



A STUDY ON USAGE OF VCAAS (VIDEO CONFERENCING AS A SERVICE) PROVIDER WITH RESPECT TO ZOOM VIDEO COMMUNICATIONS DURING COVID-19 IN JAIPUR

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Abstract

Due to the worldwide spread of the Covid-19, many organizations are now relying on video conferencing to carry out their routine practices. Increasing globalization is encouraging its usage, Organizations have been witnessing a growing need for video conferencing endpoints and infrastructure solutions for communication purpose, because of its ability to improve productivity and outreach. Hence, growth in the video conferencing as a service is expected to play a major role in this covid-19

The popular ‘work from home’ policy in various companies has led to the unprecedented rise in the usage of video conferencing. And in this covid-19, ZOOM video communications — a free meeting app, is getting popular.

Key Words:- Covid-19, video conferencing, Globalization

Introduction

In today’s scenario, Video conferencing is a big collaboration tool because of reduced costs, increased efficiency, faster response, HD video quality, easy to use, etc.

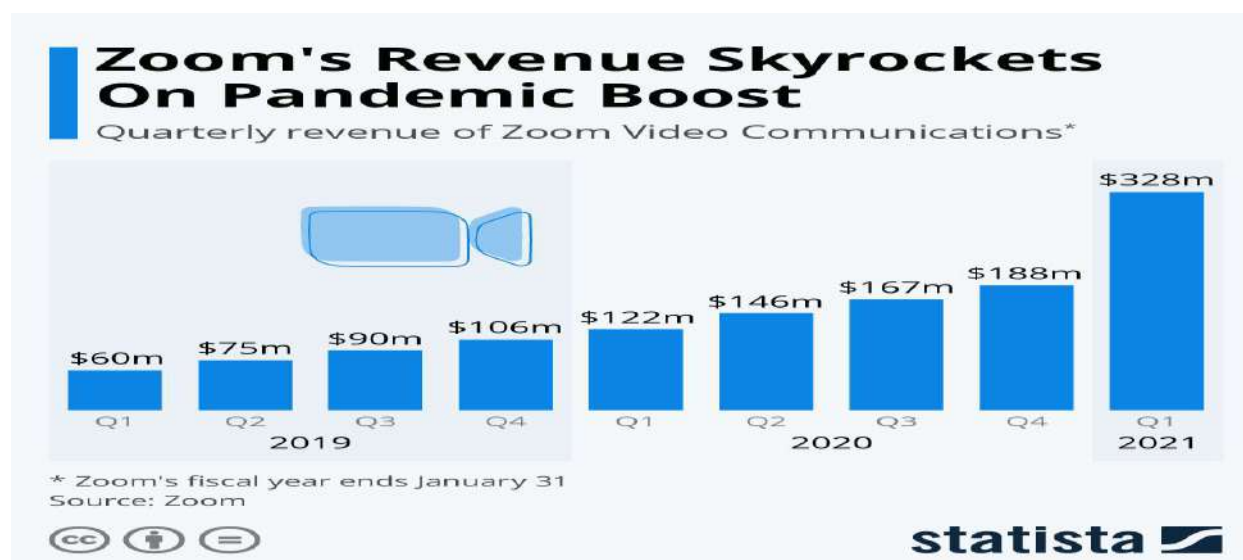
This research is to study the study the usage of VCaaS (video conferencing as a service) provider with respect to Zoom video communications during covid-19 in jaipur region. Video conferencing, it refers to conducting a conference call using telecommunication technologies to enable real-time two-way transmission of audios and videos. VCaaS is used to conduct meetings, webinars, training, even some functions such as birthday party, anniversary celebration etc.

And as many countries, are going to lockdown or are in lockdown to avoid social distancing. Or even after unlock they will follow social distancing for a period of time until and unless vaccine is available. There is a huge dependence on the use of video and audio conferencing. And Because of that many organizations & government authorities are increasingly adopting video conferencing as an essential tool to connect with remote customers, workforces, and employees to prevent direct contact. The government authorities on the other hand are using video conferencing softwares to connect with doctors and administrative people of their region and also of foreign countries. Key companies getting affected in the market of VCaaS include 8x8, Inc., Cisco Systems, Inc., Google LLC, Lifesize, Inc.,

Microsoft Corp., Ring Central, Inc., StarLeaf Ltd., Zoho Corp. Pvt. Ltd., Zoom Video Communications, Inc., and so other. These companies are envisaging the Covid-19 situation as a way to increase their growth and at the same time helping the world during the crisis. The players of VCaaS are offering their services for free or at reasonable cost to the organizations and various government authorities.

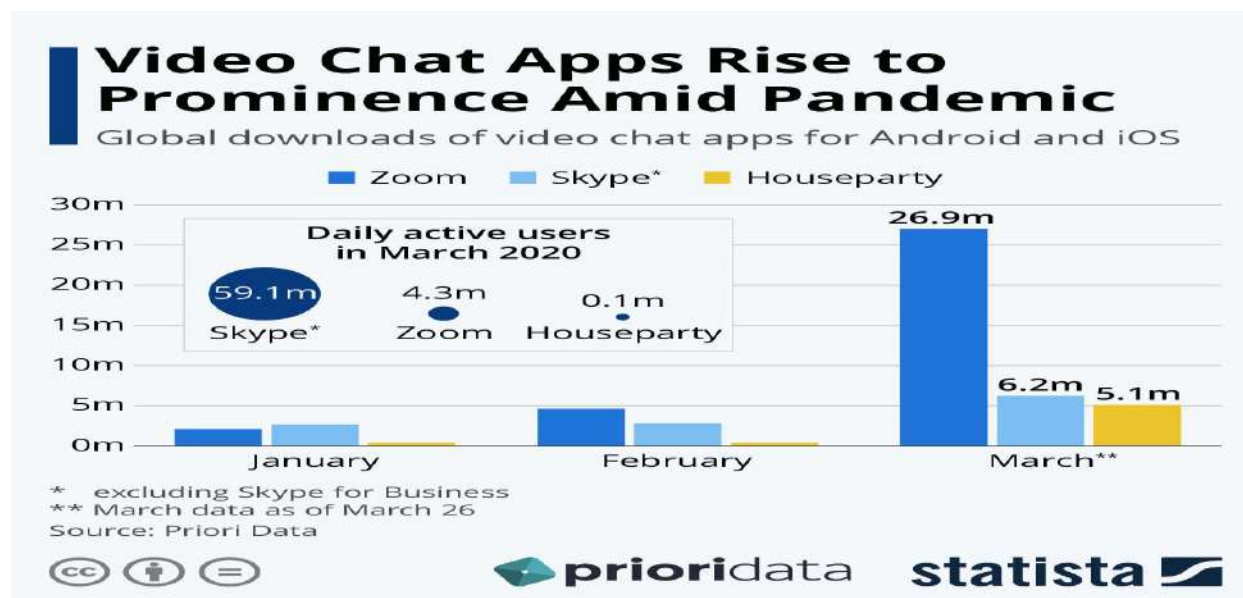
As the digital transformation and the race to innovate something which can surpass traditional business models, various organizations are realizing the potential upside of implementing game-changing video collaboration technologies that can improve customer service, reduce costs, and accelerate decision making.

Video conferencing as a service (VCaaS) has always been a key component in the recipe to success for enterprises hoping to connect with customers, remote workers, etc. And now, VCaaS technology finally gets its time to shine, circumstances withstanding.



According to the report of statista stock price of Zoom Video Communications skyrocketed in early 2020. The strong performance of Zoom's shares is greatly influenced by the social distancing measures taken during the Coronavirus (COVID-19) pandemic. In 2019, Revenues of Q1 was \$60 million (Rs 442.95 Cr) whereas in 2020, revenues of Q1 is \$122 million (Rs 900.68 Cr) and estimation of 2021, Q1 is \$328 million(2421.50 Cr)

*1 US dollar = 73.83 Rupee



According to the report of statista march 2020 global downloads of video chat apps for android and ios has increased from the previous months resulting downloads for Zoom 2.69 Cr for skype its 62 lakhs and for Houseparty its 51 lakhs.

And in same report of march 2020, daily active users of skype are 5.91 Cr for Zoom its 43 lakhs and for Houseparty its 1 lakh

Research Problem:

Factors behind the success of ZOOM video communication, Video Conferencing as a service (VCaaS) provider during covid-19

And some of the reasons behind its success is Zoom offers a free plan for public use and a paid version with more advanced features & it is a reliable cloud platform for video conferencing, The usage for Zoom has skyrocketed since the start of the covid-19.

Recently in Singapore, a court announced a death sentence to a drug trafficker via a Zoom conference call. And for this Government officials of Singapore did not have any objections regarding to the sentencing done via video conferencing.

In February 2020, Zoom Video Communications has lifted the 40-minute limit on video calls in China.

In March 2020, Zoom Video Communications a California-based remote conferencing has announced the free access to video conferencing tools for K-12 schools during COVID-19.

Research Objectives:-

Primary objective:

- 1) To study the usage pattern of Zoom during covid-19
- 2) To understand the consumer perception towards zoom

Secondary objective:

- 1) To study the factors influencing the usage of Zoom

Hypothesis:

H1: There is significant difference in usage of VCaaS during covid-19

H1: Factors does influence for buying subscription for video conferencing as a service (VCaaS)

Review of Literature:

- **Preeti Wadhvani, Saloni Gankar (May 2020)**, According to them Video Conferencing Market size surpassed USD 14 billion in 2019 and is anticipated to grow at over 19% CAGR between 2020 and 2026. With the advancement in technologies, such as cloud computing, IoT, AI, & VR will drive the market growth. The video conferencing market is expected to witness high growth during the covid-19 outbreak. Organizations and government authorities are adopting video conferencing as an essential tool to prevent direct contact. As various countries imposed travel ban which has forced companies in foreign markets to adopt video conferencing software for business continuity
- **Bower, D.J.¹; Hinks, J.²; Wright, H.³; Hardcastle, C.⁴; Cuckow, H. (Nov2001)**, There paper discusses the potential impact of videoconferencing on practices and processes within the construction industry, based on analyses carried out on its use and impact on the healthcare sector – which like sectors that involves technology-intensive processes which are dependent upon cross-professional and cross-disciplinary correspondence and communications, operates within an increasingly regulatory and litigious climate.
- **Alan Greenberg Wain house Research (February 2004)**, this report summarizes a representative subset of recent research on interactive video conferencing for distance education. The research illustrates that in last decade people from different locations has witnessed good amount of distance education and an increasing number of participants interested in distance education due to the globalization.
- **Smyth, Robyn; Zanetis, Jan (2007)**, Internet-Based Videoconferencing for Teaching and Learning As the use of video conferencing has expanded, various students ,researchers, analysts and others are getting benefitted.
- **Jan A. Sprey (October 2015)**, Video conferencing as a Communication Tool, With the advancement the technology, video conferencing is becoming feasible for SMEs companies, Videoconferencing applications helps in communications who is in foreign country relating to

educating and training of employees. It can save huge cost by eliminating travel requirements. Users are concerned with the costs of hardware and privacy policies of service providers.

- **David J.Bennison (July 1988)**, this paper describes a study of user reactions in a videoconferencing field trial in the United Kingdom. The role of videoconferencing was primarily as a complement to traditional way of meetings, as well as to other forms of communication, substituting for both to an extent, and also being used in its own right; according to survey 87% of respondents felt that their trips had decreased which saves their time. If there is any failure of a meeting various factors relating to the planning and management of the facility were mainly responsible. Rather than any problem in the videoconferencing.
- **M2PressWIRE (May 2020)** Zoom to be Listed as a top player in the Video Conferencing Software Market on 360Quadrants It offers an interface to use and a reliable cloud platform for video conferencing. It can be operated through various channels and even room systems. With the entire world in lockdown due to COVID 19 there is a huge dependence on the use of video Conferencing to carry out business.
- **PR Newswire (April 2020)**, Video Conferencing Market Revenue to Cross USD 50B by 2026: Global Market Insights, With a Growing adoption of video conferencing technology by various healthcare institutions for conducting post-discharge programs and specialist consultation that will boost the market demand.
- **Business wire (April 2020)**, Impact of COVID-19 on the Video Conferencing Market There are various factors that have been driving the market, in previous decade, such as the increasing focus of companies towards the expansion & diversification of their businesses in the foreign market and in the management of the subsidiaries. However, the outbreak of the covid-19 has impacted the video conferencing market positively.

Research Gap

- Researchers did not compare companies that exist in the market, their offerings, the quality that they are providing to their customers as various VCaas (video conferencing as a service) providers exist in the market.
- And when this covid-19 came, the requirement of video conferencing services are at boom but only ZOOM is able to capture the market by its qualitative offerings. And various other companies unable to capture the market.

Research Methodology

Primary Data: well-structured questionnaire.

Secondary Data: journals, magazines, newspaper, articles, websites.

Sampling Method: Random Sampling method

Sample Size: 108

Area of Research: Jaipur, Rajasthan

Research Method: Quantitative method

Research Design: Descriptive design

Statistical Tools: statistical tools involves Factor analysis & sample pair t test

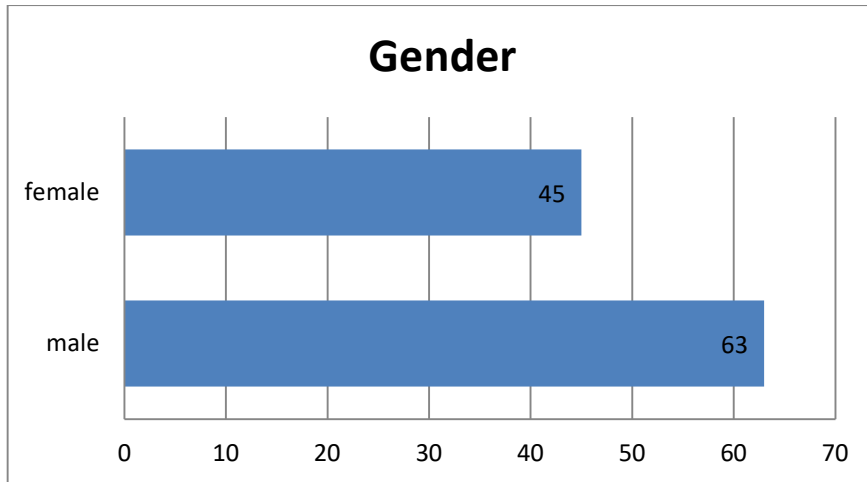
Data Analysis

1) Organization in which you work



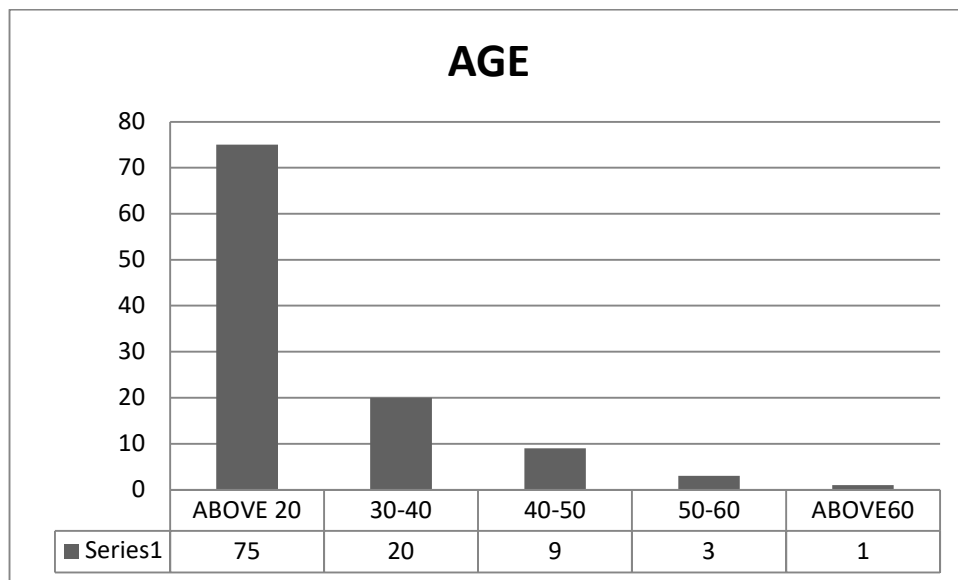
Interpretation:- out of 108 respondents majorly are from private companies(50.92%) followed by teachers who work in school or colleges(37.96%) then public company(4.62%), business(3.70%), NGO(1.85%) & Government(.92%).

2) Gender



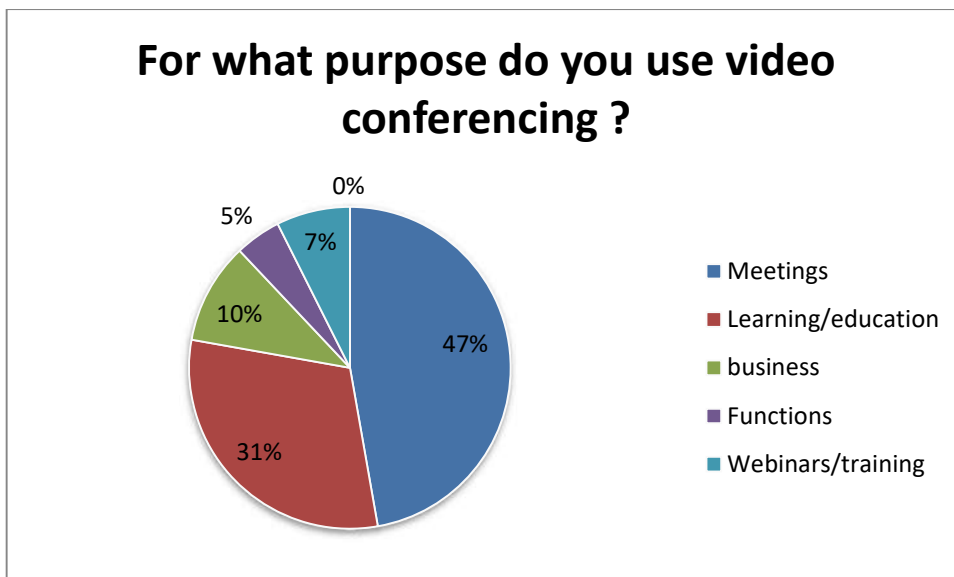
Interpretation:- Total respondents are 108 out of which 63 are males(58.33%) and 45(41.67%) are females.

3) Age



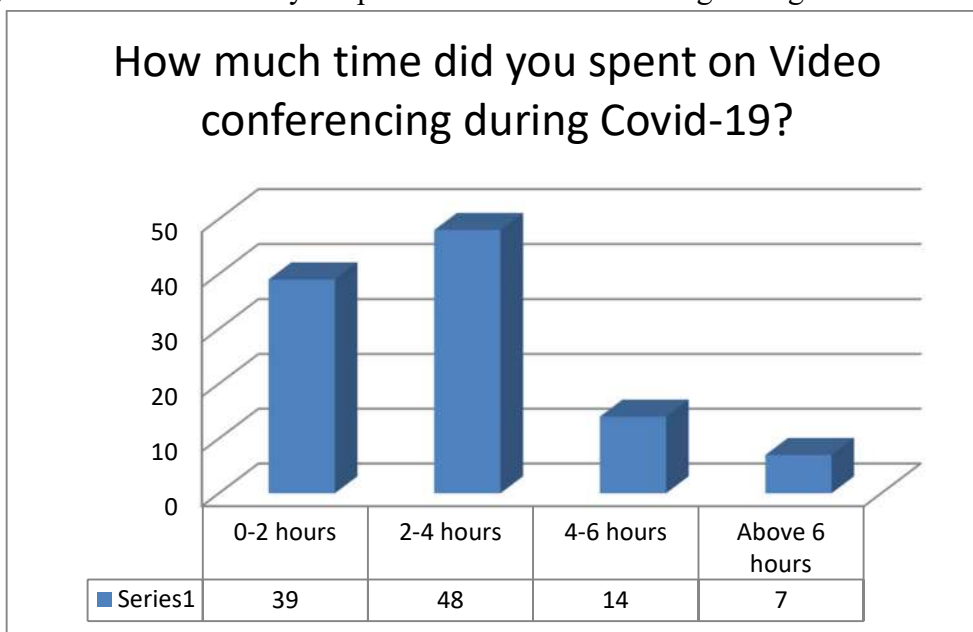
Interpretation: respondents are majorly from age 20 – 30 that is 69.44% followed by 30-40 that is 18.52% then 40-50 which is 8.33%, then 50-60 which is 2.78% at last above 60 which is .93%

4) For what purpose do you use video conferencing?



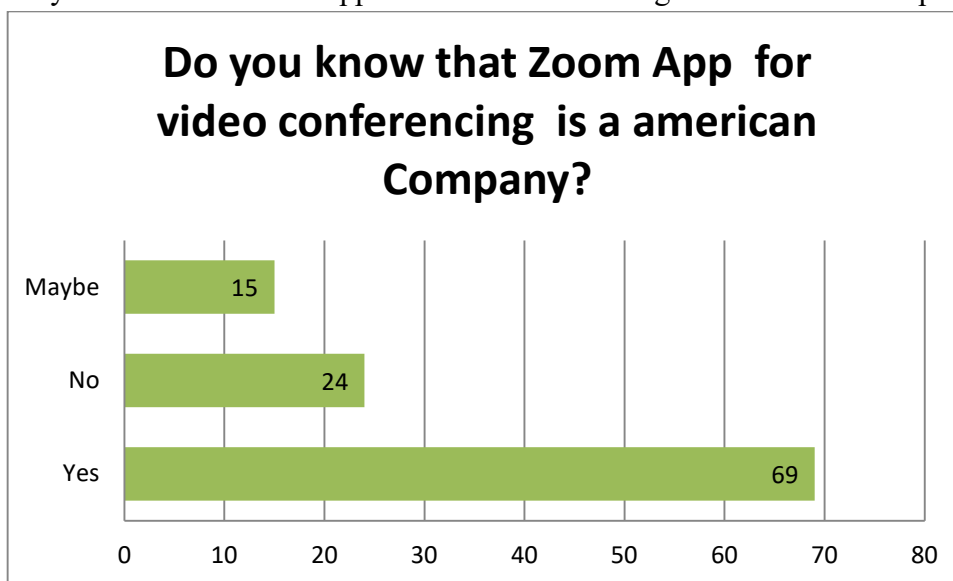
Interpretation:- from the pie chart we can assume that people mainly use VCaaS for meetings (formal or informal) that is 47% followed by learning/education (used to teach students or learn something from industry experts) that is 31% then for purpose of business 10% after that for attending webinars/training session 7% then functions(any family function) which is 5%

5) How much time did you spent on Video conferencing during covid-19?



Interpretation:- As respondents mainly use Zoom App for conducting meetings so the time on average used by people is between 2-4 hours that is 44.44% then below 2 hours that is 36.11% followed by 4-6 hours 12.96% & in last above 6 hours 6.48%

6) Do you know that Zoom app for video conferencing is a American company?



Interpretation:- Majority of respondents know that Zoom is an American company that is 63.89% followed by people who don't know its an American company 22.22% & some are not sure whether it is or not which is 13.89%.

7) Before covid-19 and during covid-19 which video conferencing service you are using?

Paired Samples Statistics					
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	B Microsoft(S/T)	2.778	108	1.4490	.1394
	D Microsoft(S/T)	3.222	108	1.3898	.1337
Pair 2	B Zoom	2.787	108	1.4537	.1399
	D Zoom	3.935	108	1.2173	.1171
Pair 3	B Google	3.417	108	1.3951	.1342
	D Google	3.546	108	1.2104	.1165
Pair 4	B Houseparty	2.019	108	1.0500	.1010

	D Houseparty	2.185	108	1.1451	.1102
Pair 5	B Whatsapp	4.046	108	1.2853	.1237
	D Whatsapp	3.556	108	1.3694	.1318
Pair 6	B Webex	2.194	108	1.2415	.1195
	D Webex	2.343	108	1.2317	.1185
Pair 7	B Other	2.185	108	1.2008	.1156
	D Other	2.157	108	1.2010	.1156

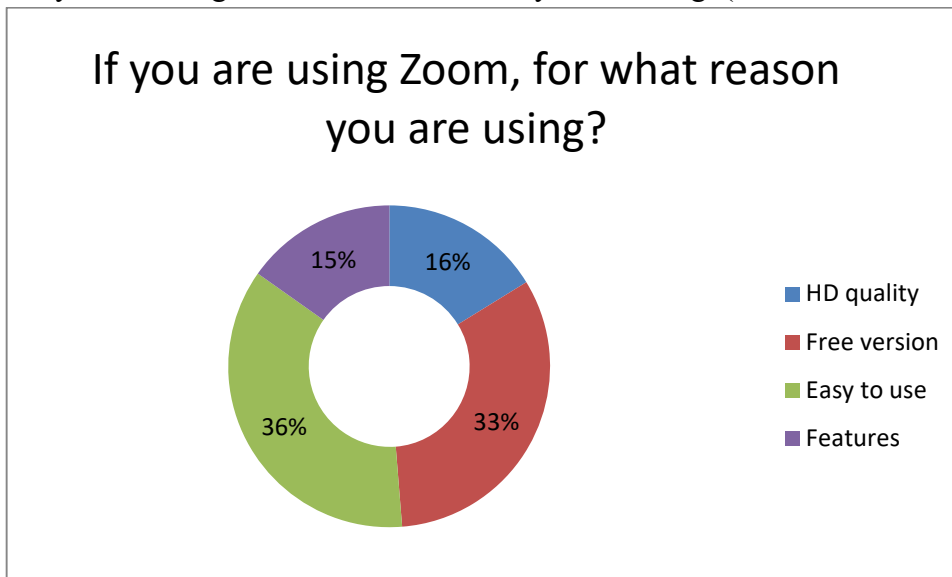
- B denotes Before Covid-19
- D denotes During Covid-19
- Other includes Indian apps of video conferencing

Paired Samples Correlations				
		N	Correlation	Sig.
Pair 1	B Microsoft(S/T) & Microsoft(S/T)	108	.317	.001
Pair 2	B Zoom & D Zoom	108	.415	.000
Pair 3	B Google & D Google	108	.462	.000
Pair 4	B Houseparty & D Houseparty	108	.635	.000
Pair 5	B Whatsapp & D Whatsapp	108	.421	.000
Pair 6	B Webex & D Webex	108	.573	.000
Pair 7	B Other & D Other	108	.621	.000

- B denotes Before Covid-19
- D denotes During Covid-19
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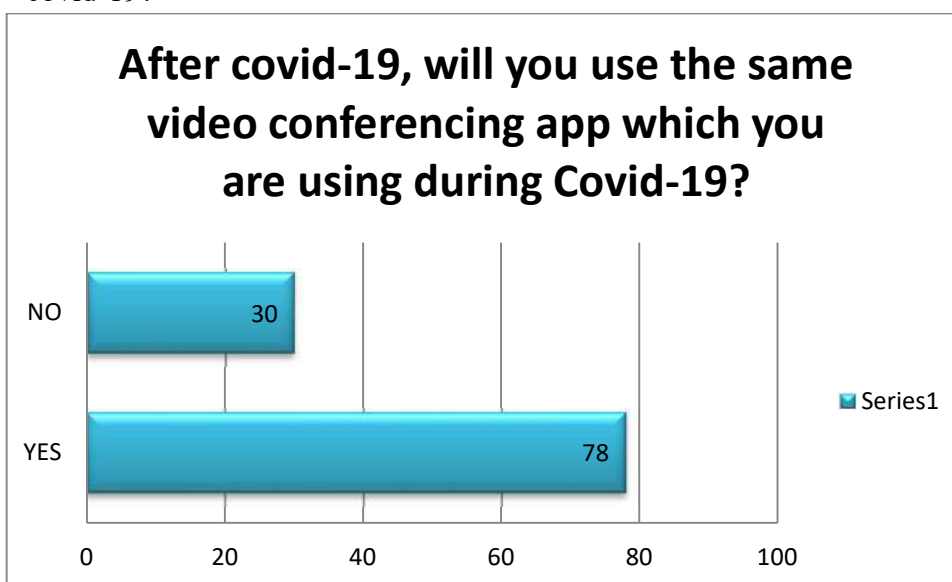
Sample paired t- test reveals that there is increase in the usage pattern of microsoft & Zoom from earlier, others video conferencing apps were also increased slightly so we can say that **“There is significant difference in usage of VCaaS during covid-19”**

8) If you are using Zoom, for what reason you are using, (if not leave it blank).



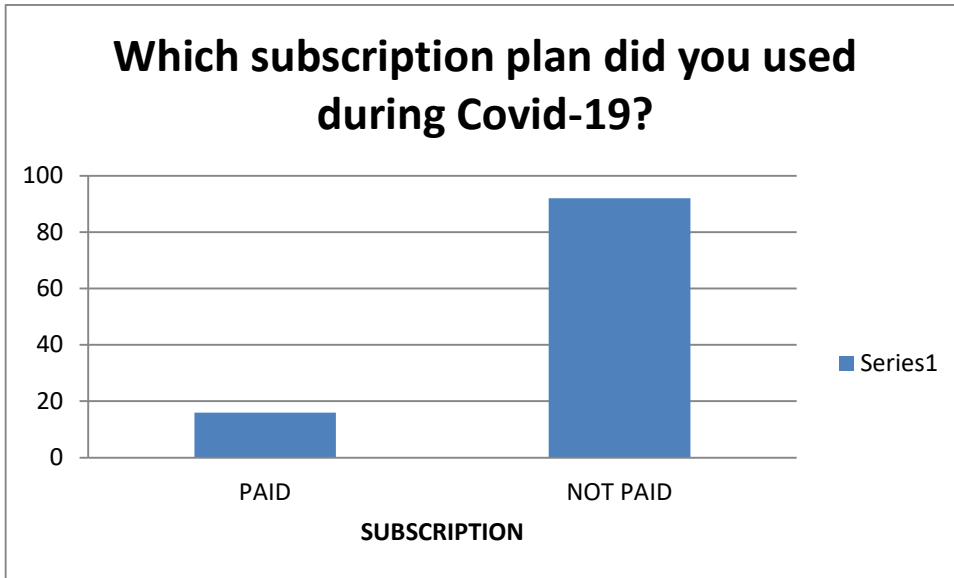
Interpretation: respondents mainly using ZOOM because its easy to use that is 36% followed by the reason that its free version that is 33% of conducting meeting for (40 minutes) which you can do again and again after meeting time is over then its HD Quality video that is 16% and then other features which is 15%.

9) After covid-19, will you use the same video conferencing app which you are using during covid-19?



Interpretation:- Majority of respondents that is 72.22% will use the same video conferencing app that they are using during covid-19 and 27.78% will switch to different app.

10) Which subscription plan did you used during covid-19



Interpretation:- Majority of respondents that is 85.19% are using services which are not paid means people are using free version offered by the company remaining 14.81% are using paid services.

11) What factors would you look, While buying subscription for video conferencing as a service(VCaaS)

➤ **Factor Analysis**

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.832
Bartlett's Test of Sphericity	Approx. Chi-Square	293.167
	df	21
	Sig.	.000

The value that I find of KMO and Bartlett’s test is 0.832, that is more than 0.7, so we can conclude that there is certain redundancy between the variables that we can summarize with a few numbers of factors. This value also used to examine the appropriateness of factor analysis.

Component Matrix ^a		
	Component	
	1	2
HD QUALITY	.760	-.329
PRICING	.645	-.390
FEATURES	.836	.039
COUNTRY OF ORIGIN	.374	.738
ESAY TO USE	.838	.054
DATA PRIVACY	.862	-.189
BRAND NAME	.455	.683
Extraction Method: Principal Component Analysis.		
a. 2 components extracted.		

And from the Rotated component matrix table, only 2 factors are extracted from the 7 factors that is **Data privacy** and **country of origin**. So, we can say that these are the most 2 important factors among 7 factors for buying subscription of VCaaS. There is only 2 factors is extracted among 7 factors, so we can say that “**factors does influence buying behavior of buying subscription for VCaaS**”.

- 12) What rank would you give to below brands for video conferencing as a service (VCaaS)? Please rank according to your preference.

Friedman Test

Ranks	
	Mean rank
Microsoft(S/T)	2.80
Zoom	2.70
Google	2.91
Houseparty	4.98
Whatsapp	3.66

Webex	5.09
Other	5.87

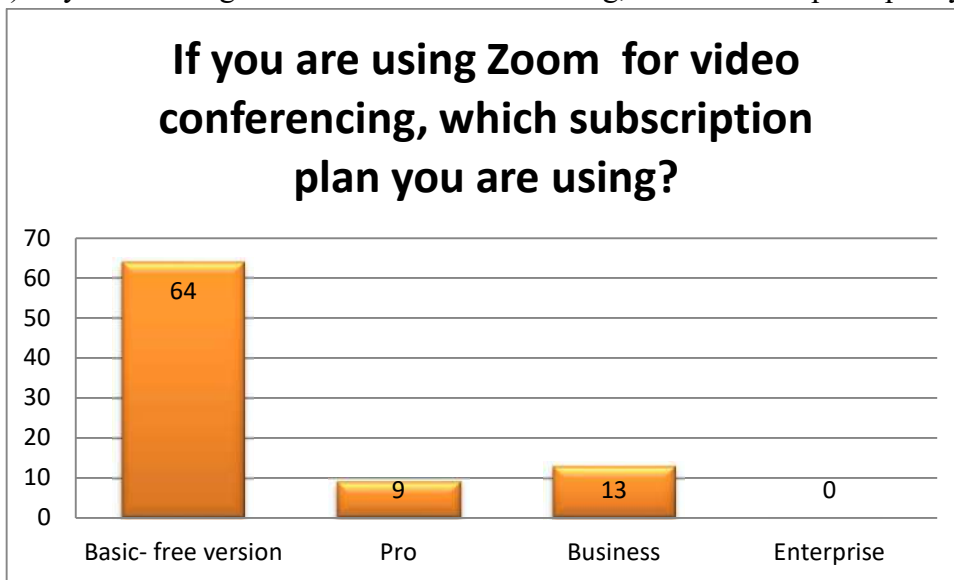
Test Statistics^a

N	108
Chi square	238.162
Df	6
Asymp. Sig.	.000

a. Friedman Test

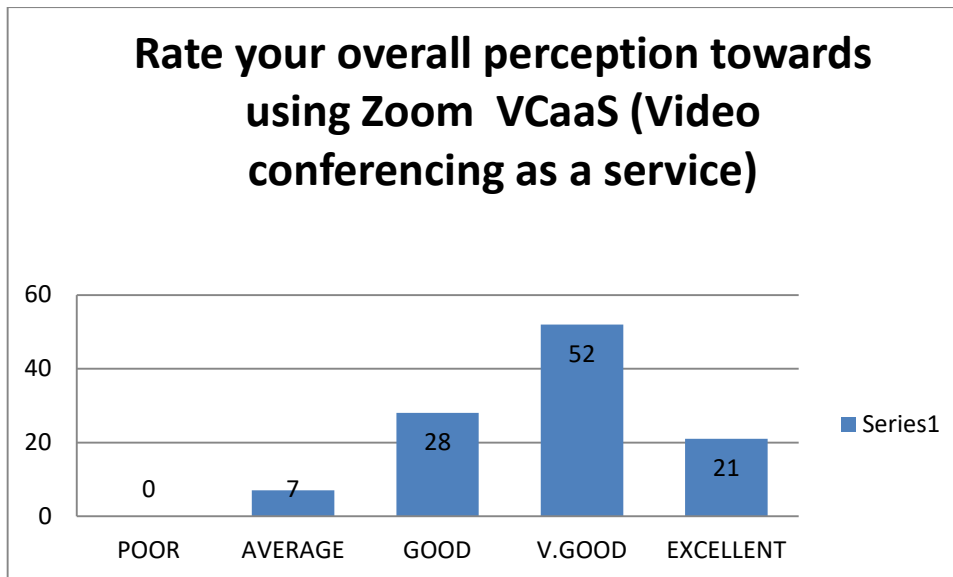
Interpretation:- As per the Friedman test Zoom app is ranked 1 followed by Microsoft (ranked 2), then google (ranked 3), then whatsapp (ranked 4), then houseparty(ranked 5) then webex(ranked 6) at last other apps which involves all Indian apps (ranked 7).

13) If you are using Zoom for video conferencing, which subscription plan you are using?



Interpretation:- out of 108 respondents only 86 respondents are using Zoom app and in which majority of respondents are using free version offered by the company that is 59.26% then business plan that is 12.04% followed by pro plan that is 8.33%, none of the respondent are using enterprise plan which is more costlier than pro or business plan.

14) Rate your overall perception towards using Zoom VCaaS (Video conferencing as a service)



Interpretation:- According to the overall perception majority of the people rated very good that is 48.15% to the zoom video conferencing followed by good that is 25.93% then excellent that is 19.44% then average which is 6.48% but no respondent give poor rating.

Finding

- Out of 108 respondents 63 are males and 45 are females and in which based on occupation people from private companies and school/colleges used it more combining 96 out of 108 respondents
- VCaaS is mainly used for doing meetings 47%, learning/education that is 31% and business 10%
- ZOOM video conferencing is used tremendously during covid-19 because of its “easy to use” and its “free version” features combining 69 %.
- Most of the users of VCaaS are using non paid subscription which is 85.19 % and most of the people will use the same app after Covid -19 Which is 72.22 %.
- According to overall perception of people from poor to excellent they rated ZOOM App Very good which is 48.15% which means they are satisfied while using it.
- Factors analysis helped me to find out the factors which influenced the decision for choosing video conferencing. Out of 7 attributes, 2 factors were extracted i.e data privacy and country of origin.

- From the Friedman test it is proved that Zoom app is rank 1 and Microsoft rank 2 followed by Google, Whatsapp, houseparty, webex and others which involves Indian apps.
- From the sample paired t-test its proved that there is significant increase in usage of Video conferencing as a service(VCaaS) before and during Covid- 19

Suggestions

- As people are focusing more on “country of origin” of a product or service due to Indian sentiments or “Atmanirbhar bharat” while using any video conferencing app Indian video conferencing companies should grab this opportunity and try to come up with some advanced features.
- As schools/colleges are conducting online classes companies should try to customize the services for them or can they can provide a separate version for them based on their requirements.
- VCaaS providers should try to build trust among users for the concern of data privacy which is a crucial factor while using any app.
- Many companies are still in doubt while using services of video conferencing as the data they share while using video conferencing will not get leaked.
- As many users are non-paid subscribers to convert into them paid subscribers company can reduce the prices of subscription.

Limitations:-

- Analysis of primary data is done on the assumption that the answers given by the respondents are true and correct.
- Some People were not much interested in filling the questionnaire and hence I have to request them to 2-3 times, which might can affect their opinions.
- The data collection is limited to online survey due to current Covid-19 pandemic restriction, time and resource constraint.
- The statistical tools and techniques used in this study have their own limitation

Conclusion

Due to the worldwide spread of the Covid-19, many organizations are now relying on video conferencing to carry out their routine practices. Increasing globalization is encouraging its usage. Organizations have been witnessing a growing need for video conferencing endpoints and infrastructure solutions for communication purpose and because of its ability to improve productivity and outreach. Hence, growth in the video conferencing as a service is expected to play a major role in this covid-19.

The popular ‘work from home’ policy in various companies has led to the unprecedented rise in the usage of video conferencing. Schools/colleges are using video conferencing apps to teach students.

Earlier people were relying on Microsoft products such as skype or teams but now people are reliable on Zoom and Google meet and as sentiments of using local products or “Atmanirbhar bharat” many organizations are using it as a opportunity to enter into the industry such as Reliance with Jio meet similar to zoom app some other Indian apps such as Drishti, Milan setu, say Namaste, etc .

As no one is sure when will this Covid-19 come to an end and situation will get better even after this pandemic people will use video conferencing apps to maintain social distancing for a period of time, Which creates good opportunity for Indian companies to grab the market share.

Further research directions:-

- Researcher can compare the subscription model of various companies
- Researcher can compare the features of various companies
- Researcher can study unique selling proposition(USP) of various companies
- Researcher can study how the data privacy and country of origin of a product/service plays a crucial role while using any video conferencing service

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