

# The Quality Comparison and Features of Various Video Calling and Conferencing Applications in Mumbai and Navi Mumbai

By

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# Abstract

This report contains all the information about various video calling application. The report also gives the information about the features, services and facilities provided by the application. The Analysis and Interpretation of provided data is presented in the form of Bar Diagram and Pie charts. The tool used for collection of data was a Questionnaire. The objective of the research is understanding the frequently used video conferencing applications by the consumers and the best features of it. The data interpretation revealed maximum respondents prefer to use Zoom app, some respondent uses Google Meet and very less respondents use Jio Meet and Skype. And respondents find screen sharing as the best feature and some user find feature of screen recording best.

# Introduction

High-quality video conferencing software has to do more than just show your face to the world. Whether you want to have a quick chat with your co-worker or put an all-hands presentation on everyone's calendar, a good video conferencing solution makes it straightforward to create a meeting link or dial-in number, share it with others, and add more people to in-progress calls.

It should also offer features that let you turn facetime into collaboration time, such as screen sharing, annotation or whiteboarding, and live chat. These features are key to making your virtual meetings as productive as they would be in person, so we only included apps that support these functions. And while it's a bit harder to define, a good video conferencing app should be reliable, meaning it should enable consistently clear calls that don't usually drop or get choppy. While some apps on this list are better for smaller groups of people, we've also included a few powerhouse tools that can reliably handle video calls for large groups.

# **Need of Study**

- Due to progress in IT industry, the technology has gone to a different level which makes operations easier.
- With the present context & current scenario of covid-19 video conferencing are done from home which completes the work efficiently without any intervention.
- Due to COVID-19 lockdown, most workplaces have shut down round the world and work is being managed remotely from home in such situations, video conferencing apps have seen a huge demand by businesses and offices worldwide.
- In this scenario, the course and degree are location independent. Students may undertake the course from any location. Distant learners have less opportunity for interaction with peers or tutors. Video conferencing should be used to facilitate the best of distance and conventional teaching. Distance learning is normally associated with

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more class materials and better preparation of teaching materials. Video conferencing provides a means to get both students and tutors to a central location, all be it virtually.

# The best video conferencing app for reliable, large video calls Jio Meet (macOS, Windows, iOS, Android, Web)

Reliance Industry has launched Jio Meet on July 2, 2020, the video conference app that offers unlimited calling free of cost, it also being considered as a rival to Zoom. Even though, Jio meet has planned to compete with Zoom, Google Meet, and Microsoft Teams, during the Coronavirus outbreak. The Jio Meet video app is available across Android, iOS, Windows, macOS, and Web(browsers) after beta testing. It maintains HD audio and the quality of video call with up to 100 participants at a time.

### High features include;

- 1. It delivers amazing features, includes screen sharing, meeting-scheduling features, and many more.
- 2. It gives the options of host control and allows record logs of audio and videocalls.
- 3. Featured at Google Play Store, Jio Meet proposes comfortable to sign up either with mobile number or e-mail ID.
- 4. It enables the making of instant meetings and starts calls/chats at a single click.
- 5. The video quality can be scheduled earlier where meeting details are bestowed with invitees.
- 6. As the meetings are password-protected, the host can facilitate "Waiting Room" to make sure no single participants can join the meeting without approval.
- 7. It offers "Safe Driving Mode" while driving and endures login to multi-device up to five devices and consistent swapping of devices from one to another while on a call.

# Zoom (macOS, Windows, iOS, Android, Web)

If you're looking for a video conferencing app, you've probably already heard of Zoom. It's one of the most popular group call apps—and for good reason. For the most part, Zoom just works.

Once you install the Zoom app (on your computer or on your phone), you can host free 1:1 video call with no time limit and group calls with up to 100 people as long as you don't talk for more than 40 minutes. Paid plans let you chat with up to 1,000 people at once, plenty for almost every situation. More importantly, Zoom is incredibly reliable.

Even when your internet connection isn't the best, zoom typically will keep your video going—though sometimes at a reduced quality level. You can record any call as a full- length video. Participants can also use text chat to talk with each other, either as a group or as individual private messages, during a call. And you can share your screen, choosing to either show your whole screen or just one of the apps you're running.

Zoom even lets you schedule calls in advance, chat anytime with any of your contacts, or connect to room conferencing hardware. All in all, it's a nearly perfect team video app. And for full transparency, it's the one use most at Zapier. You can automatically add Zoom calls to your calendar or schedule video conferences when someone books an appointment.

# Google Meet (iOS, Android, Web)

Google Meet's best feature, perhaps, is its deep integration with Google's other apps. Whenever you create a meeting in Google Calendar, you'll get a Meet link that you and your meeting attendees can click to instantly join a call. And when you're in the middle of a call,

you can find files from Google Drive and Apps and share them in chat, without leaving your call. You can even start a call directly from your Gmail inbox. Google Meet includes live captioning, which is a huge plus for accessibility. The captions work fairly well in English, though it can't detect when other languages are spoken on a call.

There's also a tab-sharing feature that's great for media sharing, with very little lag when used to stream a short video as a group. Meet can struggle with large group calls, however. In our experience, it doesn't degrade calls as gracefully as some other apps (such as Zoom) if your internet connection is slow. But there is a workaround: you can opt to have up to 100,000 participants join via view-only mode. This mode doesn't display participants' video, so they'll only see and hear whom ever is leading the call.

Though it's not the same as a true video conference, since it limits their ability to chime in, it's a decent option if you just need one or two people to present to a large group—such as in a lecture-driven distance learning class. If you're working from the same location, you can also use the Meet conference room devices for full-room video chats and the Jam board touchscreen device for team collaboration.

#### Go To Meeting (iOS, Android, macOS, Windows, Web for participants)

Go To Meeting is part of Log Me In's family of video conferencing apps that let you meet with your team or broadcast a webinar to thousands of viewers. With GoToMeeting, you'll schedule meetings online, then use GoToMeeting's app to join calls, share your screen, and present to audiences. You can choose to schedule a recurring session or start a one-time call. And GoToMeeting also lets you create a custom link for your meeting—which is a great feature if you'll be inviting people outside your organization or running a publicly-available virtual event like a webinar. Go To Meeting offers all the

features you'd expect from a video conferencing tool aimed at professionals, including call recording, dial-in numbers (or an option to have Go To Meeting call your number so all you have to do is answer), and HD video for up to six participants. You can even monitor your audio levels from the app' stool bar, so you can see exactly how loud you're being during the call.

The downside is that the app can be a little confusing due to all the features and options available. For the most part, though, GoToMeeting is a reliable option that can be a good choice if you want a tool for team calls and webinars. GoToMeeting with your other favourite apps and automate away some meeting-related work. Some common GoToMeeting automations include automatically creating meetings for new calendar events or when someone books an appointment in your scheduling app

#### Zoom vs. Microsoft Teams vs. Google Meet: A Videoconferencing Face Off

The coronavirus has made video conferencing software a vital technology for both businesses and consumers. It's a key component of how many businesses continue to function, schools are able to keep teaching, as well as how families and friends can stay connected during isolation. Products like Zoom Meeting and Cisco WebEx are experiencing a huge surge in adoption with new customers looking to leverage both video conferencing's visual communication as well as its commonly included collaboration features. That's all good news for video conferencing sellers, but all the new user traffic as well as several new and often complex use cases are changing how well these tools compete with one another, which makes things a little more difficult for buyers. Additionally, several video conferencing vendors have adopted special offers or freemium deployment models to help entice new customers.



To make sure you pick the best for your particular situation we decided to take a look at how three of the most popular video conferencing apps on the market match up right now. That list includes Zoom Meeting, Microsoft Teams, and Google Meet (formerly Hangouts) video conferencing tools and how they could work best for your needs.

#### **Zoom Meeting**

Zoom Meeting continues to be the go-to video conferencing application for the masses with over 200 million daily users. That's despite a massive uptick in usage load and adoption exposing various security exploits like "Zoom-bombing." The company has responded by adding layers of verification, including a waiting-room for video participants to be screened. Like many video conferencing solutions, Zoom Meeting was created for businesses and not initially designed for casual or consumer use; This focus has kept the product relatively simple to use compared to much of the competition.

What makes Zoom Meeting so attractive is that while it's certainly easy to use, it's also a highly competitive conferencing platform. It's one of our Editors' Choice picks for video conferencing solutions because it gives users solid collaboration tools and a wide range of control over their video experience. From enabling various backgrounds to tweaking audio controls so that they can better pick up musical instruments or ambient sounds.

### Microsoft Teams

Microsoft Teams may not be the first name that comes to mind when folks consider a video conferencing solution. But it should be because it's become the pointed tip of Microsoft's communications spear, combining business VoIP, collaboration, and video conferencing features in a single app that's integrated with the rest of Microsoft's business messaging suite and easily accessible to Microsoft Office 365 Business subscribers.

Still, when viewed feature for feature, Microsoft Teams looks like more of a rival to Slack than it does the likes of Zoom Meetings or Cisco WebEx Meetings. But since it seamlessly integrates video calling functionality into its solutions' stack, it's definitely worth considering for new video conferencing solutions, especially businesses. Microsoft Teams usage has increased exponentially, the product recently hit 44 million daily users coming from 93 of Fortune 100 companies and over 650 organizations with more than 10,000 users. Microsoft has recently made it easier for people to try out Teams and its various features during the pandemic. For educators, teachers, and students, a free version of Office 365 is available for free to all educational institutions.

While video conferencing is certainly a key component of Microsoft Teams, especially considering its pedigree and the fact that it's effectively absorbed Microsoft's video conferencing pioneer platform. Microsoft Office documents. Microsoft Teams video conferencing has the ability to host calls with up to 250 members (including screen sharing and call recording). Microsoft Teams seems optimized for smaller team conversations. You can currently only see four participants on a call simultaneously.

# Google Meet

Google Hangouts Meet was recently rebranded and is now known as Google Meet. According to the company, The cloud-based video-conferencing service now caters to two million users every day. It's a staple for various enterprise and corporate clients as well as Google G Suite customers. The service can handle larger meetings with up to 250 participants per call, live streaming for up to 100,000 viewers within a domain, and can record meetings on Google Drive for later broad cast.



Google recently announced that it is enabling free access to various video conferencing and communications tools for schools and businesses through September 30, 2020, which applies to all G Suite customers globally.

Unlike Microsoft Teams, Google Meet is a pure video conferencing solution. It makes it easy to set-up and join meetings on PCs as well as on mobile devices. Organizers can set up calls using Google Calendar, meeting link URLs or codes, dial- in by phone numbers, and through proprietary Google Meet hardware like Chromebox and Chromebase for meetings devices. Because of wide adoption in enterprise as well as education, it features robust security and encryption.

# **Literature Review**

The introduction of G3 technologies, most notably the videophone and the camera phone, has arguably led society to a tipping point (see Gladwell, 2000), that is, a period of time in which our views of the world are likely to be significantly altered through the introduction of improved capabilities in video technology.

However, research on videoconferencing use in schools is relatively under-developed. In particular, research accounts of videoconferencing use tend to be of individual events/projects or of a single model of use of the equipment. The literature on videoconferencing closely follows the trajectory of its status as a 'cutting edge' technology in different business and educational environments. In a society saturated with the visual image and in which digital video is penetrating the personal mobile market, the future of videoconferencing as a medium of communication in both commerce and schooling would seem to be assured. Yet, commentators on the use of videoconferencing may lie in the different ways it can be employed to meet different commercial or educational objectives and therefore, it needs to be adapted to various environments or circumstances.

#### Videoconferencing technologies

Even within the overall concept of videoconferencing, important differences in delivery and modes have been identified. The basic division is between systems of desktop conferencing, such as Webcams, which tends to assume a focus on personal use, and studiobased conferencing that implies a more formalized approach (Mason, 1994; Pitcher, Davidson & Goldfinch, 2000). While the cost of desktop videoconferencing has decreased significantly and is within the reach of most educational institutions, there is always a trade-off between cost and quality. Dedicated videoconferencing suites, with fast connections through the Internet are at the high quality/high cost end of the spectrum, though the costs of IP transmission fell substantially at the beginning of the 2000s (Manley, 2002). The development of high-speed broadband networks (pioneered by University consortia – see Smyth, 2005 for the case of Australia) has transformed the potential of videoconferencing by bringing costs down and increasing video and audio quality to television standards.

Another important dimension of videoconferencing is whether it is deployed as a oneto-many or group-to-group technology. Smyth (2005) identified three relationships here; oneto-many, one-to-some and some-to-some. While relatively low-grade provision through ISDN services may be suitable for some types of videoconferencing and involve a minimum of technical expertise, audio and video quality are important in influencing the reception of videoconferencing sessions by learners. Desktop videoconferencing (DVC) can allow many individuals to participate in a conference through their own computers and to be useful for *Res Militaris*, vol.13, n°3, March Spring 2023 3366



small group tutorials. It is less effective for a room-based video interaction between larger groups of learners, where clearer picture and sound quality are essential to ensure the participation of all the learners (Earnshaw, 1998). For example, Louann and Stacey (1999) found that time delays in low-cost systems impacted negatively on the language learning they were hoping to encourage. Despite improvements in videoconferencing quality, Yang and Chen (2007) found that time lags, amongst other factors, were similarly cited by language learners as 'watering down' (page 871) the effects of videoconferencing.

# **Research Methodology**

Research methodology is considered as the nerve of the project. Without a proper wellorganized research plan, it is impossible to complete the project and reach to any conclusion. The project was based on the survey plan. The main objective of survey was to collect appropriate data, which work as a base for drawing conclusion and getting result.

# **Objective**

- 1. To understand the frequently used video conferencing applications by the consumers.
- 2. To understand the differences of features between various video calling applications.
- 3. To find out the best Indian video conferencing applications providing best services.
- 4. To identify the factors that determine the effectiveness of the video conferencing app.

# **Research Design**

A research design is the arrangement of condition for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure. It is blue print for data collection, measurement and analysis. The design of this project is done such that it provides knowledge about the various video conferencing applications their usage, features. In the time period available for the project, only various video conferencing applications and their problems were studied. It was not possible to obtain information by physically visiting and asking the questions to applications developers However, On phone calls and Internet and some magazines provided the data about their functionality of the applications which is also valuable. The project explains problems faced by users during interaction, app functionality and features.

Duration of work: 25 days

Area of work: To study the quality comparison and features of various video calling applications

# Data sources

Data collection is done with the help of two methods.

# **Primary Data Collection**

Details information about video conferencing applications functionality was guided by all the users who were using the application for various purposes.

In this case data is collected by using interview method from the various users who were using the applications for business purpose, educational purpose, social work purposes, work shops etc



Common Questionnaires to all the users was as follows:

- Which video conferencing app do you use most frequently?
- For what purpose do you use video conferencing apps?
- Is video conferencing app being hard to use?
- What features would you like to have added to your video conferencing experience?
- What existing features do you use the most?

### Secondary Data Collection

- The secondary data is basically used for the purpose of enhancing the concept clarity regarding different video conferencing applications their features their advantages and disadvantages. The sources are research articles, journals, magazines and internet.
- Features of the Applications
- Magazines & Journals.
- Textbooks, Internets & others

# **Scope of the Study**

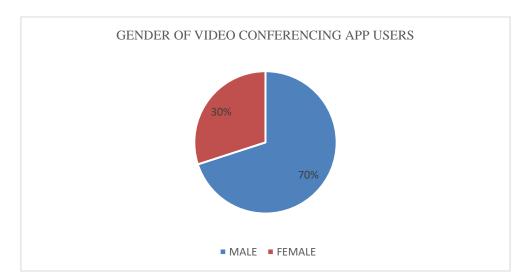
- When new technology comes onto the scene, it usually takes a while for businesses, individuals, and institutions to find the best ways to leverage it in order to maximize efficiency, opportunity, and success
- Although it's been shown to be an effective solution for communication and a strong alternative to travel, it has taken many years for it to seep into all of the areas in which it can truly make a difference.
- So where are we seeing video conferencing today, and how is it being used? Let's take a look at some of the most useful environments for this exciting technology.
- Primarily, we see video conferencing in business. No matter what kind of business you are running, unless you're a very localized group without much travel or remote working involved, video conferencing has probably at least come up as a point of discussion. It's a great way to get mobile workers involved, to cut down on expenses related to traveling, and to facilitate better communication between businesses, partners, and/or clients.
- Video conferencing is also making a name for itself in the world of education. Teachers are now able to leverage this technology to spread knowledge across much wider fields. Online lectures, interactive virtual classrooms, and other uses of this technology are taking the education industry by storm and truly improving on howwe can spread information and promote higher learning.
- It's also being used in the health care industry. Whether it's with remote doctors communicating with one another to determine strategies for treatment, or its doctors treating patients remotely through video connectivity, video conferencing has increased options for health care around the world.
- More government agencies looking into video conferencing
- Video conferencing has found its way into nearly every type of business and institution imaginable over the past handful of years, and for good reason. The technology's capability to provide improved communication, larger ranges of features and data sharing, substantially minimized costs, and higher quality of interfacing isan attractive offering no matter the price level. That's why it should come as no surprise to hear that more and more government agencies are looking into investing in video conferencing technology to improve practices of allkinds.

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- Government agencies should be some of the most smooth-running institutions in the world, but given the way that government spending is often restricted and difficult to manage, this may not always be the case. Thankfully, it seems like more and more agencies are analysing their budget and identifying the implementation of video conferencing as a potential solution to money constraints rather than as aproblem.
- With the right systems in place, government agencies maybe able to communicate internally and externally with greater efficiency and overall quality. Having robust methods of contacting outside parties as well as remote workers is crucial to performance and efficiency; video conferencing provides this service in an unparalleled quality. Both the Department of the Interior and the Department of Veterans Affairs seem to have performed research to identify some of the best systems to matchtheir particular needs and are also looking for ongoing maintenance and support services.
- It is exciting to see new agencies investing in the world of video conferencing, and we hope to see more widespread use of this technology as time goes on!
- Mobile video conferencing can end up being very important, too. If a business relies on a number of employees "on-the-go", they may need to connect with them while they are at a remote location without a desktop computer or laptop handy. Calling someone up on the iPad or other tablet is a simple and effective way of doing so.
- Upcoming conference takes a look at the future of video conferencing. It's no secret that video conferencing and telepresence tools have taken off in the last handful of years. The development of more affordable and high-tech tools has allowed businesses, institutions, and individuals all over the world to connect with remote parties for collaboration and general discussion.
- Now, experts in the fields of therapyand counselling are looking to video conferencing as a wayto expand their work and use new avenues of communication to treat patients. Psychiatrists are becoming comfortable with the idea of using this technology as a means of reaching out to patients., also be used to reach otherwise unavailable patients, such as those in prisons or nursing homes.

# **Data Analysis**

*Q1) Please select your gender:* A. MALE B. FEMALE C. TRANSGENDER



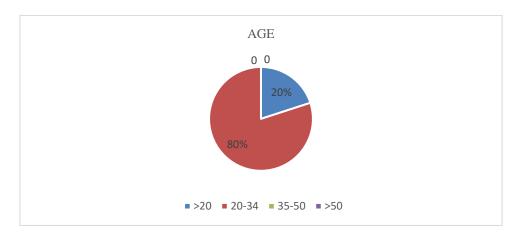


# Interpretation

While doing survey web found out that app usage is done by Male 70% and only Female is 30%.

# Q2) Select your age range?

- A. <20
- B. 20-34
- C. 35-50
- D. >50

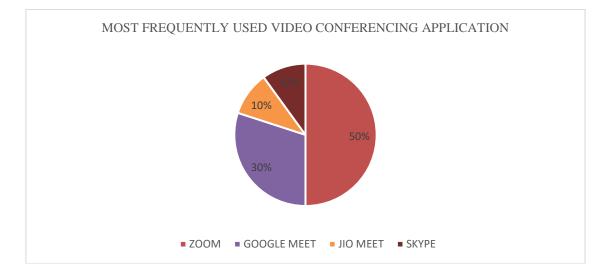


# Interpretation

80% of respondent are between the age of 20-34, where only 20% are below age of 20

# Q3) Which video conferencing app do you use most frequently? (You can choose more than one answer)

- A. JIO MEET
- B. GOOGLE MEET
- C. ZOOM
- D. SKYPE
- E. GO TO MEETING
- F. JION.ME
- G. WEBEX
- H. SLACK





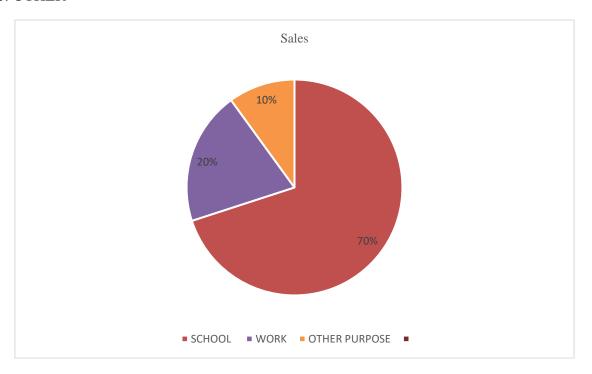
# Interpretation

50% of respondent have said that they use ZOOM app, while 30% respondent uses GOOGLE MEET and only 10% respondent uses JIO MEET and SKYPE respectively.

Q4) For what purpose do you use video conferencing apps?

#### A. SCHOOL B. WORK

C. OTHER



# Interpretation

Video conferencing is 70% used for SCHOOL purpose, And 20% for WORK and 10% for other purposes.

Q5) Is video conferencing app hard to use?



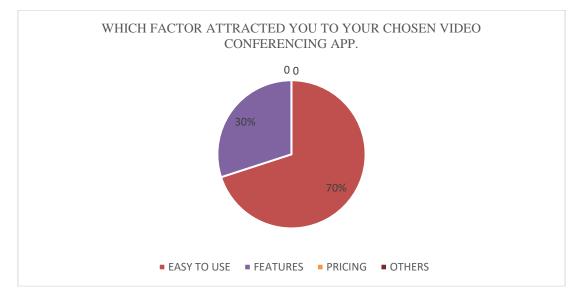
# Interpretation

100% respondents find video conferencing app is easy to use.



# Q6) What most attracted you to your chosen video conferencing app?

- A. PRICING
- B. **FEATURES**
- C. EASY TO USE
- D. OTHER

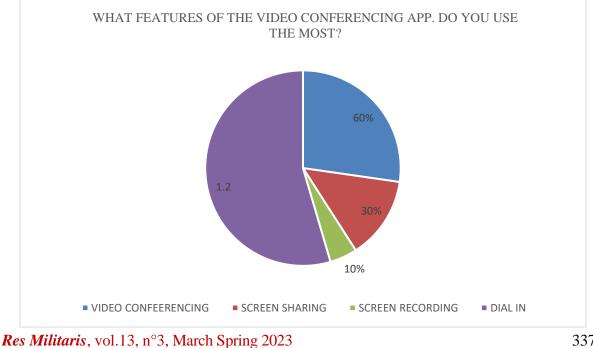


# *Interpretation*

70% respondent got attracted to video conferencing app because it's EASY TO USE, while 30% got attracted to FEATURES of app.

#### Q7) What existing features do you use the most?

- Screen sharing A.
- B. Recording
- Video conferencing C.
- Dial in D.
- E. Other





# Interpretation

60% respondents use app for video conferencing, while 30% use screen sharing feature and 10% use feature of screen recording.

# Q8)Which app would you recommend to your friend for use?

- A. JIO MEET
- B. GOOGLE MEET
- C. ZOOM
- D. SKYPE
- E. GO TO MEETING
- F. JION.ME
- G. WEBEX
- H. SLACK



# Interpretation

50% of respondents like zoom app for recommendation while 30% and 20% of respondents like google meet and jio meet respectively for recommendation.

# **Findings of the Study**

#### For big groups

Skype

Pros: Many simultaneous callers Cons: Tries too hard to do other things

#### Zoom (iOS, Android, Mac, Windows)

Pros: Zoom is one of the most popular business video conference apps out there due to its reliability, solid web integration and other features.

Cons: poor security standards

# For friends and family

### FB Messenger (iOS, Android, Mac, Windows)

Pros: Easy to use, many people already on it, some handy group features Cons: Facebook account required

# WhatsApp Messenger

Pros: Secure, popular Cons: Only four people per video call



Google duo or hangout (iOS, Android, Mac, Windows) Pros: Simple interface, uses existing Google account

Cons: Confusing platform issues, Duo may not be long for this world

# Discord (iOS, Android, Mac, Windows)

Pros: Great for voice chat while gaming or simple occasional video chat Cons: Occasionally confusing interface, not video-focus.

# **Findings from the Analysis**

- 1. The video calling and conferencing application is used more by males than the females.
- 2. The video calling and conferencing application is used more by the youth than the adults and the elderly people and among youth also it is more used by the youth belonging to age group 20-34 and only 20% young people to the age group below 20 are using this video calling and conferencing application.
- 3. The most preferred language option while using this application is English and the second preferred language is Marathi.
- 4. The most widely used video calling application for social use is Zoom, after zoom on second place is Google Meet and on the third place there are two applications Skype and Jio Meet.
- 5. The most widely used video conferencing application is Zoom, after zoom on second place is Google Meet and on the third place there are two applications Skype and Jio Meet.
- 6. Maximum use of the video calling and conferencing application is for the purpose of Schooling and attending classes and the second main purpose of using this application is to do office work.
- 7. Maximum people use the video calling and conferencing application only once in a day and only 10% use it twice in a day and 10% use it more than three times in a day.
- 8. Maximum people find the video calling and conferencing applications easy to use.
- 9. When asked about what feature would they like to be added to their video calling and conferencing application, 70% of the people said they would like to have the feature of text and video chat at the same time, 20% said they would like to have the feature of screen mirroring on live video calls on video chats and 10% said they would like to have the feature of video chat with over 10 people at once.
- 10. When asked about what attracted them most to choose the video calling and conferencing application, 70% said the ease of use and 30% said it's features.
- 11. When asked about which existing features they use the most, 60% said video conferencing feature, 30% said screen sharing and 10% said recording.
- 12. When asked about which is their favorite feature in video calling and conferencing application, 80% said screen sharing and 20% said video conferencing.
- 13. When asked whether these video calling and conferencing applications are helping them in achieving their goal, 100% respondents agreed.
- 14. When asked about how do they think that this application can be improved, 50% respondents said by improving the Network, 30% said by quality and 20% respondents said by allowing other users to interact with more users at a time.
- 15. 60% respondents do not agree with Indian video conferencing app gives best service than other video conferencing apps.
- 16. Maximum people 72% agreed for preferring video conferencing feature over normal meeting and only 27.3% disagreed.



17. Maximum people said they will like to recommend Zoom app to their friend for use, 30% people said google meet and 20% said jio meet.

# **Recommendations / Suggestions**

- 1) The Video conferencing application must reduce the devouring of excess internet data.
- 2) The VC application must be a plan so that it is fit to work at 2G network speed since there has been network connectivity issues many times.
- 3) Lack of individual communication.
- 4) During video conferencing, there may be a slight sound postponement between reactions in different places, even with quick Internet connectivity. It makes discussions very unnatural in contrast with the in-person gatherings.
- 5) The poor and flighty video quality on Zoom is regularly hazy and pixelated. The organization truly needs to take a shot at it.
- 6) Zoom Bombing, many nations have confined its utilization for directing meetings in the wake of information burglary.
- 7) All the VC application has made the Customer Service easier and faster.
- 8) Skype Security Concerns-Intrusion by Outsiders should be immediately stopped or confined.

# Conclusion

The COVID-19 lockdowns and quarantines across India has observed a major flip in our daily routines, the most noticeable being working from home in order to flatten the curve. So, to keep up with social interactions, video-conferencing apps have become a necessity. Not all of these apps' journeys have been a fruitful one, particularly owing to security worries or technical glitches.

Here is our breakdown of trending video-chat apps, their purpose, their security features, and, of course, how to access them:

# Zoom

Favoured by schools, corporates and individuals, Zoom's number of daily meeting participants has grown to 300 million. Prominent features include a screen-share option for presentations. Zoom's bells and whistles come in the form of the virtual background feature in that user scan access a photo from their personal gallery and set that as their own meeting background. This feature works best with a green screen and uniform lighting, to allow Zoom to detect the difference between you and your background.

# Devices and access

Zoom's Basic plan allow up to 100 participants at a 40-minute time restriction, but unlimited one-on-one meeting time.

# Google Duo

Unlike Hangouts where text messages can be sent, Google Duo is only for video calls and has recently upped its group-calling limit to 12.

# Security

Duo uses end-to-end encryption to keep video calls private; a call's data (its audio and video) is encrypted from your device to your contact's device. The encrypted audio and video



can only be decoded with a shared secret key. Also, Duo doesn't store your facial data or send it to Google servers.

#### **Devices and access**

Available through Android phones, iPhones, tablets, computers.

#### Skype

Currently, Skype's free plan allows 50 callers on a group call. Users can blur their backgrounds on a video call and also engage in screen-sharing for presentations and demos. Plus, Skype also has a real-time translation tool for video calls.

#### Security:

Skype's encryption is inherent in the Skype Protocol and is transparent to callers. Skype is not considered to be a secure VoIP (Voice over Internet Protocol) system as the calls made over the network do not make use of end-to-end encryption

#### Devices and access:

Available across all major device platforms and major browsers, voice assistants like Alexa, and on Xbox consoles.

#### Microsoft Teams

Microsoft Teams is the hub for communication across Microsoft 365 suite, and we would say this is more corporate-oriented than the others listed here. Over the ongoing lockdowns, Teams has seen considerable usage surges. Teams also has a Live Events feature, where up to 10,000 people can join as an audience member with a four-hour time limit for the event. In late April, Teams will be upping the audience member limit to 20,000 with a 16-hour time limit.

#### Security:

According to Microsoft, users' data is protected from malware in attachments, accidental sharing via chat or files, and suspicious user activity. Information is secure with encryption, Multi-Factor Authentication, and device management.

#### Devices and access:

Anyone with a Microsoft 365 account can access Microsoft Teams, available on iOS and Android, as well as Windows desktop app.

From the study we can conclude that zoom is the most popular video conferencing app and screen sharing is the most popular feature.

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