



# **Communication Technology in Virtual Teams: An Ultimate Guide**



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***Virtual Team Dynamics (04:189:151:92)***

# Meet the Team!



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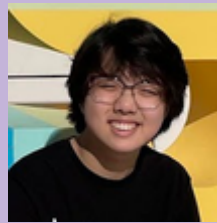
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# Introduction: Welcome to Group 2's E-book!

It is an indisputable fact that Virtual Teams has become an integral part to society. Thus, it is imperative for people to familiarize themselves with Communication Technology and Virtual Teams alike. Look no forward to utilizing this book to assist you on this journey!



# Communication Technology in Virtual Teams

We plan to provide the history of Communication Technology and how it has evolved to the present day will be a substantial amount of information for the reader to be prepared to read the following chapters. We will also showcase the different types of communication technology available to us relating to information sharing and video conferencing. We will be discussing how trust and team bonding is crucially important, especially in a virtual team. Additionally, how much trust and team bonding are lacking in a virtual team, so action plans on how virtual teams can improve on those lacks. We will also discuss the advantages and challenges we may face while using all communication technology. People's lives are facilitated and also affected by technology. Finally, we will provide the reader with the appropriate advice and techniques in order to be an effective member and leader when working in virtual teams.



**Enjoy :)**

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**Chapters are color coded  
for your convenience!**

# History and Evolution of Communication Technology

## Chapter Introduction: What *even* is Communication Technology?



Communication Technology, or Information and Communication Technology (ICTs) is a term that refers to all of the services and tools that is involved with the transmission, reception, and processing of information. ICTs are apparent everywhere in a society that is quite reliant on technology. Prime examples of ICTs are emails, social media platforms, and computer conferencing software programs. Without ICTs, it would be quite difficult to be productive in an online environment as ICTs are able to "help teams overcome the constraint of being physically separated ... Relying on technologies like email reduces stereotyping, biases caused by accents, and in-group/out-group distinctions that can hurt team performance" (Levi and Askay 324). Today, ICTs are used on a daily basis by users in both professional and casual settings.

## From Cavemen Paintings to Zoom Meetings

Methods of communication and technology in itself has continuously evolved together throughout time. In fact, during the Prehistoric times, one of the first methods of communication that have been documented in history are ancient cave paintings. It has been discovered that the "oldest known cave paintings [were] discovered in Spanish caves" ("The evolution of communication styles"). Cavemen would gather around the campfire to discuss any important news and to share knowledge. They eventually realized it is in their best interest to inscribe this information on caves, which is comparable to modern day blogging ("L. (2016, July 12). 1.1 - Evolution of Communication..."). Similarly during the Prehistoric time period, smoke signals were also utilized for long-distance communication.



Pigeons were also utilized for effective communication during 5th Century BC. They are best understood as "messenger pigeons." Like the use for smoke signals, they were also extensively used for long distance communication. It has been noted that Persians were the ones who were the first to invent the "first network of pigeon messengers" ("The evolution of communication styles").



## CHAPTER 1

Without the use of pigeons, long distance communication would be quite difficult. Pigeon messengers were immensely helpful to the point where Cher Ami, a homing pigeon was awarded the French War Cross during World War I ("L. (2016, July 12). 1.1 - Evolution of Communication...").



Eventually, the roots of technology as we know it started in 1831, marking the beginning of the development of the electric telegraph. This development eventually helped develop one of most integral forms of communication we have today: the Telephone. In 1849, the telephone was invented and within 50 years of its creation, it has already established itself as an "essential item for homes and offices" (Rogers). Likewise, the telephone inspired other methods of communication technology to develop. In 1970, the first ever inaugural video call occurred between Pittsburgh companies and in 1971, Ray Tomlinson, an American computer programmer sent out the first-ever e-mail across a digital network ("The evolution of communication styles").

## CHAPTER 1



The mobile phone followed in 1973 with Motorola being credited with the first ever mobile phone. These mobile phones were quite chunky and lacked strong battery life, so by 1996, Nokia created new phones that incorporated the QWERTY keyboard. By 2010, majority of mobile phones incorporated touchscreen technology (Rogers). Eventually, these mobile phones were capable of accessing the Internet. 1983 is understood as the Internet's birthday ("The evolution of communication styles"). Ultimately, the Internet is the hub for communication. It has made communication much easier because it has allowed its users to keep in contact with anyone regardless of time and location. The Internet is home to several communication outlets such as emails, social media platforms, and text messaging. The beauty of the Internet is that it has "allowed people to find their voice and express themselves ... it has connected and divided us like nothing before" (Rogers).



**ICTs and how it has Helped Evolve Knowledge**

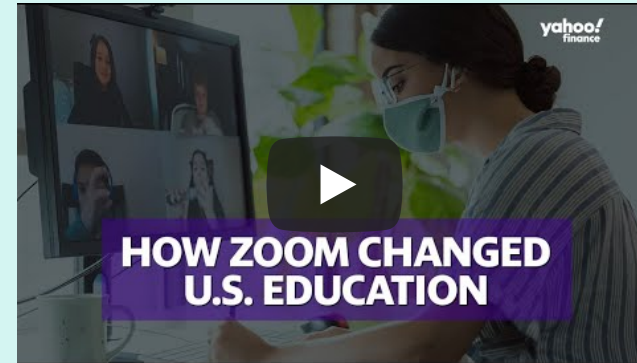
Much like how ICTs have evolved throughout time, knowledge has evolved as well. Knowledge can be best described as a "justifiably believed truth" according to Plato (Wilder & Ferris). Surprisingly enough, such a broad topic was still present during the Pre-writing era. One of the first methods of communication were symbolic language. This language has allowed "humans to think hypothetically, to organize experiences, to conceptualize time, and to plan for the future" (Wilder & Ferris).



Furthermore, 2022 is amidst the Information Age. Technology has made it easier to not only communicate with one another, but to interpret and learn new information. Websites like Wikipedia are easy to access, however they can "cheaply provide a large amount of knowledge to the global community" (Wilder & Ferris). This makes it easier to share any false or controversial information online. Do not be afraid to use these ICTs to share knowledge. It is integral that humans continue to learn from their ancestors. Specifically, today's citizens living in the Information Age must "be able to decide on the justifiability of the believed truth, just as their counterparts did in the Age of Orality" (Wilder & Ferris).

**Importance of ICTs Today**

In the present day, society opened their eyes even more to the importance of communication technology with video conferencing softwares like Zoom.



Specifically, Zoom has had an integral impact on the American education system due to the COVID-19 pandemic. The pandemic required society to a lockdown where citizens were advised to stay home. With this, students had to attend their classes virtually. This was a golden opportunity to utilize ICTs and this allowed Zoom to establish itself as an integral part to everyone's daily lives. The reliability of Zoom went unnoticed as Yahoo! Finance awarded Zoom as their Company of the Year for 2020. It can be argued that Zoom was the only company that was "better positioned, more capable and more ready for a world that has been hit with a pandemic" ("Y. (2020, December 9). Coronavirus and learning...").

## CHAPTER 1

Without ICTs like Zoom, a dark time such as the pandemic would most definitely be much more difficult for everyone.

### Zoom Fatigue: It's a Real Thing.

Staying behind the screen is both mentally and physically draining. This new phenomena is dubbed "Zoom Fatigue." Being locked into the screen for long periods of time can be stressful for people. This makes it difficult for users to remain focused and has harmed motivation and overall productivity.



Similarly, having stable and secure Internet access is most definitely a privilege. Not every family has access to the Internet. With this, many students can easily fall behind from their coursework. The peak of the pandemic was already difficult in itself, so it is unimaginable to simultaneously experience another hardship as well. It has specifically impacted students in lower income households where "about 14 percent of students from low income households in California alone lacked basic internet access" ("Y. (2020, December 9.) Coronavirus and learning...").

## CHAPTER 1

### An Interview with a Virtual Physical Therapist



ICTs are not only used in the professional and educational settings, they can be found in the healthcare industry as well. Rayena Almero works as a Virtual Physical Therapist at a local healthcare clinic in the central New Jersey area. The option of having remote sessions are extremely helpful for patients who struggle with transportation, or for those who simply cannot leave their homes. Working in healthcare remotely is quite difficult, but Rayena is still able to establish strong relationships with her patients in an online environment. For example, one of her patients is Debbie who is a mother. Because of her children, Debbie's schedule is quite cluttered, but Rayena and Debbie are both able to work on each others schedules remotely. Situations like these are what makes Rayena prides herself in "helping people and being flexible enough to help them with whatever current situation [my patients] may be in" (R. Almero, personal communication, October 8, 2022).

## **Chapter 2**

### **Different Types of Communication Technology**

#### **CHAPTER INTRODUCTION: THREE ICTs THAT CAN MAKE YOUR TEAM SUCCEED**

Virtualness is a characteristic of all teams and is at the core of corporate operations today. As Van Wart and Roman (2017) point out, "The digital revolution has increased the amount of information that can be computed and stored, as well as the amount and flexibility in the way we operate using them" (529). Companies are increasingly operating in parts or completely online which makes "organizational technology adoption decisions exceptionally important, because they must be timely and require a major startup investment, and because poor initial choices have enormous downstream effects that have been widely reported in the public sector" (ibid.).

Technology choices determine a team's satisfaction with virtuality and influence corporate performance. If choosing the correct tools is particularly important to successful team performance in virtual work settings, it implies that critical technology-related issues concerning selecting and using web-based tools must be considered when teams are set up. This section will cover three kinds of information and communication technology tools: WhatsApp as an instant messaging & Audio-conferencing app, Skype as a synchronous video conferencing technology, and Google Drive as an exemplar asynchronous information sharing and synchronous collaborative working tool. Also, as "digitalization has become so important that countries are now ranked on their information and communication technology (ICT) maturation"(ibid); the section will explore Infintee's use of virtual tools as a case study of how a wholly virtual multinational company chooses ICT tools for success.



## WHATSAPP: INSTANT MESSAGING & AUDIO-CONFENCING APPLICATION

In all corporate exchanges, more so in virtual workspaces, it is essential to document the information exchanged and the decisions are taken. Instant messaging is not only "instant," but it also leaves a trail and footprint when information is exchanged synchronously or asynchronously. While it serves the need for documentation and allows team members to read over exchanges whenever required, using the group chat feature, unlike e-mail, allows a virtual team to actually discuss an event that impacts them—whether it is a delivery or pricing issue or the impact of the Russian-Ukraine war on product availability.



WhatsApp, released in 2009, is a cross-platform, centralized instant messaging and voice-over-IP service owned by American company Meta Platforms. While it allows all users to send text and voice messages, make voice and video calls, and share images, documents, user locations, and other content, the business app has additional security features. Using WhatsApp for one on one or group chats can, therefore, be advantageous. As Malhotra and Majchrzak (2005) point out, "E-mail exchanges often lead to what has been referred to as information asymmetry, when members engage in a one-to-one e-mail exchange not distributed to the entire team or when someone is intentionally or unintentionally left out of the e-mail list. The use of e-mail also often leads to information overload, resulting in messages being deleted without being read" (12) that will not happen when using a service like WhatsApp.

WhatsApp can also be used for audio-conference where real-time interaction is required. Both one on one and group audio conferencing are possible. "Media richness theory argues that some technologies allow more cues to be shared than others; according to this theory, e-mail allows few cues to be shared and is thus very constraining, while audio conferencing allows more cues (such as tone, pauses, and recognition utterances)." As per Dr. Sarbani, the Marketing and Human Resource Director at Infinitee USA, an all-virtual, business-to-business company supplying personal care ingredients to multinationals, "We conduct day-to-day routine internal team exchanges through WhatsApp audio group chats and regularly share information through text-based group chats. WhatsApp serves the company's needs for interactive exchanges since teams can exchange voice-enabled information while using group text chat for synchronous and asynchronous exchanges" (Personal Interview).

WhatsApp can be a valuable ICT for web teams and e-companies with its end-to-end encryption, easy syncing between web and desktop, document-sharing, and voice messaging features.

### **SKYPE: A MEDIA-RICH SYNCHRONOUS VIDEO CONFERENCING TECHNOLOGY**

Skype, released in 2003, is a proprietary telecommunications application from the Microsoft group best known for VoIP-based videotelephony, videoconferencing, and voice calling features but also has file sharing, file transfer, and whiteboarding capabilities. Skype incorporates what Malhotra and Majchrzak (2005) call "referential integrity," such as when the speaker points to what is being talked about for emphasis, prioritization, and focus (p.12). Skype for Business also has add-on features that allow attendees to be polled and instant message each other, even as they engage in "in critical debates that spark innovation" in real-time video discussions during meetings.

That skype meetings can be recorded and replayed implies that the application meets documentation requirements. Apart from its “replicability” or reproducibility, what makes Skype a helpful tool, ICT is its “social presence” or “the degree to which using the technology resembles the experience of communicating with another person face to face (Levi & Askay, 305) and its high “media richness” or ability to offer social cues and audio-visual feedback (Levi and Askay, 305).



Dr Sarbani, Director of Infinitee, concurs. “We use Skype for our videoconferencing requirements. All our global training sessions—whether it is induction for new employees, monthly skill enhancement training, or even retraining for those who need it-- are conducted via Skype. We get to “see” our trainers and also our colleagues from across the globe, and in real-time as we pick late evenings or early mornings for these sessions. What is good about using skype is that the team gets access to the recordings and can play it back to answer the quiz questions that follow each training. We also use skype for our monthly MIS, small group internal team exchanges, external board reviews, and quality audits because it allows for document sharing and real-time face-to-face video exchanges. Not only do we get the feel of a face-to-face meeting, but we also get access to the recordings of our deliberations to replay if required—a feature that is not available in face-to-face meetings” (Personal Interview)

## **GOOGLE DRIVE: ASYNCHRONOUS INFORMATION SHARING & COLLABORATIVE WORKING TOOL**

Virtual teams and companies need virtual workspaces to work in. Information needs to be shared when team members are not co-present, and spaces need to be offered where teams can collaborate in real time. As per Weiman, Pollock, Scott & Brown (2013), "Technology use is substantial for distributed teamwork and can be assessed by the extent to which it supports communication, collaboration, and project-management tasks" (335).

Launched on April 24, 2012, Google Drive is a file storage and synchronization service that fulfills all the three tasks that Weiman, Pollock, Scott & Brown spoke about. Also, this tool allow teams to use Google servers to store unlimited documents, synchronize files across devices, and share files with open and controlled access in the cloud.

A library of pdf (portable document format) reports, regulatory documents, presentations, excel calculations, work records, and audio-video records of meetings can be stored and made available to teams through the strategic use of Google Drive features. As per Dr. Sarbani, who uses ICT tools to facilitate the Marketing and Human resource operations that she heads, "We have a very robust Knowledge Management system or KMS for which we use Google drive. We use Google Drive as our ICT for hosting what is really our intranet, both for its ability to store encrypted and secure data and for the ease with which it works with Word, Excel, and PowerPoint. Our documentation team collaborates on Google Drive to create real-time technical documents and share final documents with our sales and operations teams. Taking advantage of the sharing capabilities and built-in encryption and security features of Google Drive, we have built and now offer a virtual storehouse of valuable company-related information.

Regulatory, financial, and marketing documents are shared with team members on a need-to-know basis using the stop, control, and limit sharing features of Google drive. That training videos, how-to presentations, and user manuals, as well as technical and marketing documents related to our 250 products, can be downloaded and shared with internal team members and global customers respectively at the click of a button has made it possible for our team to share knowledge on one hand and service customers swiftly and seamlessly on the other. Working in virtual teams over Google drive allowed us to take advantage of the time difference between USA and India and brought extraordinary efficiencies" (Personal Interview).

The ability of Google Drive to store documents securely and yet be available to download and share is integral to knowledge sharing.

It allows teams to not only create documents collaboratively in real-time but also share and store documents with open or controlled access as per the nature of the document. What is required for success with the tool is: "internet availability and bandwidth; training for certain features; the selection and appropriate use of features" (2013, Weiman, Pollock, Scott & Brown p. 350). Building in time buffers and preparing for technological disruptions can be a way to ensure that teams and industries get the full benefit from using ICT tools since more companies are likely to increasingly opt for virtual teams and virtual ways of working in the coming years. Though companies like Yahoo (Goudreau) may be giving up telecommuting in favor of face-to-face operations, the advantages of virtual working are too many to ignore (Schneider). Whether the company operates as a brick-and-mortar, hybrid, or fully online, all corporate houses should tap into the many benefits of information and communication technologies as they could make a difference



## Chapter 3: Trust and Team Bonding (or lack thereof) in Communication Technology

### *Chapter Introduction: Why is trust and team bonding important in Communication Technology?*



Business management and work environment are two important categories that are overlooked and ignored a lot of the times when it's the key categories that would help to solve a lot of conflicts in virtual teams. Through teamwork, the team should be able to trust one another to work together, give benefits to one another, and create the best work ethic. However, through working virtually where there is no face-to-face interaction, it's hard to have the trust when you can't actually see people and make relationships deeper than work relationships. As Goudrea states, "Some of the best decisions and insights come from hallway and cafeteria discussions, meeting new people, and impromptu team meetings (Goudrea, 2). Facetime or video chats do limit people from fully focusing since they aren't physically there and can hide what they're doing while they are on call. Which then leads to lack of team bonding, since if there is no trust in one another, then it creates a work environment where the team wouldn't be able to bond with one another.

## *Communication and Trust*

### What is Communication Technology?

**Virtual Teams and the Critical Role of Effective Communication**

Dr. Rachel Cubas-Wilkinson  
Principal Organizational Development Consultant  
The Myers-Briggs Company

March 26, 2020

Please post your questions throughout our session. We will answer these during and following the webinar.

The Myers-Briggs Company

Communication technologies are crucial to understand since rich communication transactions are those that can quickly transform understanding by bridging disparate frames of reference or by providing clarity on unclear topics. The first characteristic of communication technologies is Media Richness, which can be divided into rich and lean media. Richness media is more of a zoom call for meetings, "improved quality, appropriateness, and accuracy of communication" (Levi & Askay 339) while lean media is more for "conveying simple and routine communication that does not require interaction, such as sending a reminder about a meeting" (Levi & Askay 339), such as quick text or emails.

The second characteristic is Media Synchronicity that can be described into two: synchronous which is the real time communication through calls or video chats and asynchronous which involves temporal gaps in responses and a lack of concurrent participation, texting or emailing (Levi & Askay 339). Last characteristic is Documentation, which is note taking of important points from the meetings and recording of the team meetings.

### How does Communication and Trust connect?

“Communication in the workplace is important because it boosts employee morale, engagement, productivity, and satisfaction. Communication is also key for better team collaboration and cooperation. Ultimately, effective workplace communication helps drive better results for individuals, teams, and organizations.” (Campbell, 2022). Any team, especially the virtual teams, need communication with one another. Through communication, you can express your thoughts and help each other in the team. Building good communication among the team will bring trust, connection, and will help to avoid frustration with one another that can be caused by miscommunication.

Without good communication in the workplace, a disconnect in trust exists between teammates. With working remotely, it is even more important that transparency exists due to individuals having to rely on one another with a lack of visibility in comparison to an in-person work environment. The digital age has advanced tremendously, however there are still flaws in virtual communication such as showing emotions as stated in the Harvard Business Review, "The delay between our messages can often postpone or hide emotional reactions to our comments." (Dhawan and Chamorro-Premuzic, 2018). Teams have to put extra effort into how they communicate with one another to prevent any misconceptions and risk of breaking trust.



## ***Lack of Trust and Team Bonding***

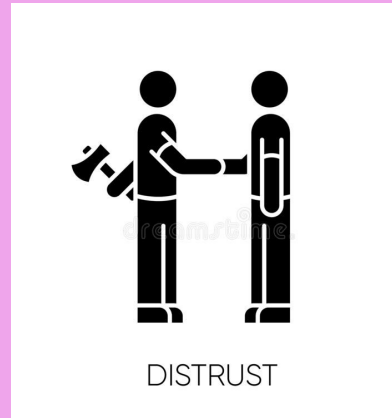
During the interview with Harvey Shi, the CEO of the Gotham Group LLC, I was able to see how the lack of trust and team bonding can really cause the team to fall down:

"Main issue of working virtually is trust. And I'm talking about the trust between my work ethics and the team's work ethics. For example, I can't stand behind them to check if they're working, I have to trust them that they are working behind the monitors.

Meaning I have to just imagine and believe they are working their best. From my end, I can only see what they've achieved, but that still doesn't mean I know how they were efficiently working.

They might have achieved the same work in three days or it actually took them a week to achieve it.

I mean, I will never know but I trust them fully."  
(Personal Interview).



Most importantly, there's a challenge of team bonding. There are limited ways to conduct team activities to create team bonding, virtually. Talking through zoom with lost connections here and there isn't the same as going out together after a long day of work and having a good dinner.



It's a challenge to create a closer relationship through virtual settings. As my interviewee states, "This I would say is the biggest challenge since business is about teamwork and team bonding... I try my best to have zoom calls and celebrations with one another but I feel like it still wouldn't be the same as if we did meet in person with one another."  
(Personal interview, 2022).

The business success with the team caring for each other. Although working virtually does give the sense of freedom, there are flaws and challenges in every system; virtual jobs are no different.

# Chapter 4:

## Advantages and Disadvantages of Communication Technology



Background:

Meaning of the era of communication technology

"Technology and communication processes are important for any organization—and they become absolutely critical when working from home and leading remote teams." (Granahan)  
With the development of communication technology, communication technology has entered every domain in the world, and gradually

occupied an important position. People can get any information anytime and anywhere through communication technology. The steady development of communication technology will also drive the further development of social economy, add more convenience to people's lives, and improve people's quality of life. The application of communication technology makes the Internet technology constantly combine with other fields and make breakthrough progress.

In This Issue:

### Research Think Tank: "Complexifying" International Communication and Communication Technology

Gail Fann Thomas  
Former Vice Chair, ABC Research Committee  
Naval Postgraduate School, Monterey, California

[Communication\\_technology\\_The\\_new\\_media\\_i.pdf](#)



## Introduction to Communication Technology

"It's crucial to get communication right when you're working remotely. You could be answering calls as a part of a virtual call center or managing a team of contractors. Effective business communication matters in any company." (DiNardi) Communication technology allows information to be transmitted by senders and received by others. People transmit information to each other through communication technology and respond to the information transmitted. If we cannot transmit and receive information, we cannot communicate with others easily.



Communication technology is mainly based on computer technology and the internet, which create a good foundation for the development of computer remote network communication. Computer technology provides information storage space for communication technology and improves the efficiency of information processing.

### Advantages of communication technology



Communication technology can improve the quality and speed of information transmission

With the development and use of science and technology, communication technology has greatly improved the quality of information transmission and can also make information transmission faster. The application of



communication technology made people say goodbye to the previous form of information transmission by letter.



"Lucky for us, there are many amazing technology companies that are changing the ways we can connect and communicate with each other. These days, there's really no excuse for not communicating with a colleague on a project or chatting with them quickly to make sure everything is moving forward smoothly." (Pelta) The change of communication technology has brought about great differences, so that people who are far away from each other can also receive each other's information. Moreover,

communication technology has also been applied to the transmission of news. "Working from home always has its pros and cons. You can likely set your hours, move at your own pace, use your own equipment, and work how you want to." (Pelta) No matter where in the world, as long as events are uploaded to the network in the form of news, people around the world can learn about them in a short time. At the same time, technology also improves the quality of information transmission. It can transmit pictures and texts together, so that people can more specifically understand.





Communication technology can increase the application scope

The main feature of communication technology mentioned in the article is the richness of media. "Media richness varies from low to high depending on the amount of information that can be transferred through the medium." (Levi, Askay 306) The media richness represents the ability of a media to disseminate information and content. Communication technology can now use a variety of means to disseminate information. People can use all kinds of words, images, sounds, symbols, etc. These help the sender to explain concepts and express ideas to the receiver.



At present, new things and new technologies appear every moment, such as big data. They are constantly refreshing our understanding. The emergence of these new technologies depends on communication technology. At the same time, they promote the development of the economy and the development of Internet technology. Now people can shop at home, receive goods more conveniently and quickly, and order meals at home. They are all thanks to the development of communication technology, which has gradually entered all aspects of people's lives, gradually occupied a large part of people's lives, and played an increasingly important role in life.

No matter the economy, politics or science and technology cannot be separated from computer communication technology. It is guiding the development of mankind towards a better future. Therefore, in the future development trend, the application of communication technology will be more and more extensive and more important.

Disadvantages of communication technology

## INFORMATION & COMMUNICATION



► Advantages  
Disadvantages

Helsite

"Studies of short-term (i.e., a day or less) virtual teams—typically composed of students—reveal that virtuality is associated with increased task

conflict, less frequent communication, poorer knowledge sharing, lower performance, and more dissatisfaction (Ortiz de Guinea et al., 2012; Purvanova, 2014)." (Levi, Askay 315)  
Although virtual work or working from home has appeared for a long time, people have not yet fully adapted to it. During the pandemic, many people were forced to start virtual work.



The communication of virtual work lacks expression, tone and other information most of the time, which makes it extremely easy for people to misunderstand the meaning. In face-to-face communication, people unconsciously add various body language, such as smile or eye contacts.

However, the plain text of virtual communication is likely to cause misunderstanding and interfere with the normal work. The virtual team needs to conduct regular video conferences or direct communication in an office to ensure the stability of the team and the works.



"You might think that a quick text or IM offers more privacy than a telephone call in a crowded room. Although the initial act of communication was private, your recipient could share the instant message or email with others, inadvertently or otherwise." (Personal Interview)  
There are now more and more hackers, which gradually threaten the security of

communication. Various viruses catch people off guard. Even if anti-virus software is installed, it may be accidentally hacked. Therefore, the network system has certain vulnerability. Many events on the network will cause people's aversion. Disclosure of private information may happen to all of us.

The security problem of personal information also gradually touches the nerve of



awareness. People gradually realize the importance of network security. Although the security of communication technology is becoming more perfect and people pay more attention to the security of personal information, there are still people who can take advantage of the loopholes in the network to find opportunities to leak secrets, peep at other people's privacy, and cause harm to other people's privacy.

## Chapter 5:

### Techniques for Effectiveness in Virtual Teams

*Advice and techniques on how to be an effective team member and leader in a virtual environment*

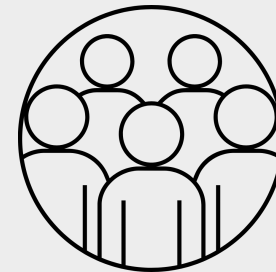
#### Team Members

In a virtual team, it is especially important to have team members who are reliable and have good communication skills, as well as being able to work independently. As stated by Ferrazzi (2014), it is ideal for teams to be “suited to virtual teamwork, putting them into groups of the right size, and dividing the labor appropriately” and as a team member, it is crucial to have the necessary skills as well as the awareness and empathy. Team members must also be able to navigate a virtual environment.

#### Team Size

It is also important to keep in mind the size of the virtual team, depending on what goals need to be achieved. According to Ferrazzi (2014), bigger virtual teams may lead to worse performance, in addition to increased social loafing, since members put less effort into their work if they feel as though they are not as responsible.

It is also important to acknowledge that bigger teams face another challenge in inclusive communication.



Team members should be able to communicate and develop interpersonal relationships with one another in order to strengthen group cohesiveness, which promotes collaboration and productivity.



## The Right Leadership

Though having good team members is critical to the effectiveness of a virtual team, leadership is also an important factor in what makes a virtual team succeed. Team leadership takes an influential and essential role in the success of virtual teams, and it is important for team leaders to build trust and motivate team members. The team leader should be responsible in guiding the team, providing support, as well as “establish[ing] a culture that values teamwork, communication, learning, and capitalizing on diversity” to ensure team success (Duarte & Snyder, 2006, p. 11). In addition, encouraging and building trust among team members allows effective teamwork, especially in a virtual environment, where team members do not often meet face-to-face.

It is important that team leaders set clear goals and guidelines so that it reduces uncertainty among team members and improves productivity (Ferrazzi, 2014). Recognizing and rewarding teamwork is also a way to motivate team members to work together and build trust.



## Choosing the Technology

In addition to team members and leadership, virtual teams rely on technology to communicate and work together, so determining the right technology is crucial to the team's success. These information and communication technologies, ICTs for short, should be accessible and easy to use for all team members. Accessibility is essential, as "equal and immediate access to electronic communication and collaboration technology, training, and technical support...make certain that everyone has access to the same hardware, intranet and Internet connections, and applications" (Duarte & Snyder, 2006, p. 8). It is beneficial for teams to have diverse options for ICTs so that leaders and members can determine which ones are appropriate for communicating certain information.



In an interview with a virtual worker, who is a software engineer, we discussed the different purposes of ICTs, for example, when to use video conferencing versus email or instant messaging. Determining which ICTs to use for certain purposes and specific jobs and goals, such as using email to communicate in bulk to a broader audience when an instant reply is not needed and video conferencing for media-rich communication and group meetings with immediate responses.

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