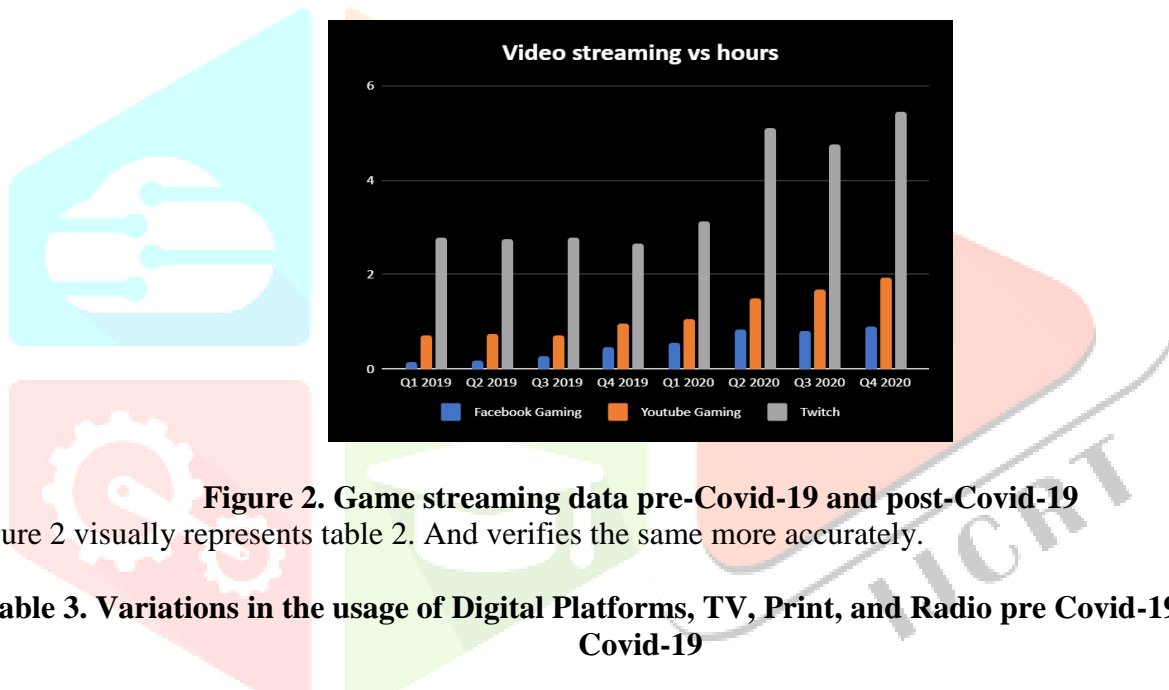
**Figure 2. Game streaming data pre-Covid-19 and post-Covid-19**

Figure 2 visually represents table 2. And verifies the same more accurately.

Table 3. Variations in the usage of Digital Platforms, TV, Print, and Radio pre Covid-19 and post Covid-19

Year	Digital	TV	Print	Radio
2010	21%	30%	24%	6%
2015	28%	32%	17%	6%
2020	36%	32%	12%	6%

Table 3 shows that digital media and TV revenues and viewership have increased from 21% in 2010, 28% in 2015, to 36% in 2020 and 30% in 2010, to 32% in 2015 and 2020, respectively. This was because, in the Covid-19 period, people stayed inside their houses and shifted from offline platforms of entertainment and media to digital platforms. Print media faced a decrease from 24% in 2010 to 17% in 2015, and 12% in 2020. This happened because people had the fear of getting infected, and because of this, they shifted to watching the news online rather than buying newspapers. On the other hand, the revenues and usage of radio remained the same in these years [3]. Music streaming revenues also faced a hike from the year 2019 to 2021. This was entirely because, firstly, people were attracted to digital platforms because of which they discovered and developed an interest in new music, and secondly, because music turned out to be a stress reliever for many of those whose mental health got affected in lockdown [14].

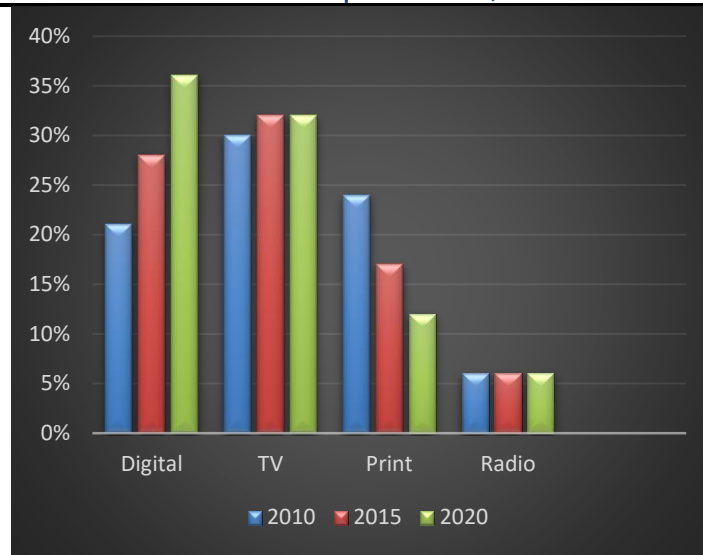


Figure 3. Variations in the usage of Digital Platforms, TV, Print, and Radio pre Covid-19 and post Covid-19

Figure 3. Represents table 3. Visually and verifies the variations of usage of different platforms.

Table 4. Projected smartphone penetration and mobile data consumption

Year	Mobile Data penetration and consumption
2014	13%
2015	17%
2016	23%
2017	30%
2018	38%
2019	46%
2020	58%

Table 4. shows the increment in the consumption of mobile data from the year 2014 to 2020. The percentage of usage of mobile data increased in the time of Covid-19 as people shifted to online entertainment and media platforms. The table clearly shows the increment from 13% to 36% from 2014 to 2019, and 58% in 2020.

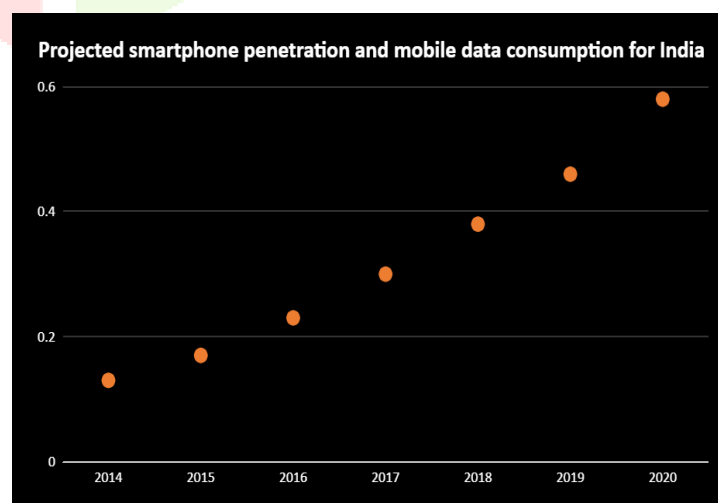


Figure 4. Projected smartphone penetration and mobile data consumption

Figure 4 shows visually, the increment of smartphone penetration and mobile data consumption.

Table 5. Effect on different entertainment and media fields pre and post Covid-19

Fields	Prior To The Covid-19 Pandemic	After And During Covid- 19 Pandemic
Cinema revenue from all films	58	34
Cinema revenue from Russian films	14	6
Tv and video revenues	124	118
Film production investments	20	13
Series Production investments	14	11
Cartoon production investments	5	3.5

Table 5. represents the decline of cinema revenues from films from 58% to 34%, after Covid-19 came into the picture [10]. Cinema revenues from Russian films also declined from 14% to 6%. TV and video revenues declined from 124% to 118%. Film production investments dropped down from 20% to 13%. Series Production also faced a decline from 14% to 11% and Cartoon production investments also dropped down from 5% to 3.5%. The data in the table shows us that there has been a massive negative impact on all entertainment film industries because of the pandemic. The revenues and the investments, both faced a massive drop down.

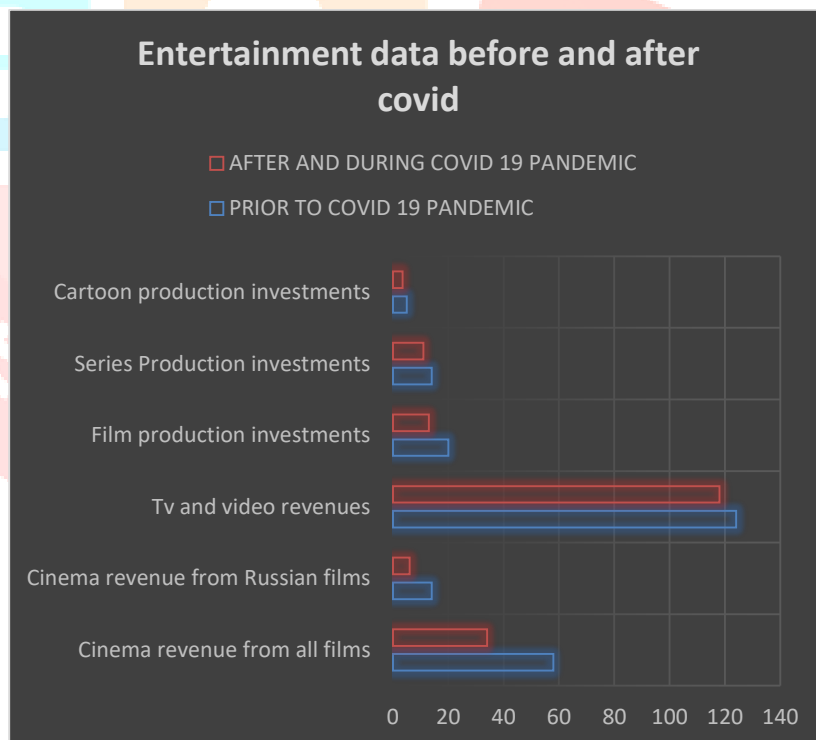
**Figure 5. Entertainment Industry data pre and post Covid-19**

Figure 5. is a visual representation of data on entertainment revenues and investments before and after Covid-19. The graph correctly verifies the above-mentioned data in table 5.

Table 6. Global streaming revenues year-wise

Year	Global Streaming Revenues
2018	42.4
2019	50.5
2020	59.1
2021	72.2
2022	84.3

Table 6. represents the increase in global streaming revenues and shows how people shifted to online global streaming platforms in the time of Covid-19 when they were free in lockdown. The table shows the increase from 42.4% in the year 2018, to 50.5% in 2019, 59.1% in 2020, 72.2% in 2021, and 84.3% in the year 2022. The global streaming revenues have kept on increasing from the time when situation was normal, to the time when Covid-19 hit.

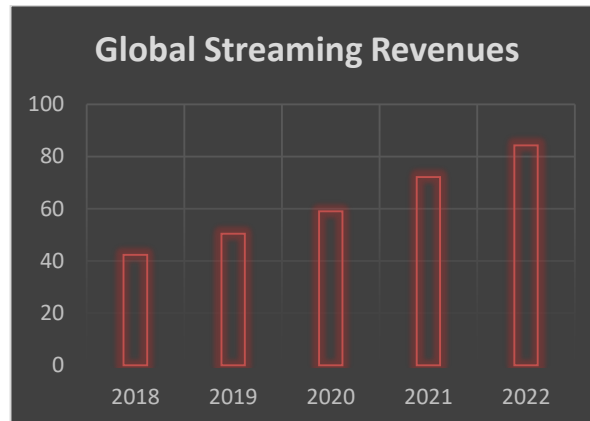


Figure 6. Global streaming revenues year-wise

Graph 6. Visually represents the increment in global streaming revenues from the time before Covid-19 to the time after Covid-19 hit. The graph is in accordance with table 6.

Table 7. Indian digital music industry revenues

Year	Indian Digital Music Industry Revenues
2018	18
2019	23
2020	31

Table 7. shows the data on the Indian digital music industry revenues. The revenues have increased from 18% in 2018 to 23% in 2019, to 31% in 2020. This shows that the revenues from the music industry increased from 2018 to 2020 when Covid-19 hit. People shifted to listening to music and discovered their interest in listening and discovering new music, but also many found music as a therapy. People got depressed in the time of Covid-19, and music was like unpaid therapy to many of them [11].

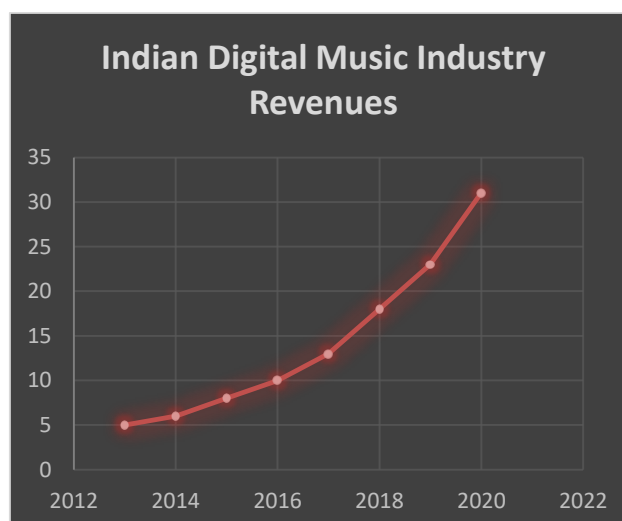


Figure 7. Global streaming revenues

Figure 7 is a visual representation of table 7. It shows the same data more accurately and confirms the result.

IV. CONCLUSION

This study brings out several conclusions; positive ones being; an increase in statistics of viewership of Ott platforms, an increased number of online video game streaming, an increase in the revenues of digital media and TV, increased viewership of news channels- digital media, an increase of quality content on television, employment and growth of small influencers, shifting to e-books which had a positive impact towards the environment, and a huge number of downloads and usage of social media applications, and negative ones being; decline in the print media, complete stoppage of printing of newspapers, unemployment in both entertainment and media sectors, stoppage and postponement of shows and movies, and great damage in the entertainment and media business.

V. REFERENCES

- [1] Ciotti, M., Ciccozzi, M., Terrinoni, A., Jiang, W. C., Wang, C. B., & Bernardini, S. (2020). The COVID-19 pandemic. *Critical reviews in clinical laboratory sciences*, 57(6), 365-388.
- [2] Khan, Y. (2021). Impact of Covid-19 on Media & Entertainment Industry in India. *IOSR Journal of Humanities and Social Science*, 26. <https://doi.org/10.9790/0837-2601140106>.
- [3] kumar, h. (2021). Analysis of covid 19 and its impact on media & entertainment industry in india. *Clear International Journal of Research in Commerce & Management*, 12(5).
- [4] Kriz, W. C. (2020). Gaming in the Time of COVID-19. *Simulation & Gaming*, 51(4), 403-410.
- [5] Madnani, D., Fernandes, S., & Madnani, N. (2020). Analysing the impact of COVID-19 on over-the-top media platforms in India. *International Journal of Pervasive Computing and Communications*.
- [6] Parvin, G. A., Ahsan, R., Rahman, M. H., & Abedin, M. A. (2020). Novel coronavirus (COVID-19) pandemic: the role of printing media in Asian countries. *Frontiers in Communication*, 5, 557593.
- [7] pal, m. S. B., & pal, m. U. (2023). Perception and awareness of students towards usage of e-books during lockdown: a case study of bhubaneswar, odisha, india. *Epra International Journal of Research and Development (IJRD)*, 8(2), 4-12.
- [8] de Guzman, A. B., Mesana, J. C. B., Manuel, M. E., Arcega, K. C. A., Yumang, R. L. T., & Miranda, K. N. V. (2022). Examining intergenerational family members' creative activities during COVID-19 lockdown via manifest content analysis of youtube and tiktok videos. *Educational Gerontology*, 48(10), 458-471.
- [9] Balarabe, U. B. (2020). Impact of COVID-19 and pandemic lockdown in India: Role of media during lockdown. *Impact of COVID-19 & pandemic lockdown in India: Ramification in environment and human life*, 175-184.
- [10] Shah, M. H., Yaqoub, M., & Wu, Z. J. (2020). Post-pandemic Impacts of COVID-19 on Film Industry Worldwide and in China. *Global Media Journal: Pakistan Edition*, 13(2).
- [11] Denk, J., Burmester, A., Kandziora, M., & Clement, M. (2022). The impact of COVID-19 on music consumption and music spending. *Plos one*, 17(5), e0267640.
- [12] Changsong, W., Kerry, L., & Marta, R. F. (2021). Film distribution by video streaming platforms across Southeast Asia during COVID-19. *Media, Culture & Society*, 43(8), 1542-1552.
- [13] Budiman, E. (2020). Mobile data usage on online learning during Covid-19 pandemic in higher education.
- [14] Howlin, C., & Hansen, N. C. (2022). Music in times of Covid-19.
- [15] Mahendher, S., Sharma, A., Chhibber, P., & Hans, A. (2021). Impact of COVID-19 on digital entertainment industry. *UGC Care Journal*, 44, 148-161.
- [16] Virmani, D., Vij, S., & Gaur, Y. (2023). Data Analytics and Trend Mining in the Realms of the Rising Popularity of Korean Dramas on OTTs. *Available at SSRN 4367013*.