

Biomedical Communication

Increase in the use of Electronic Applications – An impact analysis of COVID – 19 Pandemic

Abdulnaser S. H. Al-MSloun

University of Jeddah, Business College -Al-Kamil Branch, Jeddah, Saudi Arabia

ABSTRACT

This paper endeavors to research the part of COVID – 19 spreads in expanding the utilization of electronic applications. The examination covers the period from June 15, 2020 to July 15, 2020. Very much organized poll used to gather the information from the respondents. Garrett's Ranking Technique and F - test were received to test the exploration questions. The aftereffects of the positioning shows that amusement classifications of electronic applications are most downloaded class among different classes. The F-test examination results demonstrated that the spread of Covid prompted expanding the utilization of electronic applications. In this article, the utilization for the electronic applications for respondents of the financial elements are considered. The statistical analysis is attained on the observed results of the respondents. The statistical analysis is accomplished to observe the variance among the data and it explains the outcome of the respondents.

KEY WORDS: COVID – 19, RANKING, ELECTRONIC APPLICATIONS.

INTRODUCTION

Covid – 19 directly is a usual pandemic. Struck at domestic for the duration of the Covid pandemic the large portions of the matters were closed. Thusly, social orders spending an extra noteworthy measure of their continues with on the web. With incredibly tons all open social affairs dropped, Americans are searching out delight on digital highlights like Netflix and YouTube, and wanting to interface with one another through on line news sources like Facebook (Reyes, 2020). Since we are experiencing our days at home, with PCs close enough, social orders are come into center to recall how lousy it might be to squint at these little telephone screens. With the climb of social isolating, we are looking for out better approaches to deal with interface, typically thru video visit. While developed online media areas have been creating, it has all the earmarks of being that we have to gain some exclusive option from interface via illuminating and text — we have to see one another (Alexopoulos et al., 2020).

This has given a great raise to applications that used to stay at the back of in relative cloudiness, like Google's video

travelling application, Duo, and House party, which provides get-togethers of allies to be part of a lone video speak and jumble around together. We have similarly grown in truth more stressed in our passing condition, and how it is moving and responding to the disorder and the confine techniques. This has provoked a re-established energy for Next-door, the online media web page targeted in on companion shut by way of neighborhoods. We have out of the blue gotten reliant on corporations that license us to work and addition from domestic the working environments and schools of wherever on over the world have all moved into our parlours. Nothing is having an extra shrewd have an effect on online development than this change. School undertakings are being given out on Google Classroom. Get-togethers are taking place on Zoom, Google Meet and Microsoft Teams (Kristóf, 2020, Haleem et al., 2020).

The rush to these companies is that as it might, have invited new evaluation on safety practices. The ride for invigorates on the contamination has pushed up readership for neighbourhood and set up papers, with the amount of useless increasing continually -society are show up to require hardly ever any things extra than the today's news on the Covid. Among the excellent beneficiaries are neighbourhood information objections, with big bounces in busy time gridlock as humans endeavor to make sense of how the

Article Information:*Corresponding Author: asalem2@uj.edu.sa

Received 15/07/2021 Accepted after revision 28/09/2021

Published: 30th September 2021 Pp- 1008-1014

This is an open access article under Creative Commons License,

Published by Society for Science & Nature, Bhopal India.

Available at: <https://bbrc.in/>

Article DOI: <http://dx.doi.org/10.21786/bbrc/14.3.16>

pandemic is affecting the spots where they grew up. Social orders have in like manner been searching for extra settled media brands for records on the average prosperity disaster and its money associated results. The enterprise information website has viewed readership take off. The locations for top most associations have both created site visitors more than 50 percentage for the duration of the today's month, as shown with the aid of Similar Web.

PC games have been getting whilst sports have surpassed up a top-notch probability with all major-affiliation games dropped; there haven't been a variety of games to smash through. At the identical time, a couple of PC game districts have had floods in busy time gridlock, as have objections that let you watch others play. Jolt, the principal website for streaming sport play, has had traffic shoot up 20 percent. Saudi's net use rose by way of 33% on the grounds that the cross-country lockdown used to be set up to check the spread of Covid-19, as shown by correspondence and Information development fee regular step via step use extended 33% higher than the year back. The selection through media associations to handicap outstanding video and improve bandwidth utilization helped networks fulfil the extended need, consisting of that the chairmen also started out using unused phone towers. Saudi's usage fees have considered a predictable augmentation during the modern couple of years.

Speed Test, a website that assessments internet get entry to execution over the globe, in its cutting-edge file on following COVID-19's have an effect on speeds all over which was revived on April 15, proven a 6% decline in fixed line speeds and 18% in compact speeds when diverged from the multi day stretch of March 2 As indicated by the report, Saudi's current broadband speed is a normal of 69.86 mbps and handy down load pace is 71.73 mbps. Saudi's month to month dynamic internet consumer base is evaluated to exhibit up at 30.47 million previous the completion of 2020, in light of the Covid lockdown that has pushed human's interior residences with nearly no else to do. By and by way of evaluated at 29.91 million, the amount of month-to-month dynamic web clients has enrolled a every year development of 24%, indicating an average invasion of 41% in 2019.

About 84% clients get right of entry to the internet for preoccupation purposes. The 12 months 2019 saw a flood in OTT (over-the-top online), both sound and video, pushed through exclusive substance and cricket (both the IPL and the cricket World Cup spouted on OTT stages) other than the supportive openness of substance across devices and in a rush insignificant exertion of web services which finished big improvement in redirection usage consistently. This depended upon to proceed in 2020 also, especially considering the Covid lockdown, the report says. Kantar reviews enhancement of over 60% in step through step Internet customers over the modern one year; and practically

9 out of 10 unique Internet customers had been getting to the Internet for satisfaction and correspondence needs.

At 38%, school-going teenager's area, of 15 years of age or below has tested a promising improvement in Internet usage. Permission to statistics and preparing, on line media, gaming and preoccupation, especially, sports, is driving the gathering. With demonstrating this speculative institution, the examination makes an assignment to find which grouping of digital applications through and giant desired to use and the respondent's utilization level of the digital applications (Amin et al., 2020, Whitelaw et al., 2020). In this article, the utilization for the electronic applications for respondents of the financial elements are considered. The statistical analysis is attained on the observed results of the respondents. The statistical analysis is accomplished to observe the variance among the data and it explains the outcome of the respondents.

Review of Literature: The world health organization has released the 175 situational report and it highlights the COVID-19 reality across the world. The COVID-19 has made complicated situation among the people and also made huge impact on various domains. The context of pandemic has ruined diversified aspects of every individual, which also necessitated numerous contacts less application that is largely incorporated in education, business and in hospitals as telemedicine (Singh, 2020). This context necessitated a detailed review on numerous applications and scenario of COVID-19. Iyengar et al., (2020) examined the COVID 19 and uses of cell telephone innovation in the contemporary pandemic.

They feature in the examination mobile phone improvements evade eye to eye discussions that convey congruity of medical services for the duration of the pandemic, phone cell phone advances supply progression of care by means of staying away from bodily contact and maintaining up social removing. Cell smartphone innovations will count on indispensable characteristic later on for medical offerings conveyance. Haleem et al., (2020) examined " Effects of COVID – 19 Pandemic in day through day life", COVID – 19 has quickly influenced our everyday life, organizations, upset world alternate developments. Distinguishing proof contamination at commencing segment is a fundamental to manipulate the unfold of the contamination due to the fact it rapidly spreads from the individual to individual.

In their investigation the consequences of COVID – 19 in day via day lifestyles are vast and expansive effects into three considerable lessons they are Healthcare, Economic, social. Ayittey at al., (2020) gauge that, without urgent international things to do to abridge the Wuhan 2019-nCoV internal the most short achievable time, China is relied upon to lose up to \$62 billion²¹ in the fundamental quarter of the year, while the world is probable going to lose over \$280 billion internal the equivalent period.¹⁵ This cease thinks

about near the World Banks evaluation that even an extra fragile influenza pandemic, for example, the 2009 H1N1 infections, may want to at current wipe 0.5% off global GDP, which provides up to round \$300 billion. Tasnim, et al., (2020) predicted to discover Impact of gossipy titbits or deception on Covid illness (COVID-19) in web-based media. The investigation verified.

The COVID-19 pandemic has no longer simply prompted noteworthy difficulties for well-being framework in all places on over the globe but in addition energized the flood of a variety of bits of gossip, deceptions and falsehood, with recognize to etiology, results, avoidance, and restoration of the malady. This falsehood is concealing solid practices and advancing mistaken practices that growth the unfold of the contamination and eventually carry about bad bodily and psychological wellness effects amongst people. Horde episodes of incidents added about by means of these gossipy tidbits was once accounted for over the world.

Branscombe, (2020) examined the corporation impact of the Global Covid 0 19 pandemic. In this investigation. The lockdown has come about that a massive element of the folks searching for internet and net based administrations to impart, Interact and proceed with their responsibilities from home. Internet carriers have considered ascends in use from 40% to 100% contrasted with prelock down levels. Video conferencing administrations like zoom have ten times increment in use, (Branscombe, 2020). Elsayed and Elrhim, (2020) to observe the impacts of the unfold of COVID-19 on global on-line business organizations, where the five biggest internet based totally commercial enterprise companies on the planet were picked as some distance as incomes and market worth, and they had been as per the following: American Amazon, Chinese Alibaba, Japanese Rakuten, German Zalando, United realm ASOS.

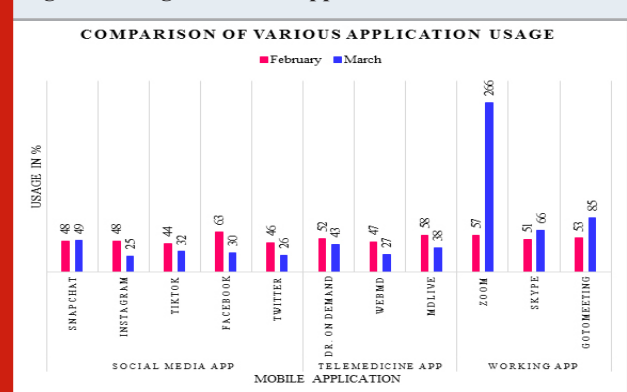
The investigation results endorse that the level of the effect of Covid spread shifted beginning with one employer then onto the next, contingent upon the state to which it had a place, the place the American company Amazon and the United realm company ASOS had been "the total instances of disorder are the most persuasive and this is regular with that they are the most influenced countries of the Covid at some stage in the time of examination, and the Chinese business enterprise Alibaba and Rakuten organisation Japanese "Covid cases" have been the most effective in their provide value returns, and the German agency Zalando used to be the most compelling variable "total passings".

Mohammad (2016) made an investigation with the desires of to apprehend the elements that have an effect on purchasers for choosing net based shopping; to be aware of the shoppers' inclinations in regards to items/administrations they typically store on the web; to distinguish and seem at the mentality of male and female respondents for loving or loathing the web shopping. The facts have been

gathered through a prepared survey from 83 respondents arbitrarily from a range of regions of Chittagong City, Bangladesh from the period of September to November, 2014. The investigation uncovers that web page publicizing (45.78%), T.V. Promotion (20.48%), loved ones (15.66%) are the substantial media through which they got comfy about internet shopping. The accessibility of assortments (31.33%), much less time (30.12%) and low fee (20.48%) are the widespread explanations behind favouring net primarily based shopping. The educational fields, industries, and other business fields have demanded the renovation in the way of individual's work nature and collaboration within the working atmosphere that potentially influence the daily actions Barnes, (2020).

Whilst abundant companies and educational institutions forced to shut down or minimize the performance where the condition is subjective to social distancing Hellewell et al., (2020). Every industry and company across the world adapt the atmosphere of COVID-19 by instigating the altered patterns of work, remote working techniques, and establishment of communication with the assistance of a digital technology Leidner, (2020). During the pandemic several mobile based applications are highly used and widely utilised in the education, telemedicine and in the business environment. The application downloaded and utilised in the month of February and March is given in Figure (1) (Inmobi 2020). Purpose of this study to the primary target of the examination is to investigate the expansion in the use of electronic applications as for financial elements of the respondents.

Figure 1: Usage of Mobile Applications



Research Methodology: The current investigation is an endeavour to look at COVID - 19 in expanding the utilization of Electronic Applications. In this current investigation, to know the most downloaded classification of electronic Applications in this period utilizing Garrett's positioning strategy (Schliesser, 2011). To realize the utilization level and it was contrasted and financial components are having any effect on it utilizing F test. The necessary essential information has been gathered from 175 example respondents due to in sufficiency of information

160 reactions were taken for definite examination with an all-around organized and pre tried survey.

Sample Profile: Increase the utilization of Electronic Applications in this pandemic period segment factors assume a significant job. The segment highlight of this examination is shown in the Table 1.

	Percentage	Categories	Count
Gender	Male	95	59.3%
	Female	65	40.7%
Age	Young	27	16.8%
	Middle aged	87	54.3%
	Old	46	28.75%
Marital Status	Married	128	80%
	Unmarried	32	20%
Education	School	28	17.5%
Qualification	College	62	38.7%
	Professional	70	43.7%
	Student	24	15%
	Business	39	24.4%
	Employee	55	34.4%
	Profession	42	26.2%
Nature of Family	Joint	95	59.4%
	Nuclear	65	40.6%
Size of Family	Small	43	26.8%
	Medium	69	43.1%
	Large	48	30%

Most Downloaded Category Of Applications In This Pandemic By The Respondents: To distinguish most downloaded Application class in this pandemic period, Garrett's Ranking Technique has been utilized. Initially, 20 additional Applications have been remembered for the pilot study. By utilizing thing examination method, that 20 additional applications changed over into 6 significant classes to tending to the right one. At last, the Categories like Entertainment Applications, Educational Applications, Social Media Applications, Gaming Applications, and News Applications and Professional Applications were remembered for the timetable. All the major Apps have gone under this one of the classifications. The respondents were approached to give rank I to the most significant Category, rank II to the second significant class, etc. The positions given by the respondents are changed over into scores. Score esteem has been determined for the rank allotted by the respondents with the assistance of Garrett's positioning method. The subtleties are appeared in Table 2.

From the Table 2 it is surmised that the Entertainment applications with high mean score of 65.21 is 'gave to be the most downloaded application classification that utilized by the greater part of the advanced mobile phone clients in this pandemic period. Online Media Applications classification is positioned as second with the mean score of 63.61, Instructive Applications is positioned as third with the mean score of 62.91, Professional Applications is positioned as fourth with the mean score of 61.01, trailed by Gaming Applications and News Applications. Subsequently, it is reasoned that Entertainment classification applications has been positioned as most downloaded applications classification.

Categories	Rank X	1	2	3	4	5	6	Total Score	Mean Score	Rank
Entertainment Apps	F	49	31	19	22	15	24	160	65.21	I
	Fx	3969	2170	1197	1254	780	1128	10498		
Education Apps	F	27	36	26	28	21	22	160	62.91	III
	Fx	2187	2520	1638	1596	1092	1034	10067		
Social media Apps	F	32	42	20	17	23	26	160	63.61	II
	Fx	2592	2940	1260	969	1196	1222	10179		
Gaming Apps	F	25	17	17	33	20	48	160	59.14	V
	Fx	2025	1190	1071	1881	1040	2256	9463		
News Apps	F	10	15	25	42	41	27	160	57.68	VI
	Fx	810	1050	1575	2394	2132	1269	9230		
Professional Apps	F	17	19	53	18	40	13	160	61.01	IV
	Fx	1377	1330	3339	1026	2080	611	9763		
Sample Size		160	160	160	160	160	160	160		

Quantification Of Data To Measure The Usage Level: A rundown of 20 articulations identifying with expanding the utilization of electronic applications is at first arranged.

Based on result of the pilot study and by applying thing investigation strategy, 6 explanations are dropped out lastly 14 proclamations were remembered for the last

examination. Renzis Likert's summated 5-point scaling method is applied to discover the total expanding use level of the respondents. It is normal that financial attributes of the example respondents would impact the expanding

the utilization level of respondents towards the electronic applications. To analyze the relationship between the expanding the utilization level and financial attributes, the accompanying invalid theory has been encircled.

Table 3. Age And Increasing Usage: 'F' Test.

Cause of Variation	Sum of Square	Degrees of Autonomy	Mean Square	'F' Value
Between Samples	1197.54	2	598.77	6.65
Within Samples	14140.65	157	90.06	
Total	15338.19	159		

Table 4. Gender And Increasing Usage: 'F' Test

Cause of Variation	Sum of Square	Degrees of Autonomy	Mean Square	'F' Value
Among Samples	118.08	2	59.04	0.61
Within Samples	15220.11	157	96.94	
Total	15338.19	159		

H₀: There is no critical relationship between the individual factors (age, sex, conjugal status, instructive capability, occupation, size of family, and nature of group) of respondents and their expanding utilization level.

Table 3 uncovers that the determined estimation of 'F' is 6.65 which is higher than the Table estimation of 2.99. Along these lines, it tends to be inferred that the relationship between the normal score of various age gathering and utilization level electronic uses of the example respondents

is noteworthy. Table 4 uncovers that the determined worth (0.61) of 'F' is not exactly the Table worth (2.99). Accordingly, it tends to be presumed that the relationship between the normal score of Gender and expanding use level of electronic uses of the respondents is immaterial. Table 5 shows that the determined worth (2.52) of 'F' is not exactly the Table worth (2.99). Thusly, it very well may be presumed that the relationship between the normal score of conjugal status and expanding the utilization level of electronic uses of the respondents is discovered to be unimportant.

Table 5. Marital Status And Increasing Usage: 'F' Test

Cause of Variation	Sum of Square	Degrees of Autonomy	Mean Square	'F' Value
Among Samples	475.18	2	238.09	
Within Samples	14862.01	157	94.66	2.52
Total	15338.19	159		

Table 6. Education And Increasing Usage: 'F' Test

Cause of Variation	Sum of Square	Degrees of Autonomy	Mean Square	'F' Value
Among Samples	101.65	2	33.88	
Within Samples	15338.19	157	97.67	0.35
Total	15338.19	159		

Table 6 uncovers that the determined worth (0.35) is not exactly the Table worth. Appropriately, it is surmised that "F" esteem is immaterial. Subsequently, it tends to be inferred that that the relationship between the midpoints score of instruction and expanding utilization level of the example respondents is irrelevant. Table 7 uncovers that the determined worth (1.55) of 'F' is not exactly the Table worth (2.37). Subsequently, it tends to be inferred that

the relationship between the normal score of occupation and expanding utilization level of electronic uses of the respondents is unimportant. Table 8 uncovers that the determined worth (4.64) of 'F' is higher than the Table worth (2.60). In this manner, it very well may be presumed that the relationship between the normal score of nature of the family and expanding use level of the electronic utilizations of the respondents is discovered to be critical.

Table 7. Occupation And Increasing Usage: 'F' Test				
Cause of Variation	Sum of Square	Degrees of Autonomy	Mean Square	'F' Value
Among Samples	589.03	4	147.26	
Within Samples	14749.16	155	95.16	1.55
Total	10207.95	159		

Table 8. Nature Of The Family And Increasing Usage: 'F' Test				
Cause of Variation	Sum of Square	Degrees of Autonomy	Mean Square	'F' Value
Among Samples	1225.53	3	418.51	
Within Samples	14082.66	156	90.27	4.64
Total	10207.95	159		

Table 9. Size Of Family And Increasing Usage: 'F' Test				
Cause of Variation	Sum of Square	Degrees of Autonomy	Mean Square	'F' Value
Among Samples	15.13	2	7.565	
Within Samples	15323.06	157	97.60	0.08
Total	15338.19	159		

Table 9 uncovers that the determined worth (0.08) of 'F' is not exactly the Table worth (2.99). It tends to be inferred that the relationship between the normal score of size of family and expanding utilization level of electronic uses of the respondents is immaterial.

the respondents, Nature of the family. Interim, Gender, Marital status, educational capability, Occupation of the respondent, size of the family such financial elements are has relationship between the expanding the utilization level of electronic applications due to COVID – 19.

CONCLUSION

The current paper attempting to tend to the Increasing utilization of electronic applications in this pandemic period. And furthermore, decides the relationship between the financial qualities and expanding the use level. Expanding the utilization of electronic applications – an effect of COVID – 19 spread was estimated by the all-around organized poll comprises 14 explanations to address the expansion. The consequences of the F examination, the spread doesn't have critical relationship with Age of

Amusement applications with high mean score of 65.21 is 'gave to be the most downloaded application classification that utilized by the majority of the advanced cell clients in this pandemic period. Online Media Applications class is positioned as second with the mean score of 63.61, Educational Applications is positioned as third with the mean score of 62.91, and Professional Applications is positioned as fourth with the mean score of 61.01, trailed by Gaming Applications and News Applications.

REFERENCES

- Alexopoulos, A. R., Hudson, J. G., & Otenigbagbe, O. (2020). The use of digital applications and COVID-19. *Community mental health journal*, Vol 56(7), 1202-1203.
- Amin, K. P., Griffiths, M. D., & Dsouza, D. D. (2020). Online gaming during the COVID-19 pandemic in India: Strategies for work-life balance. *International Journal of Mental Health and Addiction*, 1-7.
- Ayittey, F. K., Ayittey, M. K., Chiwero, N. B., Kamasah, J. S., & Dzuvor, C. (2020). Economic impacts of Wuhan 2019-nCoV on China and the world. *Journal of Medical Virology*.
- Barnes, S. J. (2020). Information management research and practice in the post-COVID-19 world. *International Journal of Information Management Article* 102175.
- Branscombe M. The New Stack; (2020). The Network Impact of the Global COVID-19 Pandemic. <https://thenewstack.io/the-network-impact-of-the-global-covid-19-pandemic/> April 14, Retrieved June 6, 2020, from.
- Elsayed, A., & Elrhim, M. A. (2020). The Effect of COVID-19 Spread on the e-commerce market: The case of the 5 largest e-commerce companies in the world. Available at SSRN 3621166
- Haleem, A., Javaid, M., & Vaishya, R. (2020). Effects of COVID-19 pandemic in daily life. *Current medicine research and practice*, Vol 10(2), 78–79. <https://doi.org/10.1016/j.cmrp.2020.03.011>
- Hellewell, J., Abbott, S., Gimma, A., Bosse, N. I., Jarvis, C. I., Russell, T. W., Flasche, S. (2020). Feasibility of controlling COVID-19 outbreaks by isolation of cases and contacts. *The Lancet Global Health*.
- Iyengar, K., Upadhyaya, G. K., Vaishya, R., & Jain, V. (2020). COVID-19 and applications of smartphone technology in the current pandemic. *Diabetes & metabolic syndrome*, Vol 14(5), 733–737. Advance online publication. <https://doi.org/10.1016/j.dsx.2020.05.033>
- Kristóf, Z. (2020). International trends of remote teaching ordered in light of the coronavirus (COVID-19) and its most popular video conferencing applications that implement communication. *Central European Journal of Educational Research*, Vol 2(2), 84-92.
- Leidner, D. E. (2020). Editorial reflections: Lockdowns, slowdowns, and some introductions. *Journal of the Association for Information Systems*, Vol 21(2), 10. <https://doi.org/10.17705/1jais.00600>.
- Mohammad T R (2016). Customers' Attitude towards Online Shopping: The Case of Bangladesh, *World Journal of Social Sciences*, Vol. 6. No. 2. July, Special Issue. pp. 82 – 91. The main purpose of this study is to identify the nature and behavior of online shoppers in Chittagong City, Bangladesh. Received From: <https://www.inmobi.com/blog/2020/04/06/covid-19-impact-on-mobile-user-behavior>
- Reyes, A. T. (2020). A mindfulness mobile app for traumatized COVID-19 healthcare workers and recovered patients: a response to “the use of digital applications and COVID-19”. *Community Mental Health Journal*, Vol 56(7), 1204-1205.
- Schliesser, E. (2011). *Interpreting Spinoza: Critical Essays*.
- Singh, P., Singh, S., Sohal, M., Dwivedi, Y. K., Kahlon, K. S., & Sawhney, R. S. (2020). Psychological fear and anxiety caused by COVID-19: Insights from Twitter analytics. *Asian Journal of Psychiatry*, 54, Article 102280. <https://doi.org/10.1016/j.ajp.2020>.
- Tasnim, S., Hossain, M. M., & Mazumder, H. (2020). Impact of rumors or misinformation on coronavirus disease (COVID-19) in social media. *Journal of Preventive Medicine and Public Health*, pp.1-8.
- Whitelaw, S., Mamas, M.A., Topol, E. and Van Spall, H.G., (2020). Applications of digital technology in COVID-19 pandemic planning and response. *The Lancet Digital Health*.