



University of the Philippines
OPEN UNIVERSITY

A MANUAL FOR

PLANNING AND CONDUCTING A HYBRID MEETING

Center for Open and Digital Teaching and Learning
University of the Philippines Open University



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I. Introduction

As a pioneer in open and online distance e-learning in the country, the University of the Philippines Open University (UPOU) has long recognized the value of hybrid meetings as a means to bridge the gap between virtual and physical spaces. Even before the global pandemic necessitated widespread adoption of remote work and virtual communication tools, UPOU had been utilizing the affordances of hybrid meetings, seminars, and webinars to facilitate interactions with their stakeholders.

In this manual, we draw upon UPOU's experience in online learning and hybrid meetings to provide comprehensive guidance on planning and conducting hybrid meetings. Through this manual, we aim to share UPOU's best practices and lessons learned in conducting hybrid meetings.

II. Understanding Hybrid Meetings

To give us a brief overview of what we mean by hybrid meetings and to set us on the same page when it comes to hybrid meetings, let us first define the concept. The hybrid meeting is a combination of face-to-face gatherings and virtual communication. It enables participants to attend a meeting either physically or virtually. This format promotes flexibility and enables participants to collaborate regardless of their location.

The benefits of hybrid meetings are multifaceted. They enable organizations to reduce travel costs and logistical challenges associated with traditional in-person meetings. Remote participants can gain access to meetings even if they are from afar. It can facilitate collaboration between distributed teams which fosters inclusion and participation.

However, this setup also presents unique challenges. Technical issues such as poor audiovisual quality or connectivity problems can disrupt communication and potentially hinder productivity. Also, maintaining engagement and ensuring equal participation among in-person and online attendees requires careful planning and facilitation.

Understanding the nuances of hybrid meetings shall help us prepare and facilitate hybrid collaboration effectively. This manual aims to address these common challenges and hopefully help us prepare and maximize the potentials of hybrid meetings.

III. Preparing for a Hybrid Meeting

This section is divided into two parts, one is dedicated to the **technical person/people or organizers** of a hybrid meeting and the other one is for **participants** who will be attending a hybrid meeting.



For Technical People or Organizers

In conducting a hybrid meeting, there are several logistical and technical considerations that you have to consider. You may use the following questions as a guide to choosing the right equipment, room, software, and internet connection.

Guide Questions in Preparing for a Hybrid Meeting

1. When and where the meeting will take place?
2. How many are attending on-site and online?
3. What interactions do you plan to have during the meeting? Will you require whiteboards, polls, Q & A chatbox, presentations, etc?
4. Who are the hosts and co-hosts or facilitators of the meeting?
5. What is the maximum speed of the allocated LAN internet connection available in the venue?
6. Is the space well-lighted?
7. What is the seating arrangement of the meeting?
8. Are there any available microphones, projectors, or TVs in the venue?
9. Will there be a designated technical support contact in the venue?

By answering these questions, you shall be able to at least have a perspective on what the meeting requires and what equipment, software, and dedicated speed of the internet shall you need.

Now, here are some guides that can help you answer each question above.



- 1** As the technical person or organizer of the meeting, it's important to know the **venue and schedule** of the meeting to prepare for it. This will help you secure the venue, add the event to your calendar, and coordinate with the technical person who will assist you during the meeting, if necessary.



2 The **number of participants attending in-person** will help you determine the venue for the hybrid meeting if you haven't already decided. Ideally, the number of in-person attendees should be proportional to the space capacity of the venue. We want to avoid having a room that is too large or too small for the hybrid meeting. On the other hand, the number of participants attending online will help you determine which video conferencing software to use and what license you need for the meeting.



3 The **interactions** that are planned for the meeting will help you decide which video conferencing platform to use and what other collaboration applications to utilize in facilitating the meeting. For example, features such as polls, Q&A box, interactive whiteboard, sharing of screen, and video recording are well-suited for Zoom. Other alternatives include Microsoft Teams, Google Meet, and WebEx.



4 Knowing who the **host and co-hosts** are is also important since this information is needed when preparing the video conferencing software to use. Zoom, for instance, allows you to pre-assign co-hosts even when scheduling the Zoom meeting.



5 It's important to have a **dedicated LAN connection** whenever you conduct a hybrid meeting. Knowing the internet connection speed available in the venue will help you prepare for a secondary connection or control the bandwidth for your meeting.



6 The **lighting of the venue** is also important to manage your video shots during the meeting. Knowing whether the venue is well-lit or not will help you prepare for additional lighting if necessary, or determine the best angle to position your camera.



7 The **seating arrangement** is another crucial aspect to consider when setting up the meeting space. Knowing how the in-person participants will be seated will help you plan where to strategically place your microphones, projections, and camera/s.



8 Another crucial aspect of hybrid meetings is the **audiovisual system**. It's important to know what equipment is available in the venue so that you can prepare compatible equipment. This will also help you prepare your audiovisual equipment in case the venue has none.



9 Lastly, knowing whether you have **technical support staff** during the hybrid meeting will help you prepare whether you need additional personnel or if you will be facilitating the hybrid meeting on your own.



For Participants in Hybrid Meetings

Aside from the preparation of the physical venue of the hybrid meeting, we also need to prepare the participants themselves. While we understand that it will be hard to control the meeting spaces of each participant, as much as possible, we try to provide them with some guidelines to ensure that the meeting will be smooth and have fewer technical issues.

Here are some resources developed by the UPOU Educational Media Production unit (formerly known as the Multimedia Center) of the Center for Open and Digital Teaching and Learning.

You can use these multimedia materials in preparing your participants.

- [Best Practices for Video Conferencing](#)
- [Best Practices for video conferencing/online conferencing](#)
- [Using Your PowerPoint Presentation as Your Zoom Virtual Background](#)
- [Controlling/Managing Your PowerPoint Presentation Shared by Another Zoom Participant](#)
- [How to Share Computer Music in Zoom](#)
- [Screen Sharing in Zoom](#)
- [Joining a Meeting with Zoom](#)

When sending email invitations for the hybrid meeting, attach the applicable resources above to prepare and manage participants.

IV. Setting up the Meeting Space

After knowing the details presented in the last section, we now start preparing the physical space of the meeting. Let us start with the equipment needed.

Equipment needed for the Physical Meeting Space

The reason why we start to discuss the questions above is that those details will be needed as you decide on the equipment to use for the meeting. We will discuss the suggested equipment based on the number of participants and the size of the physical space.

Small Meeting Room (10 pax or less)

Typically a small meeting room requires smaller equipment, this means that you can go by the following setup:

- 1 **Video Conferencing Camera.** In UPOU, we use an AI tracking video conferencing camera which is capable of locating movement from the room and can pre-set camera angles. This makes the control for the camera shot and angle easier. Alternatively, there is a video conferencing camera already out on the market that enables you to capture the whole meeting room with its 360 camera capabilities (see item 1. b). You can use the following specifications if you want to purchase a video conferencing camera:

- A. For an AI-tracking video conferencing camera (Aver)
 - i. Camera:

Image Sensor	1/2.8" 1080p Low Lux CMOS
Output Resolution	1080p/60 (IP Streaming & USB)
S/N Ratio	.50 dB
TV Line	800 (Center), 600 (Corner)
Exposure Control	Auto, Manual, WDR
White Balance	Auto, Manual
Digital Zoom	2x
Focal Length	f = 3.9mm (Wide) to 46.8 mm (Tele)
Minimum Working Distance	0.3m (Wide), 1.5m (Tele)
Pant /Tilt Speed (Manual)	Pan: 1° to 90°/sec Tilt: 7.85° to 45°/sec
Preset Positions	10 (IR), 256 (IP & USB)
Camera Control - Protocol	VISCA (IP), CGI (IP), USB
Power Frequency	50Hz / 60 Hz
Effective Picture Elements	2 Megapixels
Minimum Illumination	0.5 Lux (IRE50, F1.6, 30fps)
Gain	Auto, Manual
Shutter Speed	¼ to 1/10,000 sec (60 Hz) ⅓ to 1/10,000 sec (50 Hz)
WDR	Yes
Optical Zoom	12X
Viewing Angles	DFOV: 84.1° (Wide) to 7.8° (Tele) HFOV: 76.5° (Wide) to 6.8° (Tele) VFOV: 47.3° (Wide) to 3.8° (Tele)

Aperture (Iris)	F = 1.6 (Wide) to 2.8 (Tele)
Pan / Tilt Angles	Pan: +/-170°, Tilt: +/-90°
Preset Speed	Pan : 120° / sec, Tilt: 110.84° / sec
Camera Control-Interface	IP,USB
Image Processing	Noise Reduction (2D/3D), Flip, Mirror, WDR

ii. AI Auto Tracking Functions: Presenter Mode, Zone Mode, Hybrid Mode

iii. Interface:

1. Video and Audio Outputs: IP and USB
2. Audio Input: Mic in, Line in

iv. Plug and Play USB Connectivity

B. For a 360 video conferencing camera (Infinity CAR 360) :

- i. Type: Audio Conference system, Network conference system, video conference system
- ii. Video-Input: 8 megapixels
- iii. Function: 360 conference camera system
- iv. FOV: 360 panoramic
- v. Audio: 8 mic array, pick up to 8 meters
- vi. Auto Tracking: AI soundtracking and focus the speaker
- vii. Interface: Plug and Play USB Connectivity

C. For a regular video conference camera (Logitech Rally Pro)

- composed of a camera, 2 speakers, 2 mic pods, with display and table hubs.
- Premium Ultra HD Conference Camera System with automatic control
- Plug and Play USB Connectivity

Camera	<ul style="list-style-type: none"> • 15x HD Zoom • Pan: 180degrees • Tilt: 140degrees • Resolutions @30fps: 4K Ultra HD, 1440p, 1080p, 900p, 720p and SD • Resolutions @60fps: 1080p, 720p
Speakers	<ul style="list-style-type: none"> • Speaker Volume 95dB SPL @1W, 100dB SPL @7.5W, both +/-2dB at1/2 meter • Sensitivity: 95+/-2dB SPL at ½ meter • Distortion: 200Hz-300Hz <2.5%, 300 Hz-10kHz <1%@7.5W • Sampling Rate: 48 kHz • Mini XLR cable for connections and power

Mic Pod	<ul style="list-style-type: none"> • Pickup Range: 15ft (4.5 m) diameter • Four omnidirectional microphones forming eight acoustic beams • Background noise suppression • Frequency Response: 90Hz - 16kHz • Sensitivity: >27dB +/-1dB @ 1 Pa • Microphone data rate: 48 kHz
Table Hub	<ul style="list-style-type: none"> • Single CAT6A cable connection to Display Hub • Hub 5 m cable included • Active speaker detection: analyzes audio from up to 7 Mic Pods and 56 beams every 8 ms • 12 Pin connector for Rally Mic Pod • HDMI Type A passthrough to Display Hub (x2) • USB Type C • USB Type A • USB Type B (connects to meeting room computer) • RJ45 • Power input
Display Hub	<ul style="list-style-type: none"> • HDMI Type A: (x2) (connects to displays) • USB C (connects to Camera) • USB Type B (connects to meeting room computer) • RJ45: connects to Table Hub • Mini XLR: x2

2 Speaker. Ideally, the speaker should match the requirements of the small meeting room. It should be clear enough for everyone to hear, without being too loud for the room. Here are the minimum specifications you would want for a speaker:

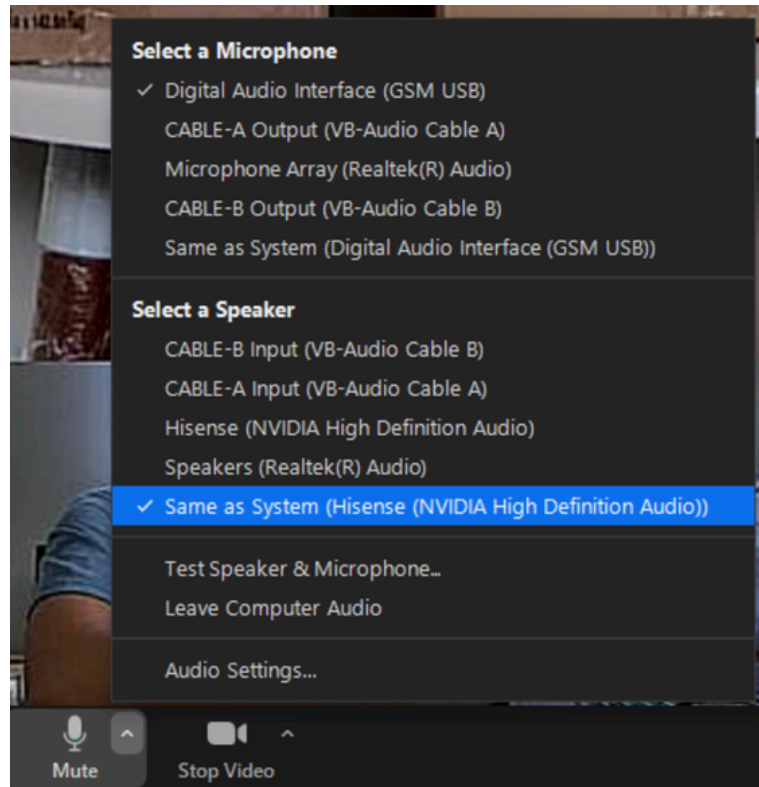
A. Speaker

- Speaker Volume 95dB SPL @1W, 100dB SPL @7.5W, both +/-2dB at1/2 meter
- Sensitivity: 95+/-2dB SPL at ½ meter
- Distortion: 200Hz-300Hz <2.5%, 300 Hz-10kHz <1%@7.5W
- Sampling Rate: 48 kHz
- Mini XLR cable for connections and power

B. Regular Computer Speaker

- Type: 2.0 Stereo Speaker System
- Connectivity: USB powered, 3.5mm audio input
- Power Output: 5W RMS (2.5W per speaker)
- Frequency Response: 100 Hz - 20 kHz
- Impedance: 4 Ohms
- Signal-to-Noise Ratio (SNR): ≥ 70 dB
- Compatibility: Windows, macOS, Linux

C. TV Internal Speaker. Alternatively, you can connect your laptop to a TV monitor and set the speaker in the video conferencing software to the TV monitor or HDMI source.



- 3 TV.** Ideally, the TV should be at least 55 inches wide, and placed in a stand or attached to a wall where it can be easily seen by the participants.
- 4 Laptop.** This can be connected to the TV either using an HDMI cable or screen mirroring. These are the minimum requirements you would need for a laptop:
 - a. CPU: at least Intel i5 Quad-core processor
 - b. GPU: at least Intel integrated graphics card or equivalent
 - c. RAM: at least 8 GB
 - d. Storage: at least 256 GB SSD

Medium Meeting Room (11 pax to 24 pax)

A medium meeting room requires more equipment than a small meeting room, but not as much as a large meeting room. You can go for the following setup:

- 1 Video Source.** You can choose one of the following video-capturing devices:
 - A. Video conferencing camera - You can use the AI-tracking video conferencing camera specified above, if your participants are not too far spread out.

B. Full HD Camera - Ideally, there should be at least 2 HD cameras to fully capture what is happening in the meeting room. You can use the following specifications of an HD camera:

- i. Single 1" Exmor RS CMOS Sensor
- ii. UHD 4K (3840 x 2160) up to 30p
- iii. HD up to 120 fps
- iv. Sony G Lens with 12x Optical Zoom
- v. 18/24x Clear Image Zoom/48x Digital Zoom
- vi. Discrete Manual Focus, Zoom, Iris Rings
- vii. XAVC, AVC/H.264, AVCHD 2.0, MPEG-4
- viii. Slow and Quick Motion Function
- ix. Two SD Memory Card Slots, Wi-Fi
- x. 2 x 3-Pin XLR Audio Inputs
- xi. Video Output: 1 x RCA (Composite), 1 x HDMI, 1 x BNC (3G-SDI)

2 Wireless transmitters for cameras. This is a device that transmits the video feed of the HD cameras to the video mixer, without having to lay down long cables. These are the specifications that you need:

A. TRANSMITTER	Interfaces	<ul style="list-style-type: none"> • Antenna interface (RP-SMA Male) • HDMI input (Type A Female) • SDI input ; DC input; USB-C
	Power Supply	<ul style="list-style-type: none"> • DC Power Input: 6-16V • USB-C Power Supply: 5V/2A • Battery Power Supply: 6-16V
	Input/Output video format	<ul style="list-style-type: none"> • HDMI: Supports 4K • SDI: atleast 1080p 60 • Transmission Power: 22dBm • Transmission Latency: As low as 40ms • Bandwidth: 20MHz
B. RECEIVER	Interfaces	<ul style="list-style-type: none"> • Antenna Interface (RP-SMA Male) • HDMI Output (Type-A Female) • SDI Output *2 ; DC Input; USB-C
	Power Supply	<ul style="list-style-type: none"> • DC Power Input: 6-16V • USB-C Power Supply: 5V/2A • Battery Power Supply: 6-16V
	Input/Output Video Format	<ul style="list-style-type: none"> • HDMI: Supports 4K • SDI: 1080p 60/50 • Frequency: 5.1GHz-5.8GHz • Receiver Sensitivity: -80dBm • Transmission Latency: As low as 40ms • Bandwidth: 20MHz

C. Included in the package per set	1 pc Transmitter, 1 pc Receiver 4 pcs Antenna , 2 pcs Mushroom Antenna 1 pc Cold Shoe , 1 pc Magic Arm 1 pc Type C Converter , 1 pc DC Adapter 1 pc User Guide, 1 pc Warranty Card 1 pc Expansion Accessory With Case/Bag
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- 3 Microphones.** Ideally, there should be at least 4 microphones in the large meeting room, depending on the venue’s arrangement.
- 4 Speaker.** Ideally, the speaker should match the requirements of the medium meeting room.
- 5 TV.** Ideally, the TV should be at least 70 inches wide, and placed in a stand or attached in a wall where it can be easily seen by the participants.
- 6 Audio Mixer** (if applicable).
- 7 Video Mixer** (if applicable). If you are using 2 HD cameras, you can use a video mixer to switch video programs.

Video Standard	Full HD
Video Format	1080p 50/59.94/60Hz; 1080i 50/59.94/60Hz; 720p 50/59.94/60Hz
Input Routable / Crosspoint	All 12, repeatable
Video Input	8x SDI, 4x HDMI
Computer Graphic Interface	4 via HDMI
Down-converted Output	1x SDI
Video Output	5x SDI, 1x HDMI assignable: Multiview, PGM, PVW, PGM+DSK, Clean PGM, Clean PVW, Input 1-12, STILL 1, STILL 2, Flex source, 3x HDMI PGM only
Analogue Audio Input	4x Balanced XLR
Analogue Audio Output	2x Balanced XLR
Digital Embedded Audio Support	Input 2 channels, Output 4 channels
Audio Delay Calibration	Up to 16 framesA+V
Switching	Yes
Video Standard	Full HD

Video Format	1080p 50/59.94/60Hz; 1080i 50/59.94/60Hz; 720p 50/59.94/60Hz
Input Routable / Crosspoint	All 12, repeatable
Video Input	8x SDI, 4x HDMI
Computer Graphic Interface	4 via HDMI
Down-converted Output	1x SDI
Video Output	5x SDI, 1x HDMI assignable: Multiview, PGM, PVW, PGM+DSK, Clean PGM, Clean PVW, Input 1-12, STILL 1, STILL 2, Flex source, 3x HDMI PGM only
Analogue Audio Input	4x Balanced XLR
Analogue Audio Output	2x Balanced XLR
Digital Embedded Audio Support	Input 2 channels, Output 4 channels
Audio Delay Calibration	Up to 16 framesA+V ; Switching: YES
USK	4
DSK	2, support Lumakey & Linear key (Key / Fill)
Picture in Picture	8 (4x Keyer, 4x Flex Source)
Logo Insertion	2
Title Creator	Yes, CG-200 software free download
Built-in Monitor Display	17.3" HD TFT LED backlit, 1920x1080 pix
Streaming	H.264 / AVC, Main/ High Profile, Configurable Bit-rate up to 10 Mbps
Streaming Audio Encode	AAC-LC; Configurable bit rate range from 32Kbps to 384Kbps
Sample rate	48KHz, 16bit
Streaming Protocol	TS over TCP/UDP (unicast & multicast) , RTSP over HTTP/TCP/UDP (RTSP Elementary Streaming) RTMP/RTMPS (Publish), HLS, SRT
Streaming Control	Web browser UI for configuration and control Socket commands
Recording File System	FAT. exFAT, NTFSRecording File Format: MP4
Streaming & Recording Setting Control	Web UI for system configuration and control
Special Features	4 Chroma-Key Virtual Studio, 9 stinger transition and 4 user preset, Built in TC-200 CG interface, Streaming encoder and recorder, 12x9 matrix seamless switch; Power: DC 12V, 11A

8 Video Capture Device

- Video In: 1 x HDMI Type A Female (Black)
- Video Output: 1 x HDMI Type A Female (Video Loop-out , Black)
- USB Port USB 3.2 Gen1 Type-C Female (Black) (USB-C to USB-C and USB-C to USB-A Cable package included)
- Power (Optional) 1 x USB-C Female Support Power Delivery 3.0 for laptop charging up to 60W, power profiles include 5V, 9V, 12V, 15V, 20V (additional USB-C power adapter needed)*
- Video Resolution Video input: 2160p60, 1080p60, 720p60 and 480p60, HDMI 2.0 support (unencrypted) Video Loop-out: 2160p60, 1080p60, 720p60 and 480p60, HDMI 2.0 support (unencrypted)
- Audio Sampling 16-bit PCM audio, 44.1KHz and 48KHz
- Output Uncompressed 1080p60, 720Pp60 & 480p60 UVC video stream with UAC audio (Uncompressed video stream is only available on USB3.1 connection)

9 Laptops. Ideally, there should be at least 1 laptop, used to display online participants and projection. Below are the minimum specifications needed for each laptop:

- CPU: at least Intel i5 Quad-core processor
- GPU: at least Intel integrated graphics card
- OS: at least Windows 10
- RAM: at least 8 GB
- Storage: at least 256 GB SSD

Large Meeting Room (25 pax or more)

A large meeting room requires the most equipment. You can go for the following setup:

1 Camera. At least 3 Full HD Cameras for different angles and image size shots.

2 Wireless transmitters for cameras. This is a device that transmits the video feed of the HD cameras to the video mixer, without having to lay down long cables. For the specifications that you need, see **No. 2 of Medium Meeting Room** at **page 11**.

3 Microphones. Ideally, there should be at least 5 microphones in the large meeting room, depending on the venue's arrangement.

4 Speakers. Ideally, the speakers should match the requirements of the large meeting room.

5 Audio mixer. The audio mixer is used to connect the audio sources such as laptops, speakers, and microphones.

6 Video mixer. The video mixer is used to switch between different video shots seamlessly. You can use the video mixer specified above.

7 TVs/Projector. Ideally, the TVs should be at least 70 inches wide, and placed in a stand or attached in a wall where it can be easily seen by the participants.

8 Laptops. Ideally, there should be at least 3 laptops; one laptop will be used to display online participants, while the other 2 are used for remote controlling of presentations. Below are the minimum specifications needed for each laptop:

- CPU: at least Intel i5 Quad-core processor
- GPU: at least Intel integrated graphics card
- OS: at least Windows 10
- RAM: at least 8 GB
- Storage: at least 256 GB SSD

9 Projector (if applicable). This enables a larger view of presentations.

Setting up the Actual Physical Space

After you have determined and prepared the necessary equipment for your room size, we can proceed to the placement or positioning of the equipment. It's important to consider the placement of any furniture such as tables and chairs before setting up the equipment.

Small Meeting Room (10 pax or less)

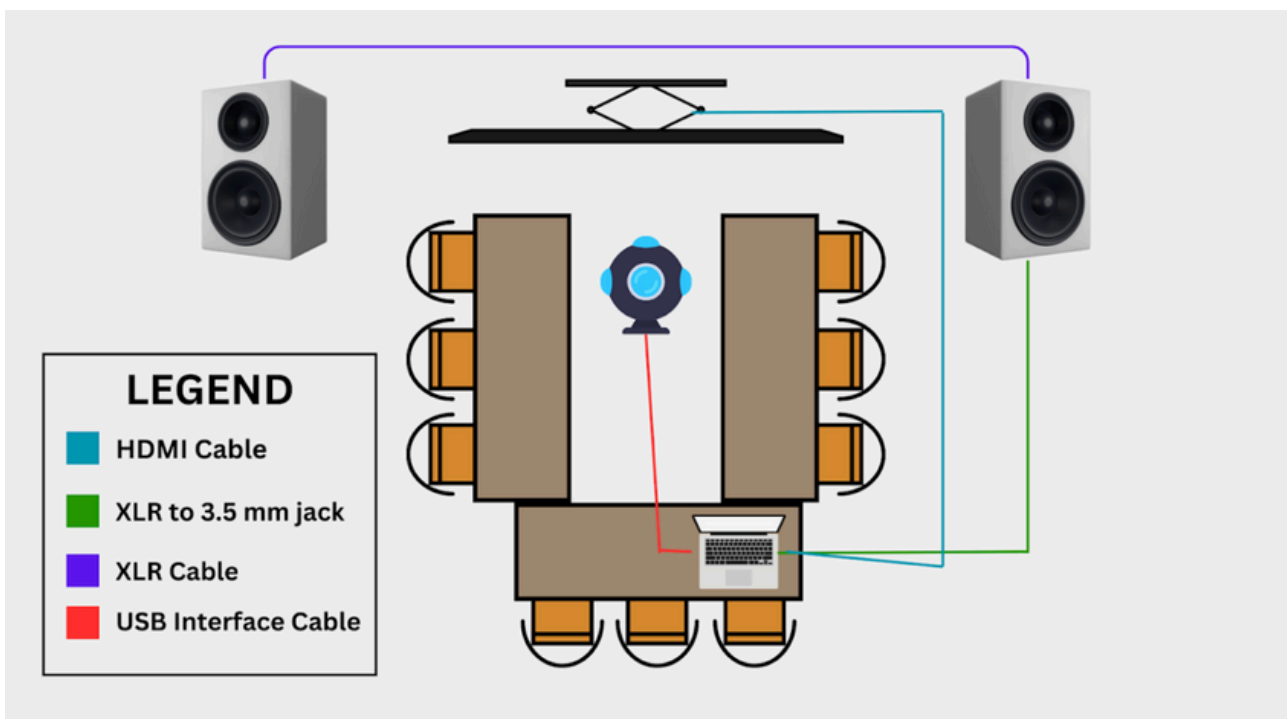


Figure 1: A sample setup of the physical space of a small meeting room.

The small meeting room usually comprises tables and chairs in a roundtable setting. The TV is placed in front of the tables at least 2 meters away, and is connected to the laptop either via HDMI cable or screen mirroring. The speakers should be at the corners of the room. The 360 video conferencing camera/AI tracking camera should be placed in between the tables in order for all onsite participants to be covered by the camera's range, as well as its built-in microphone array. The USB interface cable for the camera should be connected to the laptop. The speakers should also be connected to the laptop to broadcast the audio coming from the online participants.

Medium Meeting Room (11 pax to 24 pax)

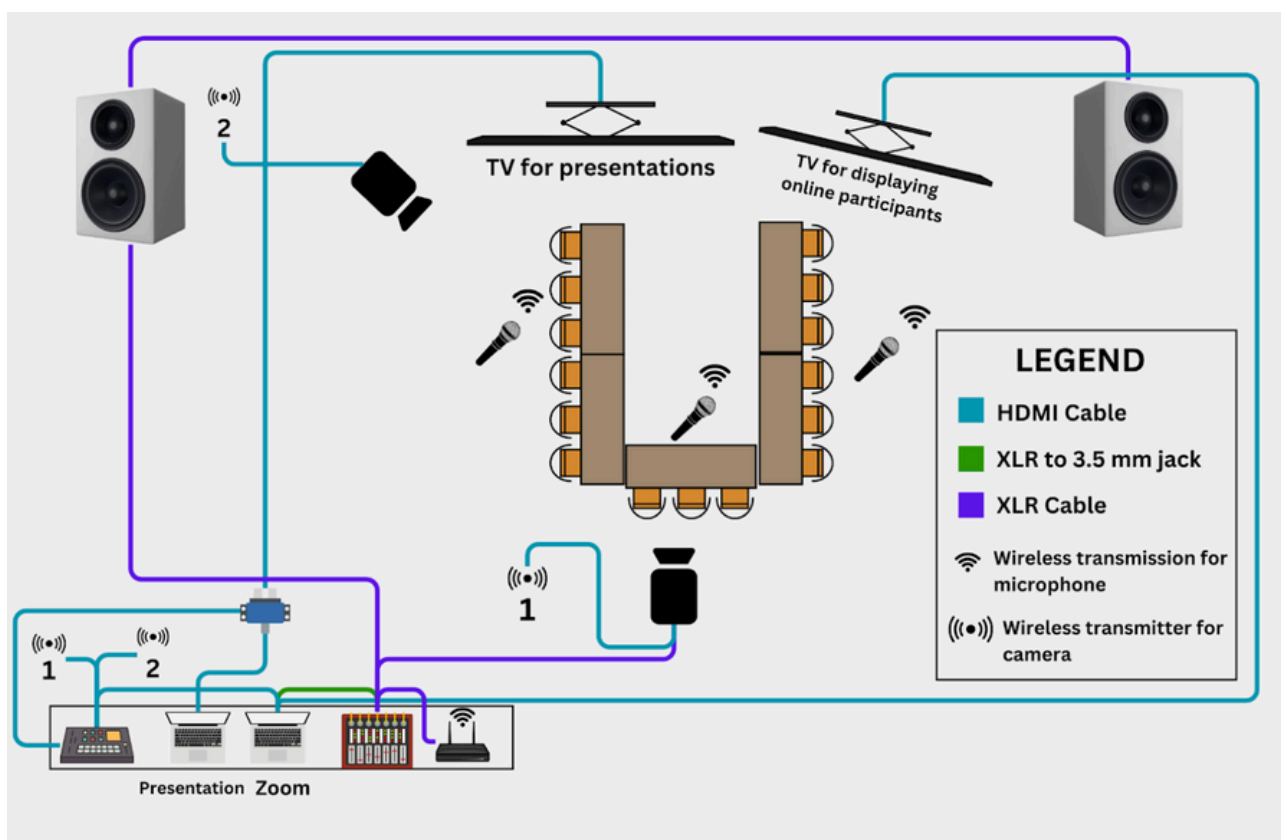


Figure 2: A sample setup of the physical space of a medium meeting room using HD cameras.

The medium meeting room usually comprises chairs in a roundtable U-shaped setting. The 2 TVs are placed in front of the chairs at least 4 meters away. The speakers should be at the corners of the room. For the HD Camera placement, there should be 1 camera at the back, facing the speaker; and 1 at the front, facing the audience. Both cameras are connected to a wireless transmitter connected to the video mixer.

The microphones are wirelessly connected to a receiver connected to the audio mixer. Usually, the camera at the back is connected to the audio mixer to capture the audio from the microphones. There should be at least 3 microphones for the onsite participants.

For the laptops, the first laptop displays online participants via Zoom or another conferencing app to the interactive TV via HDMI cable. The second laptop is used to display the presentations. This is connected to an HDMI splitter, where its outputs are fed through the video mixer and the TV.

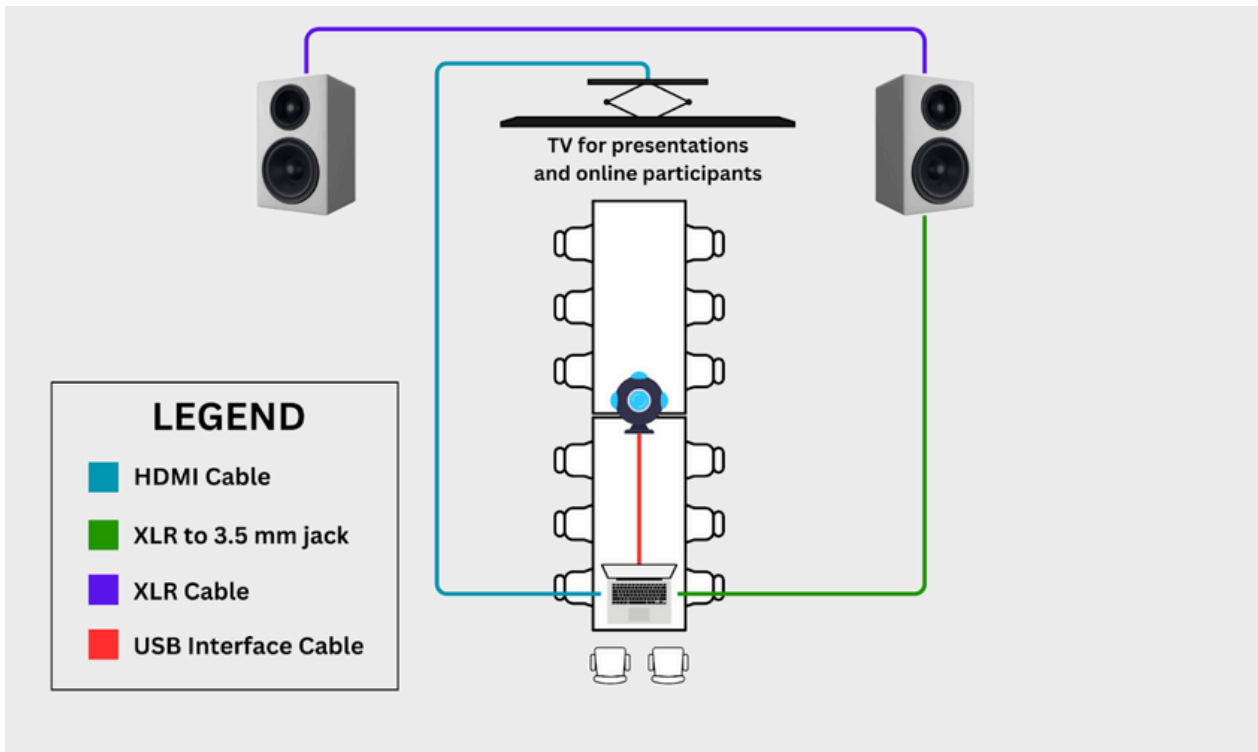


Figure 3: A sample setup of the physical space of a medium meeting room using an AI-tracking video conferencing camera.

Another possible setup for the medium meeting room is similar to the small meeting room but with more chairs and uses the AI tracking camera. The TV is placed in front of the tables at least 4 meters away and is connected to the laptop either via HDMI cable or screen mirroring. The speakers should be at the corners of the room or you can use the TV's speaker. The AI tracking camera should be placed in between the tables for all onsite participants to be covered by the camera's range, as well as its built-in microphone array. The USB interface cable for the camera should be connected to the laptop. The speakers should also be connected to the laptop to broadcast the audio coming from the online participants.

Large Meeting Room (25 pax or more)

The large meeting room usually comprises chairs in a theater style setting or as a classroom-type with forward facing tables and chairs, similar to the medium meeting room, but with more participants.

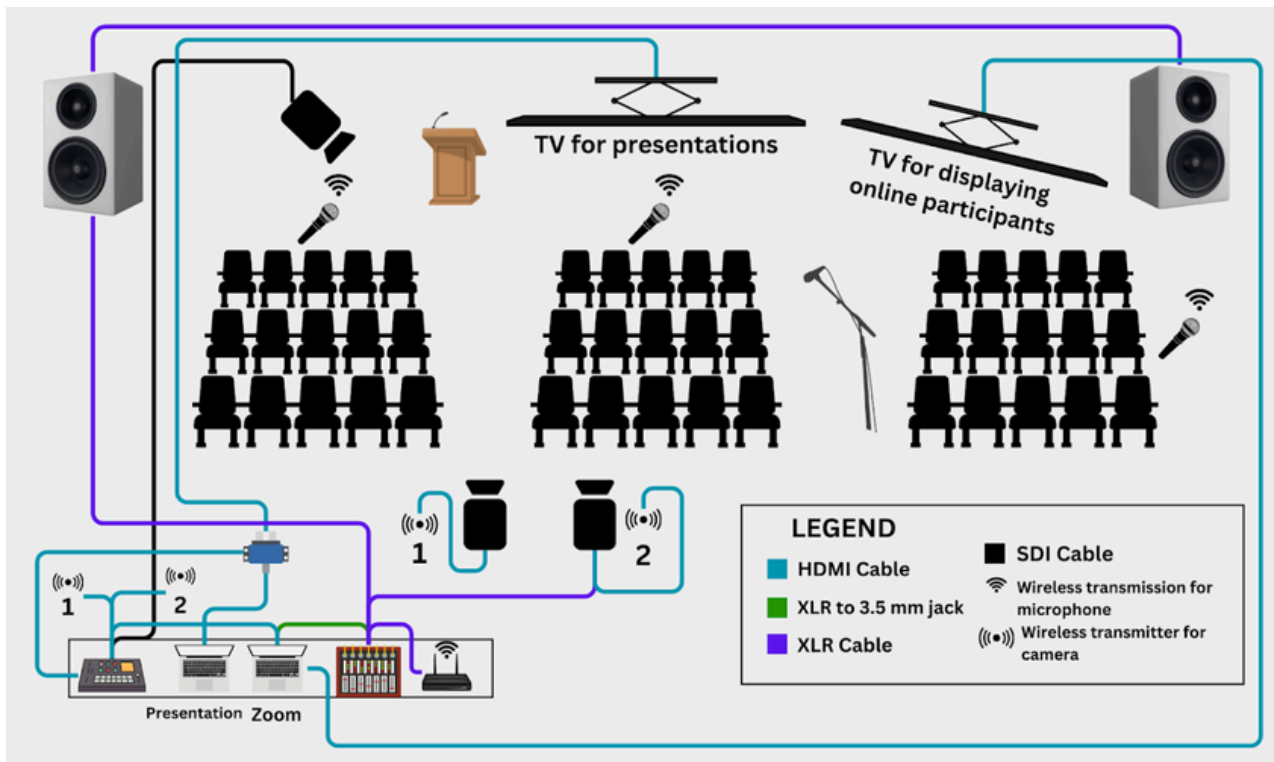


Figure 4: A sample setup of the physical space of a large meeting room

The first TV or projector is placed in front of the chairs at least 4 meters away. The second TV should be placed beside the TV/projector. The speakers should be at the corners of the room. For the HD Camera placement, there should be 2 cameras at the back, facing the podium or speaker; and 1 at the front, facing the audience. The 2 cameras at the back are connected to a wireless transmitter, which is connected to the video mixer. The camera at the front is usually connected with an SDI cable to the video mixer.

The microphones are wirelessly connected to a receiver connected to the audio mixer. Usually, one of the cameras at the back is connected to the audio mixer to capture the audio from the microphones. There should be 1 microphone at the podium and at least 3 microphones for the onsite participants. Alternatively, a microphone stand can be stationed in between the chairs.

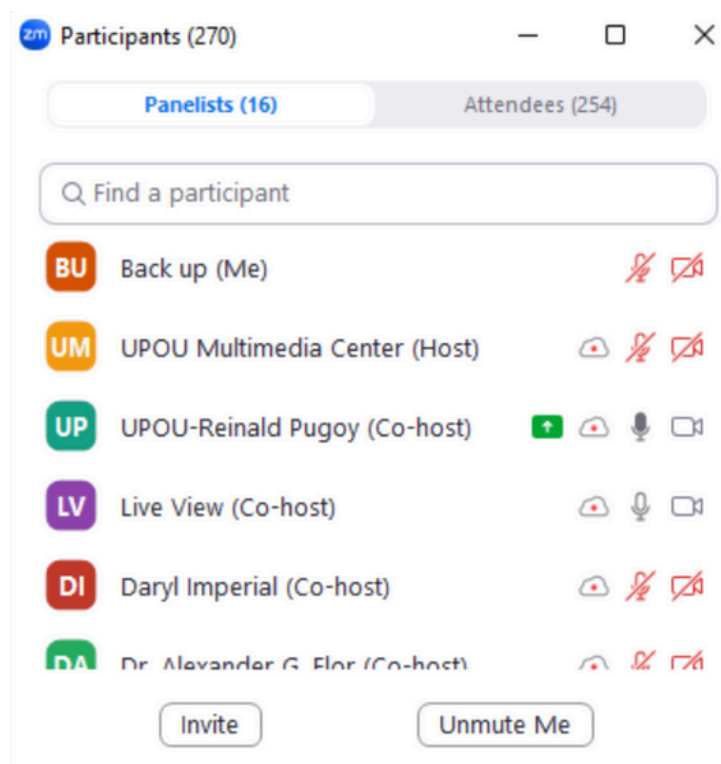
For the laptops, the first laptop is used to display the presentations to the first TV/projector. This laptop is connected to an HDMI splitter, where its outputs are fed through the video mixer and the TV. The second laptop displays online participants via Zoom or another conferencing app to the second TV via HDMI cable.

Setting up the Online Meeting Space

Now that we have discussed how to prepare the physical meeting space, let's move on to the preparation of the online meeting space. As mentioned in the previous section, we typically use Zoom for conducting online meetings.

Here is how to set up a meeting space for online participants in Zoom:

1. Technical persons, moderators, and the presiding officer should be given co-host access, in order to perform actions such as spotlighting, share screen, etc.



2. All other participants cannot unmute themselves or open their cameras, unless asked to do so.

3. The person speaking is the one who is spotlighted for everyone. If two or more speakers are speaking at the same time, you should use the add spotlight feature. Note that spotlighting only works when their camera is on.

4. The proper distance between you and the camera should be arms length.

5. For online participants, make sure that they have ample lighting for their video, such as placing a ring light. Alternatively, they could position themselves in front of a window.

V. Managing Technology

1. Preparation

Ensure all the necessary equipment such as cameras, microphones, speakers, and displays are properly set up and tested before the meeting. For small and large meetings, make sure that all the cameras have the same recording format setting (Ex. 1080/60i or 1080/30p). Bring extra batteries for battery-operated equipment. On the other hand, rechargeable batteries to be used must be fully charged. If possible, bring backup equipment, cables, connectors, adapters, storage devices and batteries. Also make sure that all the persons involved in the live production are provided with internal communication equipment.

Regarding the software that you will be using, whether you're using Zoom, Microsoft Teams, or another platform, make sure you know how to use its features, such as screen sharing, muting participants, and managing breakout rooms. For online participants, provide guidelines on how to join the meeting, mute their microphone when not speaking, and other relevant information.

2. Equipment Setup

To achieve HD quality video output, invest in good quality cameras, microphones, and speakers for onsite meetings. Ensure proper lighting in the meeting room and minimize background noise to create a conducive environment for both in-person and remote participants.

3. Personnel Involve

Small Meeting Room

Zoom Technical Assistance

- Responsible for providing technical support and assistance to users before, during, and after Zoom meetings and webinars. This role involves troubleshooting technical issues, ensuring smooth operation of Zoom sessions, and offering guidance on best practices to enhance the virtual meeting experience.

Medium Meeting Room

A. Camera Person

- In charge of setting up and operating the camera.

B. Technical Director

- Oversees the audio-visual setup and flow of the meeting or event.
- Provides technical support during the meeting or event.

C. Zoom Technical Person

- Responsible for providing technical support and assistance to users before, during, and after Zoom meetings and webinars. This role involves troubleshooting technical issues, ensuring smooth operation of Zoom sessions, and offering guidance on best practices to enhance the virtual meeting experience.

D. Audio Person

- Prepares the needed audio equipment.
- Responsible in maintaining the good quality of the audio/sound during the meeting or event.

Large Meeting Room

A. Director (Optional)

- Overall in charge of the production process.

B. Camera Person

- In charge of setting up and operating the camera.

C. Technical Director

- Oversees the audio-visual setup and assists the Director in ensuring the smooth flow of the meeting or event.
- Provides technical support during the meeting.

D. Floor Director (Optional)

- Assists the Director in the production blocking, that is, the movement of person/s on the stage in relation to the script.

E. Audio Person

- Prepares the needed audio equipment.
- Responsible for maintaining the good quality of the audio/sound during the meeting.

4. Managing Meeting

To ensure a smooth flow of the meeting, you should designate technical staff to manage the equipment during the meeting, such as muting and unmuting microphones, troubleshooting technical issues, and moderating the chat. Since this is a meeting, encourage participation from both in-person and remote participants by asking questions, utilizing polls, and facilitating discussions.

5. Troubleshooting

One of the most common problems in a hybrid meeting is the unstable internet connection and bandwidth. The laptop that's being used to broadcast the online participants should preferably have a wired LAN connection, or connected to a separate WiFi network. Encourage participants to switch off their video if their internet connection is poor. Adjust camera settings or switch to a different camera if available.

Another common issue is the poor audio quality, for both on-site and online participants. For those who are onsite participants, make sure that the microphones provided are functional. For online participants, mute them when they're not speaking to prevent echo. Check for any open microphones or speakers causing feedback issues.

For online participants, another issue is being unable to share their screens. Ensure the correct window or application is selected for screen sharing. Test screen sharing functionality before the meeting.

6. Backup Plans

In case of severe technical difficulties, it's important to have alternative communication methods such as a conference call or instant messaging to keep participants informed. Always record the meeting as a backup in case someone encounters technical issues and misses part of the discussion. As a best practice, at least 2 copies should be recorded.

VI. Important Considerations

A. The Organizer

1. The organizer plays a crucial role in setting up the date and time of the event. The date of the event must accommodate the schedule of the involved persons such as speakers and participants to maximize attendance.
2. The organizer also coordinates the venue for the setup schedule. This includes the booking of the venue for additional hours or day before the event for ample time of set-up and for the creation of the link for the online participation.
3. Coordinating technical rehearsal schedules is also an aspect of the organizer's event planning. The organizer must work closely with the technical team to identify technical aspects that need to be rehearsed.
4. The organizer coordinates with the proper offices to back up services like stable internet connection and generator set-up in case of electrical blackout during the event to mitigate any potential disruptions.
5. Before the event, the organizer is in charge of collecting all necessary materials to ensure smooth administration of the meeting such as list of agenda, copy of the presentation, if there is any.
6. In relation to the participants, the organizer must provide them with the necessary information about the meeting (Reclaim.ai, 2024) such as the date, time, agenda, and minutes of the previous meeting, if any, and other materials including the link to the virtual venue that will be used during the meeting.
7. If the event requires registration, the organizer must ensure that the participants confirm their attendance by registering on the form provided. They should also inform them for other additional instructions or requirements from them.

8. Clear and brief instructions on how to participate in the event must be given to the online participants like how to ask questions and interact with the presiding officer for the smooth flow of the meeting.
9. A host must be assigned during the meeting. The host must ensure that all online participants of the meeting are able to access the virtual venue.
10. The host must ensure that all online participants are enrolled into the virtual platform.
11. In case unnecessary sound is interrupting the meeting, the host must mute the microphone of the participant where such a sound originates.
12. The host should also monitor if there are online participants who want to speak. S/he should inform the presiding officer so that they will be recognized to speak.
13. If the meeting needs to be recorded, the host should ensure that the recording feature of the platform, if there is any, is being turned on. Otherwise, s/he should inform the secretary of the group that the platform is unable to record the discussion.
14. Upon adjournment, the host must thank the online participants and end the virtual meeting.

B. The Presiding Officer

The presiding officer performs a similar function as in any meeting. He/She is also responsible for the conduct of the meeting. With hybrid setup, the presiding officer can be present in person in the meeting venue or remotely. However, there is a need for the presiding officer to inform the attendees or participants of the meeting in case she/he will delegate someone to preside over the meeting on her or his behalf.

The following may help the presiding officer to create a more engaging hybrid meeting:

1. Before the start of the meeting, the presiding officer must ask the online participants or attendees if s/he is audible to them. S/He must ensure that he or she has reliable and high-quality audio and video for online attendees.
2. During the meeting, the presiding officer must ensure that both in-person and online participants or attendees can engage effectively. If there are materials to be shared, s/he should make sure that they are accessible to both in-person and remote attendees.
3. The presiding officer must ensure that both in-person and online attendees have equal participation in the discussion on any items of the agenda. S/He can encourage the in-person and remote participants to speak and engage.
4. If a staff is assigned to monitor the online participants, the presiding officer should constantly check her/him for questions or comments raised by the online participants or for online participants who wish to participate in the discussions. If no staff is assigned, the presiding officer should consider monitoring the online platform for the participation of the online attendees.

5. As there are two groups of attendees, the presiding officer must effectively manage the speaking order to avoid interruptions whenever a participant speaks. This is also to ensure that everyone has a chance to contribute to the discussion.
6. In case a material needs to be presented, the presiding officer must ensure that it is being shared to the online attendees. S/He must make sure that shared screens or slides are visible to both in-person and online attendees.
7. At the end of the meeting, a summary of key points and decisions is sent to all attendees of the meeting. If applicable, s/he may provide recordings or transcripts of the meeting to the attendees.

C. The Participants

1. Before the meeting, the participants must gather the necessary information for the meeting. For online participation, they must ask for the link to the virtual meeting in case this is not available yet.
2. Ideally, the online participants should find a place where there is a strong internet connection and free from distractions.
3. They should also have at least read the minutes of the previous meeting as well as the agenda of the meeting.
4. During the meeting, they should log in to the platform at least 10 minutes before the time to troubleshoot any last minute issues.
5. When not speaking, they should turn off or mute their microphone to avoid unnecessary sound that might disrupt the meeting.
6. If the platform has a chat feature, they should use this function for questions or comments if appropriate.
7. To engage more effectively with the in-person and virtual participants, they must turn on their camera.
8. When they want to engage or speak, they must follow the protocol provided to them. They can use the raise hands icon to be recognized to speak by the presiding officer if this is available on the platform. Otherwise, they can call the attention of the presiding officer so that they can be recognized.
9. When they speak, they must ensure that they are audible to all the participants and the presiding officer. They must also actively listen and participate in discussions being mindful of the speaking time allowed to them and others
10. At the end of the meeting, they can thank the presiding officer, their colleagues, and the host and leave the virtual room.

D. Interactivity

Interactivity in a hybrid meeting is very important, i.e. online participants should be able to interact with in-person participants. To do this, the following can be considered:

1. Interactions in a hybrid set-up may sometimes be neglected if the presiding officer or the organizer of the meeting is not conscious about the presence of online participants.

Thus, it is important that equal opportunity to speak must be given to both in-person and virtual participants (Taylor, 2022). As indicated above, online participation must be monitored and the presiding officer must provide the sequence of talking. Questions in the chat function of the platform must also be monitored, read, and responded to. The presiding officer can also encourage both in-person and online participants to ask questions. For online participants, s/he can encourage them to post their questions in the chat room or raise their virtual hand, if this is available, so that they can be recognized.

2. The presiding officer or organizer can also use interactive tools such as whiteboards, polls, project management platforms, etc. (Skedda, 2023) if these are necessary during the meeting. Online participants would be able to interact using these tools. They can also share their ideas in real time for everyone to see. The online activity can be projected to allow in-person participants of what is happening online.

3. One of the limitations of hybrid meetings is it can pose additional distractions to online participants. One of these distractions can be remote multitasking or troubleshooting technology. Hence, it is important that the presiding officer can encourage participants to limit their multitasking and stay focused on the meeting. It is also important to mute the microphone when online participants are not talking and only unmute when they want to speak. This is to avoid unnecessary sounds.

4. Interactions can also be enhanced with an open camera when talking. Though this can be treated as optional for online participants, it would be worth doing to increase the sense of interaction. In fact, it is suggested that online participants focus their eyes on their webcam to increase eye contact with the in-person participants. Likewise, in-person participants can be encouraged to treat the camera as another “attendee” to ensure that virtual participants can benefit from eye contact, and hence, feel that they are part of the conversation (American Meetings, inc., n.d.).

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