

ESTIMATION FORMULA FOR INDIRECT VALUE REALIZATION OF VIRTUAL MEETINGS

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ABSTRACT

The COVID-19 pandemic has precipitated an urgent and widespread demand for virtual communication solutions, leading to significant growth in the adoption of Unified Communication Solutions (UCS). Despite this expansion, existing methodologies for estimating the realized benefits and their impacts on business productivity remain inadequate, as they fail to encompass all available solutions in the market. Moreover, the substantial costs associated with these solutions often leave companies and enterprises struggling with uncertainties regarding return on investment, primarily due to the absence of a standardized benefit calculation approach. Consequently, there is a pressing need for standardized formula to uniformly calculate the benefits accrued from virtual communications. This paper aims to delineate the critical elements necessary for evaluating the benefits of virtual communications. Building on these foundational elements, a comprehensive formula will be introduced to standardize the assessment of virtual meeting benefits.

KEYWORDS

Virtual Meetings, Unified Communication Solutions, UCS, Realized Benefits, Estimation Formula.

1. INTRODUCTION

Most Corporates/Enterprises have adopted Unified Communication Solutions to facilitate employee communication and increase business productivity. These solutions come with high cost while there is no standardized technique to calculate the benefits of virtual meetings. If benefits cannot be realized, the costs of these solutions cannot be justified. although there is no proven method for measuring virtual meetings' return on investment, it has been proven that employee productivity has increased by 30% [Cisco Study Reference].

Meetings, particularly those that take place away from employee's regular place of employment, have the potential to consume a significant portion of that employees' workday. Making plans for other people to supplement one's job, organizing one's trip, and preparing a suitable location for attendance all to occupy time that might be spent on other responsibilities that an employee may be addressing. Meetings online might alleviate some of the logistical challenges associated with in-person get-togethers.

Eliminating the need to travel is the primary advantage of online meetings and seminars. Novikov (2020) stated that corporations might utilize virtual meeting software to chat on a webcam with a microphone rather than taking time out of the work week to fly overseas and submit a report to another firm's division. Compared to the hours or even days of transit time necessary for conferences conducted away from the primary office site, setting up a virtual meeting takes a few seconds of their time. Since attendees are not required to go to a physical location, virtual meetings are often far more cost-effective than meetings held outside of the office.

Some companies do not have meeting spaces that are big enough to accommodate all of the people who wish to participate in every conference. If a firm is organizing a huge seminar, for instance, the company may need to hire a place that has enough area for everyone to sit comfortably. Rather than renting out a huge location or trying to cram everybody into one of the firm's conference rooms, the business may save money by inviting everyone to participate in a meeting that takes place entirely online. The time spent by each participant preparing their travel plans is time wasted that might have been spent working.

Someone can participate in a meeting virtually while seated at their desk, which reduces the amount of time spent traveling and the amount of mental focus required. This energy surplus might be used elsewhere, such as in preparing presentations for the next gathering. A Cisco research on teleconferencing found that workers could multitask more effectively when meetings were held virtually rather than requiring them to travel (Riedl, 2022). Therefore, virtual meetings are money savers, which assist in increasing the amount of profit the firm makes.

There are those people who just are unable to spare the time necessary to go to a conference. Suppose the firm will organize a meeting for prospective customers, for instance. In that case, it is in the firm's best interest to make the event as easy and accessible as possible by doing it online rather than staging a more difficult and conventional meeting. Everybody can participate in the meeting without having to leave their offices thanks to the use of a virtual meeting (Whillans et al., 2021). With the correct virtual meeting software, a corporation may broadcast audio and video, share audio, and observe several guests' webcams at the same time. When virtual conferences are included in the working framework of a company, there are furthermore more options for meetings to take place.

Therefore, virtual meetings clearly boost employees' productivity and have a significant positive business impact. However, current methodologies for estimating these benefits and their impact on business productivity are inadequate, as they do not encompass all available market solutions. Additionally, the substantial costs of these solutions often result in companies facing uncertainties regarding return on investment, largely due to the absence of a standardized benefit calculation approach. Consequently, there is a pressing need for a standardized formula to uniformly calculate the benefits accrued from virtual communications.

The subsequent sections of this paper will outline the primary elements essential for assessing the advantages of virtual communications along with a formula derived from these elements will be presented to aid in evaluating the benefits of virtual meetings. Furthermore, since network measurements often stem from experimental observations and random sampling, which can be inaccurate, this paper eliminates random sampling techniques. Instead, it bases the definition of necessary elements on accurate system database records, ensuring the highest possible accuracy in calculating indirect benefits.

2. AVAILABLE SOLUTIONS IN THE MARKET

In this section, the capabilities of some well-known virtual meetings solution will be presented to understand what virtual meetings solutions can benefit Enterprises/Organizations.

2.1. Cisco WebEx and Jaber Unified Communications Solutions

Webex Meetings offers secure, integrated audio, video, and content sharing from any device, anywhere. The solution provides intelligent features such as noise removal, Webex Assistant, real-time translations, and people Insights, automating meeting tasks to help employees work

smarter. Cisco also entertains Jaber service as an on-premise enterprise solution and Webex as a cloud-based solution (Cisco-Webex 2022).

Users get access to a wide variety of benefits when they use Jabber. Jabber provides high-quality video and audio conversations, which benefit businesses, particularly while hosting important meetings during COVID-19. Additionally, Jabber decreases the time spent waiting for a response to a conversation by using presence and contact information. This helps to make communication easier, particularly when organizing meetings centered on virtue. Jabber may also show individualized accessibility and status notifications, making it simpler for individuals to comprehend the information sent during the conference meeting (Cisco-Jaber 2022).

When workers participate in a Cisco WebEx meeting or collaborate on an application, the status of the meeting is immediately updated. People can hunt for contacts much more rapidly using Jabber because of the predictive search query incorporated in Jabber. Jabber allows workers to establish alerts to be immediately alerted if their connections become accessible. Jabber makes it easier to create a point-to-point conversation with colleagues who are located inside the same network or with pooled personal and professional contacts that are supported. Jabber also assists in the formation of group chat, which allows several co-workers to participate in a single conversation in which they may interact and cooperate. In addition, Jabber facilitates the creation of several chat rooms, making it possible for geographically dispersed teams to have an ongoing conversation. Jabber provides users access to their background of instant chat for reference purposes. As a consequence, Jabber plays a very important role in establishing virtue gatherings (Cisco-Jaber 2022).

2.2. Microsoft Teams and Skype for Business Solutions

Microsoft entertains Skype for Business as an Enterprise Unified Communication solution and Microsoft Teams Enterprise Cloud Solution as part of Office 365. Microsoft Office 365 is a cloud-based solution designed to meet the unique needs of every team, empowering people to communicate, collaborate, and achieve more with purpose-built, integrated applications (Microsoft Teams 2022). Despite the introduction of Teams Solution, Microsoft maintained Skype For Business as an On-premise solution for enterprises/organizations preferred to host virtual meetings on internal networks. Skype for Business solution connects people for meetings and conversations anytime and from anywhere. It gives users access to information about the presence and enables instant messaging, audio and video calling, rich online meetings, and extensive web conferencing capabilities (Skype For Business 2022).

Compared to Skype for Business Online, the features of Microsoft Teams are far more extensive. Keemink et al. (2022) state that teams allow an altogether new way of working by merging a variety of communication tools into one experience, such as chat, video, voice conferencing, document collaboration, and business applications. Teams' customers also profit from continual platform development and enhancement, resulting in improved productivity, usability, adaptability, and security.

2.3. Zoom

Zoom provides education, finance, governments and healthcare industries with cloud-based virtual communication solution enabling customers to join HD video and audio meetings, enterprise cloud phone system and team chat sessions from any device. Zoom virtual meetings are equipped with essential features similar to other solutions including screen sharing, creation

of Polls and team chatting. However, zoom cannot be availed within enterprises/organizations datacenters (Zoom 2022).

The main features discussed previously share essential features can be summarized as follows:

- 1- Audio/Video Conference Meetings
- 2- Desktop Sharing and Annotations
- 3- Team Chatting capabilities

3. ADVANTAGES AND DISADVANTAGES OF ADOPTING VIRTUAL MEETING SOLUTIONS

Adopting new technologies will always come with advantages and disadvantages that may positively or negatively impact employees day-to-day work activities. In the next sub-sections, we will highlight some of these advantages and disadvantages of virtual meetings:

3.1. Advantages

The following illustrates key advantages of adopting virtual meeting solutions and the positive impact associated with each advantage.

3.1.1. Productivity Increase

Cisco calculated productivity based on the travel time saved and the average hourly rate of all Cisco employees, including their benefits and compensations. In another case-study by Cisco, it was stated that since people were meeting virtually without traveling, productivity has increased by 30 percent (Cisco IT Case Study. 2008)

3.1.2. Travel Time

Cisco calculated travel cost avoidance by measuring the direct reduction of corporate travel expenses during a specific period after deploying their cisco Telepresence solution. Their calculation was based on the average cost per trip, the number of meetings that avoided travel, and the number of participants who avoided travel for a meeting. In addition to travel cost avoidance, they also factored the environmental benefits of reducing carbon dioxide emissions. The emission reduction was calculated based on an average of 2000 miles of air travel per employee trip (Cisco IT Case Study. 2008).

3.1.3. Increased Customer Interactions

Better information and engagement are provided due to the capability to invite more clients to join online meetings with managers from Cisco and technological specialists. When time and geographical constraints are no longer an issue, it is considerably simpler for consumers to meet with their company's leaders and technical specialists. Clients will have easier time scheduling meetings with Cisco technical specialists because TelePresence eliminates the need for travel (Žemaitis, 2022). Thus, Cisco personnel will have the opportunity to meet with more clients. Regarding client contacts, the use of Cisco TelePresence meetings has shown to be very beneficial not just for sales staff members but also for the whole Cisco sales organization. "Face-to-face" interactions, that are essential to completing massive sales contracts, are made possible via TelePresence conferences.

3.1.4. Accelerated Revenue

Cisco optimistically forecasts that the sales closing rate will boost by two percent due to increasing the number of presentations delivered to more clients. As a result, there will be a two percent decrease in the time required to complete a transaction. Both of these things will assist in boosting income for Cisco.

3.1.5. Meaningful Interactions for Employee Recruitment and Development

Employees for Enterprises/Organizations located around the globe are hired from all over the world. For instance, Cisco Human Resources (HR) department interviews take place through Videoconferencing sessions (McCain et al., 2022). This allows job seekers to avoid going to the same location as the hiring manager, who might be located in a different area of the globe. Candidates not only save a large amount of time but also avoid having to take time off from their existing employment thanks to these online encounters. Within Cisco, Human Resources makes substantial use of Videoconferencing for conducting assessments and training sessions as part of the industry's leadership development initiative for high-ranking executives and directors.

3.2. Disadvantages

The following illustrates some disadvantages of adopting virtual meeting solutions and the negative impact associated with each disadvantage.

3.2.1. Schedule only Meetings the Company Need

While planning many meetings at different times throughout the week is simpler, this does not indicate that the organization ought to do this. Anyone who is involved finds that attending too many conferences is not only draining but also a waste of their time and demotivating. In addition, it will result in a decreased production level. By just scheduling the meetings that are necessary for the firm, companies can increase the likelihood that attendees will be excited about participating in the meetings. They will have a greater desire to check in with their colleagues regularly, exchange ideas, and discuss their accomplishments.

3.2.2. Team Members May be in Different Time Zones

If team members are located in different parts of the world, they may be required to schedule meetings at times that fall outside of traditional work hours for some participants. It is indeed possible that these team members would find it annoying if weekly meetings were held simultaneously every week. To ensure that everybody is treated in a manner that is consistent and equitable, businesses might want to contemplate shifting the time of the weekly meeting.

3.2.3. Internet Connections can Fail

All team members require access to a reliable online connection to participate in a video conference. A weak signal might cause a chain reaction to unfortunate events. For example, the participant could miss sections of the conference because the software ejected them out or because the meeting froze up, the person's actions might look jerky to other participants, or the individual might lose either the visual or the audio of the conference. Worse yet, there is a chance that the whole conferencing program will malfunction, meaning that nobody will be able to join the conference. Even though occurrences like these are very uncommon, they have been documented in the past.

3.2.4. Less Dynamic

When there is a need for organization, it may often make virtual meetings seem less energetic. There will only ever be one person speaking to the whole group, and it will be tough to break off into smaller groups to have conversations about the different themes. Additionally, there is less spontaneity, which increases the likelihood that the employee may skip out on several of the most creative ideas.

3.2.5. Interactions Between Participants are Sometimes Difficult

When the meeting is held virtually, it is more difficult for each participant to play an active role, especially for meetings with big numbers. When people interact face to face, it is possible to speak over one another, resulting in a dialogue that goes back and forth (Antheunis et al., 2022). When more than one individual is speaking in a conference call, it might be difficult to comprehend what they are saying. This may result in encounters that have an unnatural feel to them.

4. UNIFIED ESTIMATION FORMULA ESSENTIAL ELEMENTS

In the previous section, we discussed the advantages and disadvantages of Virtual Meetings Solutions and showed how this positively impacts an enterprise/organization finance. To calculate the benefits of virtual communications, it is essential to understand the main elements required prior forming a formula. These elements can be easily captured if the Unified Communication system used provides the main information and statistics required. In the next sub-sections, we will explain each of these elements:

4.1. Man-Hour Rate

Each organization/enterprise's Human Resources calculates the man-hour rate differently, considering Average Employee Income and Number of Working Hours. This rate will help determine how much an organization/enterprise costs when an employee's hour is not utilized efficiently. The man-hour rate is an essential element when calculating virtual meetings' benefits. This will be utilized in realizing the benefits of productivity increase and Logistics cost savings.

4.2. Productivity Benefits

To get the productivity benefits some information are required to be generated from the Virtual Communication system while some others can be evaluated or obtained from previous studies. We will be explaining this in details

4.2.1. Total Time Spent in all Conferences (In Hours)

The total time spent by all employees in all conferences should be generated from the Unified Communications System. This time is presented mostly in minutes where it needs to be converted into hours.

4.2.2. Expected Productivity Increase

Each organization/enterprise can measure the productivity increase based on internal measurements or by capitalizing on measurements presented in the (Cisco IT Case study. 2008), which is 30%. However, during the COVID-19 pandemic, the number presented increased

tremendously. Therefore, this magic number shall be considered to benchmark with by originations/enterprises when calculating the productivity increase measurement. Of course, in this paper, it is preferable to conduct a self-study measurement of the productivity increase prior and after the introduction of Virtual Communication Solutions.

Having above two elements will make up the calculation needed for the productivity benefits as follows:

$$\begin{aligned} &\text{Productivity Benefits (\$)} \\ &= \text{Total time spent in all conferences (In Hours)} \times \text{Man hour rate} \times \text{Expected Productivity Increase} \end{aligned}$$

4.3. Logistics Benefits

The logistics benefits consider many factors including but not limited to travel time, trip planning, event scheduling and coordination. To get the logistics benefits the following information are required to be generated from the Unified Communication system depending on the reporting quality of the solution. Some of the systems can report on monthly basis while others can report the required information based on adjustable periods:

4.3.1. Number of Attendees

This will present the total number of attendees who joined any conference within the period of time. Without this number, we will not be able to calculate the saved manhour per attendee.

4.3.2. Saved Travel Time per attendee (In Hours):

To come up with approximate rate for saved manhour per attendee we can assume the Travel Time Saving based on the average time employees need to travel from their office location to the meeting location

Having above two elements will make up the calculation needed for the productivity benefits as follows:

$$\begin{aligned} &\text{Logistics Savings (\$)} \\ &= \text{Number of Attendees} \times \text{Saved Travel Time per Attendee(In Hours)} \\ &\quad \times \text{Man Hour Rate} \end{aligned}$$

5. UNIFIED REALIZED BENEFITS ESTIMATION FORMULA FOR VIRTUAL MEETINGS

Once all aforementioned calculations are completed, we can put it in our formula as follows to generate the indirect realized benefit of virtual meetings:

$$\begin{aligned} &\text{Indirect Realized benefit of Virtual Meetings (\$)} \\ &= \text{productivity benefits} + \text{Logistics benefits} \end{aligned}$$

6. CONCLUSION

The conventional workplace has been entirely rethought, owing to COVID-19's efforts. Workers who work from home not only increase their productivity but also benefit from the increased autonomy that comes with a more favourable work-life balance. The traditional eight-hour

workday has been replaced by a system in which people work whenever they feel the most productive. The challenges in the workforce due to COVID-19 highlight how essential a unified communications solution is to the process of corporate recovery. As more companies adopt remote working policies and flexible working hours, fewer individuals will work in offices than ever before. At the same time, many firms anticipate that they will have made a complete rebound in upcoming years, which may necessitate an increase in IT departments' requirements for their communications. Finally, a formula has been presented giving any enterprise/organization to estimate the indirect realized benefits upon the adaption of Virtual Communication Solutions.

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