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Online collaboration platforms: Communication implications for workplace virtual teams

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Abstract

As more organizations face the growing need to accommodate employees who are unable to work in a traditional face-to-face office environment, many turn to new computer programs that can connect all employees. These programs, generally referred to as online collaboration platforms, help to connect members of an organization while enhancing productivity and allowing work to be completed from around the world. While there is extensive research on the structure and nature of communication within virtual teams, there has been little research on the implications of online collaboration platforms on virtual teams. This study demonstrates how employees work with one another and communicate while using online collaboration platforms. This study featured interviews conducted at multiple businesses for data collection with the intent of exploring different uses of online collaboration platforms, finding that online collaboration platforms are making virtual work more convenient, particularly when used by virtual teams. By studying the differentiating perspectives of multiple organizations, this study contrasts the differences in usage of the software and the perceived impact that using the software has on the workplace communication of its users.

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ONLINE COLLABORATION PLATFORMS:
COMMUNICATION IMPLICATIONS FOR WORKPLACE VIRTUAL TEAMS

By

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Abstract

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While there is extensive research on the structure and nature of communication within virtual teams, there has been little research on the implications of online collaboration platforms on virtual teams. This study demonstrates how employees work with one another and communicate while using online collaboration platforms.

This study featured interviews conducted at multiple businesses for data collection with the intent of exploring different uses of online collaboration platforms, finding that online collaboration platforms are making virtual work more convenient, particularly when used by virtual teams. By studying the differentiating perspectives of multiple organizations, this study contrasts the differences in usage of the software and the perceived impact that using the software has on the workplace communication of its users.

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Online Collaboration Platforms:

Communication Implications for Workplace Virtual Teams

It is no secret that technological advancements of this century are revolutionizing many aspects of daily life. One of the largest changes to occur in recent years is the drastic increase in the level of virtual collaboration that happens in the workplace. The creation of cloud-based technology and the increase in speed and reliability of network connections have made virtual work a booming concept (Andersen, 2018). As a result of the increased flexibility of virtual work, there has been a cumulative 159 percent increase in remote work from 2005 to 2017, growing around 8 percent from 2016 to 2017 alone (Hering, 2020). Remote work is defined as “a working style that allows professionals to work outside of a traditional office environment” (Remote Year, 2020, para. 3). The main premise behind this rise comes from the acceptance of the concept that work can be completed effectively outside of one specific place.

Remote employees are no longer an anomaly in the workplace, with a 2018 study finding that 63 percent of companies have them (Upwork, 2018). Given this increase in remote work, employees who work in-office may have to complete a project with a team member who happens to work remotely. It only takes one remote team member to make virtual collaboration a necessity. With the implementation of virtual teams in the workplace rising as a result, the nature and structure of virtual teams are adapted to an agile format that works better for teams who do not all work in the same physical location together.

To obtain the desired productivity of virtual work for business leaders, there needs to be a streamlined process for employees to use to ensure that virtual collaboration does not feel like a chore. The solution that the vast majority of Fortune 100 companies are using today are online collaboration platforms such as Microsoft Teams, Slack, Zoom, and others (Mehandru, 2019).

Online collaboration platforms are providing organizations with a software package that can serve as their method of communicating with colleagues in a chat-style format, holding virtual meetings through an integrated conference call feature, holding meetings over video calls, and for some, allowing users to collaborate with colleagues directly inside of the software.

Given the change in the communication medium for virtual teams from limited face-to-face interactions to virtual, the design of virtual communication (excluding online collaboration platforms) leave out nonverbal cues that are critical to understanding one's message. This is a problem that online collaboration platforms look to solve through the use of video calls and more expressive ways of textual communication, such as implementing emojis and gifs. Features such as these hope to break down the barriers of virtual communication; while allowing for a productive work environment that retains an emphasis on relational communication and relationship building.

The purpose of this study is to explore the implications of new technologies, specifically online collaboration platforms, on the facilitation of virtual communication in the workplace. This study is focused on the online collaboration platforms that are being implemented in many organizations around the world, and how the users of these platforms are collaborating and communicating with colleagues.

Literature Review

The current literature surrounding the implications of communication on workplace virtual teams is largely categorized into three major themes: the characteristics of virtual teams, online collaboration's effect on workplace teams, and the different roles that communication has in virtual teams.

Characteristics of Virtual Teams

Virtual teams, defined as “work arrangements where team members are geographically dispersed, have limited face-to-face contact, and work interdependently through the use of electronic communication media to achieve common goals” (Dulebohn & Hoch, 2017, p. 569), are becoming increasingly common in business organizations due to the increase in demand for accommodation of employees who work outside of a traditional office setting. Given the integration of limited face-to-face contact in the structure of workplace teams, a survey from 2016 found that 85% of respondents had been working on virtual teams, with 48% reporting that at least half of their virtual team is comprised of members who are from different cultures (Dulebohn & Hoch, 2017).

Advantages of Virtual Teams. As discussed by Dulebohn and Hoch (2017), some advantages to virtual teams include: the ability to gather geographically dispersed people together, providing constant 24/7 productivity through different time zones, lowering travel and relocation costs, and the sharing of information across geographic boundaries. Within the context of international virtual project teams, Simpson (2017) highlights that the advantages of virtual teams can be broken down into three categories: organizational, individual, and societal.

In terms of the organizational advantages, the greatest gain is the fiscal aspect of sharp decreases in the amount of money spent on organizing meetings for the team members. Additionally, from an international perspective, Simpson (2017) highlights how costs can especially be decreased when facilitating communication among team members from different countries, eliminating the need for costly procedures such as obtaining visas and airfare costs.

Looking at the individual and societal advantages of virtual teams, Simpson (2017) discusses the individual advantages of virtual teams by simply referring to the knowledge

sharing process that occurs, and how that can lead to the team members feeling more self-confident as a result of their mutually increased knowledge. The importance of providing opportunities for those who are unable to work with people of different cultures is a societal advantage that can bring voices into team-based work that would not have previously been possible (Simpson, 2017).

Disadvantages of Virtual Teams. Regarding the disadvantages surrounding virtual teams, Simpson (2017) states that the key indicators of virtual project success are communication and trust. The author discusses that a lack of communication and trust in virtual projects often result in the failure of the project.

With communication already limited by the barriers that are constructed by a virtual environment without face-to-face interaction, any further disruptions in communication are frustrating for the members of a virtual team. Simpson (2017) notes that the sources of these communication barriers can come from technological problems, different preferences for certain tools, cultural differences, or a language barrier.

Perhaps the largest and most consequential disadvantage concerning the use of virtual teams is the relatively slow development of trust, and the barriers that make gaining trust a slow process (Nemiro, 2001). Since trust is slow to develop under virtual methods, it is evident that steps regarding the development of communication are taken to ensure that trust is still able to be developed, as it is an important part of completing tasks virtually (Nemiro, 2001).

Dulebohn and Hoch (2017) have described some other disadvantages to virtual teams, including potentially lower team engagement, isolation, a high level of social distance between team members, and difficulty in monitoring and managing the team. Despite the advantages and disadvantages of virtual teams, current literature reveals that managing a virtual team is more

difficult than managing a collocated team. These challenges and disadvantages of working in a virtual environment are what online collaboration platforms hope to solve.

Online Collaboration and Workplace Teams

Many organizations divide their workforce into teams dedicated to their specific area of work. The notion of creating workplace teams as a means of performing everyday tasks is far from a new strategy. However, with the creation and wide implementation of online collaboration platforms, workplace teams are being transitioned for these new platforms to allow for greater flexibility.

Characteristics of Workplace Teams. Deeter-Schmelz (1997) discusses the information flow within workplace teams and highlights two main measurable indicators of team structure: team role clarity and team norms. Since roles are generally defined as goal-directed and related behaviors that are done for a specific situation (Mathieu, Tannenbaum, Kukenberger, Donsbach, & Alliger, 2015), this definition can be applied to the roles that are taken on within teams. These team roles are important to the success of teams, as Deeter-Schmelz (1997) discusses within the scope of team role clarity. The author argues that the idea of team role clarity affecting the information acquisition within teams makes intuitive sense. This argument is driven by the example of an inbound logistics process team, which under ambiguous team roles would create problems with team members spending more time trying to discern their own role, rather than the team's purpose. The result of this ambiguity causes sporadic information acquisition due to the confusion surrounding how their actions are relative to the team. The team norms are more simply stated by this author, as "the expectations about behavior that are at least partially shared by members of the team" (Deeter-Schmelz, 1997, p. 167).

In their journal article discussing the self-management of teams and team effectiveness, Tata and Prasad (2004) explore and demonstrate how teams with a high level of self-management may be more effective when implemented in organizations where the decision-making authority is dispersed, with fewer rules, policies, and procedures. The authors have linked the self-management of teams to an increase in team effectiveness, citing an increase in the team members' sense of responsibility and authority; caused by an increase in intrinsic motivation, job satisfaction, and an increase in effort (Tata & Prasad, 2004).

McLean (2014) then makes the conclusion that due to the existing contrast in the literature surrounding team structure, there is no general consensus on a universal model for the structure behind teams. When discussing the theoretical implications of their research, Tata and Prasad (2004) discuss how if their findings continue to gain support and become reaffirmed, the inconsistency in literature regarding the effectiveness of team structure will likely be explained by the level of input that team members are able to have in their day-to-day decisions. In today's increasingly virtual work environment, workplace teams will need to be adaptive to a virtual environment, signaling a need for tools like online collaboration platforms.

Teams Using Collaboration Platforms. As defined by data-driven marketing company TechTarget, a collaboration platform is “a category of business software that adds broad social networking capabilities to work processes” (Rouse, 2011). Therefore, an online collaboration platform is one that takes these networking capabilities to remote Internet connection, almost entirely relying on the Internet connection to function. Some of the most important features of an online collaboration platform are that it must be easy to use and set up, it needs to have functionality for users to share information both visually and textually, and it should come with the capability to allow users to share notes or files (Warren, 2019).

When the “collaboration hub” named Slack released in 2013, there was little market for an email replacement software of its kind. Now, with over 12 million daily users in over 150 countries, and 65 out of the Fortune 100 using Slack (Slack, 2020), it is impossible to deny its earned space in the workplace. Since Slack’s biggest competitor, Microsoft Teams debuted in 2017, it has become Microsoft’s fastest growing application in its history, with 13 million daily users, and 91 out of the Fortune 100 using their software (Mehandru, 2019).

Despite competing in similar markets, Slack and Microsoft Teams each offer the user a fundamentally different experience. Slack, for example, serves as an email replacement and acts like an instant messaging system with capabilities for integrated file sharing and video chatting (Slack, 2020). Whereas Microsoft Teams works as an all-in-one software package that combines all of the features of Slack with other Microsoft products such as OneDrive and Office 365. As Microsoft discusses on their website, Teams is the place to “chat, meet, call, and collaborate, all in one place” (Microsoft, 2020). Unlike Microsoft Teams, Slack does not feature capabilities that are beneficial for holding virtual meetings. As a result, the collaboration platform Zoom, which is entirely focused on facilitating virtual meetings, can be used by organizations in supplement to Slack.

Online collaboration platforms like Slack and Microsoft Teams, that are more focused on replacing email use, allow for less communication to occur via email, instead using a chat-like system to reach people. These platforms have increased the speed of collaboration for teams, either for people sitting next door or from across an ocean (Mehandru, 2019). With the ability for people to work anywhere at any time using these tools, a flipped workplace model is being implemented as a result of these platforms. The flipped workplace model refers to the workplace

environment where in-person meetings are rare and only happen as needed, with computer-mediated communication becoming the norm.

Now that online collaboration platforms have become an expectation in the workplace in very little time, it has become hard for current professionals using these platforms to imagine collaborating without them (Mehandru, 2019). In addition, with the trend of remote working on the rise, Kate Lister, president of Global Workplace Analytics predicts that by 2025, “70 percent of the workforce will work remotely at least five days a month” (Molla, 2019).

Communication in Virtual Teams

In her study investigating an ideal environment for creative virtual teams, Nemiro (2001) explores the differences between task connection and interpersonal connection in virtual teams, and various facets within these two categories of connection that describe elements of developing virtual teams. The author describes task connection as “made up of the dimensions of dedication/commitment, and goal clarity” (Nemiro, 2001, p. 102); and interpersonal connection as “made up of the dimensions of information sharing, trust, and personal bond” (Nemiro, 2001, p. 102).

Task Communication. In her discussion of task connection, Nemiro (2001) discusses dedication and commitment as feelings of intense involvement and commitment to the provided tasks in high creativity experiences; noting that participants showed hard work through difficulties and were able to persevere. However, under low creativity experiences, there was increased differentiation in the levels of commitment, with one participant noting his lower level of commitment to the project than his partner, resulting in the failure of the project.

Nemiro (2001) refers to goal clarity as the team’s goals, and how clear they are. Participants discovered that under a virtual setting, it took more effort to ensure that the team’s

goals were clear, using methods such as constant checking, feedback, and asking questions to provide clarity of the goals through clear communication.

Relational Communication. Nemiro's discussion of the three elements of interpersonal connection: information sharing, trust, and personal bond, all refer to aspects of relational communication. Information sharing refers to information about the team's efforts, feedback, and the regular updating of pertinent information. It is noted that in face-to-face meetings, it is easier to directly ask individuals for information in the case of uncertainty. Where in virtual meetings, it is easier for individuals to "disappear" from the discussion.

Trust has been viewed by researchers as the greatest challenge for virtual teams to overcome. Consequently, its sheer importance and typical drawbacks of virtual teams such as impaired communication quality suggest that trust cannot be disregarded (Marlow, Lacerenza, & Salas, 2017). In Nemiro's (2001) study, trust is defined as being composed of five key elements:

- (a) a sense of trust that individuals would do what they said within the designated time frame;
- (b) trust in the accurateness of the information provided by other team members;
- (c) trust that team members would give honest and constructive feedback on ideas, thoughts, and creative efforts shared electronically;
- (d) trust in one another's expertise and ability to do the work effectively; and
- (e) trust that other team members would hold ideas shared in confidence if requested. (p. 106)

With trust being an incredibly important element to any team, it is suggested that determining communication rules or procedures early in the team's life can lead to an increase in trust (Marlow, Lacerenza, & Salas, 2017). More specifically, Marlow, Lacerenza, and Salas (2017) believe that this type of practice is especially important for teams who are highly virtual in nature; given that virtual teams are already at risk for a lower quality of communication.

Early research in virtual teams, such as a study conducted by Jarvenpaa and Leidner (1999) found that initiatives provided by the team and responses to those initiatives, such as volunteering to complete a task, are important factors in developing trust within global teams. The authors found that computer-mediated communication generates more uncertainty over face-to-face interaction, thus requiring a response to provide clarity. The authors appear to suggest that an unclear or lack of a response could increase uncertainty, leading to the level of trust decreasing.

The final facet of interpersonal connection outlined by Nemiro is the personal bond, which was facilitated in this study's virtual teams through face-to-face gatherings, sharing humor and being playful, sharing personal issues with fellow team members, and functioning as a general support network (Nemiro, 2001). This study argues that it is not only possible to establish a real personal connection with other members of a virtual team, but that it can even exist when team members never meet face-to-face.

Summary

The current literature on areas such as virtual team identification, workplace team structures, and the role of communication in virtual teams have demonstrated that there is already plenty of research on what a virtual team is, how it should be structured, and the typical communication practices that take place. Despite this, current research on these topics does not make the connection between the communication practices of virtual teams, and how new online collaboration platforms are changing the methods of communication within workplace virtual teams. This study looks to answer some remaining questions surrounding the use of online collaboration platforms:

RQ1: What are the primary uses of online collaboration platforms?

RQ2: How is communication facilitated using online collaboration platforms?

Methods

To gather data on the use of online collaboration platforms in workplace virtual teams, I chose to collect data using on-site, in-person interviews. This section will detail the methods used to develop, administer, and analyze the interviews.

Participants. Two virtual team leaders from different businesses that currently utilize online collaboration platforms were contacted and asked to invite their team members to participate in either a group or individual interview in October 2019. I had an established relationship with both of the team leaders. Business A uses one software package for all online collaboration needs (Microsoft Teams), while Business B uses multiple online collaboration platforms in supplement of one another (Slack and Zoom). Other than using different online collaboration platforms, these organizations differ as they come from entirely different industries. Business A is a mortgage lending company, while Business B is an automotive engineering company. Both organizations are headquartered in Wayne County, Michigan.

Both team leaders agreed to invite members from their team to participate in the interview process. Of those that were invited, there were 5 participants from Business A, and 7 participants from Business B for a total of 12 participants. In the interview, participants discussed their uses of the online collaboration platform(s) used by their organization, and how it shapes their workplace communication practices.

Procedures. All interviews took place in October 2019 at each respective company's headquarters. In Business A, the 5 participants agreed to participate in a focus group interview. While in Business B, 5 participants agreed to be interviewed individually, and 2 participants were interviewed together. There was no difference in the scope of the questions asked in an individual versus focus group interview. All interviews were conducted in person, audio recorded and transcribed within one month.

The questions asked during the interviews were developed with the goal of having the participants identify the following: characteristics of their virtual team, their overall perspective of their team, characteristics of their online collaboration platform(s), their overall perspective of the software, and the scope of their use for online collaboration platforms. In each interview, clarification and follow-up questions were asked when appropriate, and a conversational method of interviewing was used to establish relationships and trust and to ensure that responses were accurate. While the specific questions asked of the individual and focus group interviews were slightly different, the scope of the questions remained the same. Some questions were reworded to fit the setting of the interview, while some individual interview questions were eliminated from the focus group interview, due to time concerns. The two participants who requested to be interviewed together were asked the individual interview questions. See Appendices A and B for a complete list of interview questions for both settings.

Interview transcripts were then analyzed using the Constant Comparative Analysis (CCA) method. The CCA method is an iterative and inductive method of analysis by comparing incidents or data to develop categories of similarity (Fram, 2013, p. 3). As Fram discusses with her approach, even though CCA is relatively synonymous with grounded theory (GT), the

analysis method can be used without developing a theory. This study employs Fram's use of the CCA method by using the method outside of the theory approach.

After reviewing the current literature on communication within virtual teams, there was minimal literature on the implications of software packages, like online collaboration platforms, on the communication of workplace virtual teams. The goal of interviewing these employees of organizations using at least one online collaboration platform was to determine the implications of using these online collaboration platforms on communication in workplace teams, particularly virtual workplace teams.

Results

After every interview was analyzed using the CCA method, six major themes emerged from the information provided by the interviews. Each of these categories had many similar components that were grouped together to create the major themes. These components were defined as features of online collaboration platforms, how the participants used these platforms, or anything that the participant did or did not like about their platform or how it was being used. Every component was identified when a participant mentioned it in their interview. If multiple participants mentioned the same general topic, the topics were added together, and a tally was created for analysis.

Ease of Collaboration. This category was a group of components where the participant discussed how their online collaboration platform(s) made their workplace collaboration easier. This is the category that generated the most conversation, with components of this theme mentioned a total of 64 times across all interviews. The components were as follows:

Component (Topic)	Business A	Business B	Total
Ability for easy file sharing	5 / 5	5 / 7	10 / 12

Cross-team collaboration	5 / 5	4 / 7	9 / 12
Instant feedback on messages	3 / 5	6 / 7	9 / 12
Need real-time collaboration or updates	3 / 5	5 / 7	8 / 12
Screensharing	3 / 5	5 / 7	8 / 12
Real-time, multi-user document editing	3 / 5	4 / 7	7 / 12
User-friendliness, ease of use	2 / 5	5 / 7	7 / 12
Helping to physically locate someone in the office	0 / 5	3 / 7	3 / 12
Quickly organize collaborative materials	0 / 5	3 / 7	3 / 12

When discussing the file sharing capabilities of Microsoft Teams, one participant from Business A contrasted the file sharing functionality of email to Teams. They stated “*email is sometimes harder to share files with. It’s a lot of times just easier to say “hey” and put a file up here (in a message); especially if it’s a bigger file, because then you don’t have to worry about file size or who needs to see it.*” Another participant from Business A highlighted the use of cloud-based technology making file sharing in Teams an easy experience, saying:

The interaction with OneDrive, Microsoft’s new cloud architecture with document sharing... Teams is a significantly easier tool to use than it probably would have been four or five years ago, where everything was a static file. Where if you put something into Teams, it becomes a living document and I think that is something that really aids any type of group collaboration, whether you’re in or out of the office.

One participant from Business B was extremely satisfied with how their organization uses their online collaboration platforms (Slack and Zoom) to help the interaction within the office, addressing their initial skepticism that the platforms would enhance productivity. They said:

I was actually really skeptical before we jumped into (Slack). I thought it would be everybody dozing off and not working and just chatting all day. But it’s actually completely transformed the way we do business, the way we interact with each other; we

couldn't have done the kind of global endeavor that we're currently in without something like that. I'm actually super positive about everything that brings.

Another participant from Business B discussed the former inefficient methods of receiving feedback from European colleagues; compared to how their online collaboration platforms have revolutionized this process, causing their whole work process to be more efficient. They stated:

You would mark up (a document) and send it to Europe; then the next morning they're gonna look at it, mark it up, and email it back to you. You're gonna get it, open it up, and look at it and see that you disagree with something, then you'll send it back again. Three or four days later, you may have an agreement on something. Now, we jump online, we pull it up on the screen, now 30 minutes later you have a solution...these tools have absolutely been able to bring down the development time from three or four to two years.

Remote Connection with Team Members. This category's components were centered around the means that participants use to connect with team members who are not currently in office, and how they are used. The components of this theme were mentioned a total of 48 times. The components were as follows:

Component (Topic)	Business A	Business B	Total
Virtual meetings	5 / 5	7 / 7	12 / 12
Seeing others on video	4 / 5	5 / 7	9 / 12
Centralized communication	4 / 5	2 / 7	6 / 12
Checking if someone is available virtually	1 / 5	5 / 7	6 / 12
Facilitating jokes, personal relationships	3 / 5	3 / 7	6 / 12
Flexibility for working from home	3 / 5	2 / 7	5 / 12
Relationship building	1 / 5	3 / 7	4 / 12

Across all interviews, every participant mentioned that they use their online collaboration platform(s) for virtual meetings. One participant from Business B simply stated "Zoom we use

for every single meeting". Interestingly, Business B set up all of their conference rooms to be naturally equipped with Zoom, further increasing the user-friendliness of facilitating virtual meetings. One participant discussed how the organization set up their conference rooms, saying *"if you have a Zoom meeting scheduled, you come to the room and it says your name and your meeting on (the monitors) like it's waiting for you; and you push a button on the unit, and it starts the meeting."*

One participant from Business A discussed the importance of having light-hearted interactions and connections with a remote team member, saying: *"we talk about code and stuff like that; but sometimes it's just nice to have that joking interaction when you're not in person because I can't joke with (them) here in the office on occasion."* A participant from Business B had a similar experience with remote team members, reporting that they feel a stronger sense of connection with colleagues as a result of using the platforms, saying: *"Slack brings a personal level throughout the company...it touches everyone. People will post pictures of their vacations, of their kids; it just makes you realize that everyone is a person, and on a personal level, rather than just a coworker on a business level."*

Challenges with Virtual Communication. This category's components were centered around the challenges with virtual communication, and the comparisons between face-to-face and virtual collaboration. The components of this theme were mentioned a total of 25 times. The components were as follows:

Component (Topic)	Business A	Business B	Total
Difficulty solving issues virtually	3 / 5	3 / 7	6 / 12
Prefer having face-to-face communication	0 / 5	6 / 7	6 / 12
Face-to-face communication is more efficient	1 / 5	3 / 7	4 / 12
Delayed or overlapping audio issues	1 / 5	2 / 7	3 / 12
Age gap for technology adaptation, usage	0 / 5	2 / 7	2 / 12
Difficulty reading emotions virtually	2 / 5	0 / 7	2 / 12

Technological failures, issues	0 / 5	2 / 7	2 / 12
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The most frequent challenge that was found across both organizations was the difficulty that participants found with solving issues remotely or virtually. One participant from Business A, who normally works remotely but was in the office for their interview, stated “*even on a call today, there’s something we talked about like ‘Hey, we need to figure this out’, and we should probably just meet in person for that*”. Another participant from Business A discussed some challenges around solving problems virtually, ultimately deciding to solve issues in person, saying:

Especially when we’re working with more complicated projects and you’re working with somebody who’s not as tech-savvy, it’s better to just meet up with them in person, especially when you’ve been chatting for days and days...and it’s not getting anywhere and it’s really unclear to the other person on the line or if it isn’t clear to me.

A participant from Business B also found difficulty in solving issues while in a virtual setting. However, this participant found that talking to colleagues on video helps to mitigate the issues that come up. They said:

I just had a meeting yesterday with someone who was working from home through Zoom, and while I was explaining something I looked over at her face and I could see that she was totally lost. If I didn’t have that, I would’ve probably kept going and talking...not realizing she didn’t know what I was talking about.

One topic that emerged in Business B, but not from Business A, was the opinion that face-to-face communication is overall superior and preferred to virtual communication. Not one person from Business A said that they outright prefer face-to-face communication, despite 86 percent of participants from Business B saying they do. One participant discussed their disdain

toward email in general as a means of communication. *“Some people are strictly in email. I hate email. I’m 100 percent, I believe in face to face as much as possible. I believe in straightforward communication and I believe too much is lost at times in email.”* Another participant from Business B discussed some frustration by the idea of people communicating virtually when they have the ability to speak in person, saying *“you’ll have engineers that are sitting maybe twenty meters away from each other and are on a WebEx together; and that frustrates the hell out of me. I’ve never been that way...if someone’s here, I’d rather just go and chat with them.”*

Reducing/Revising Email Use. This category discussed the changing nature of email use when supplemented with online collaboration platforms. This area is composed of the ways that email has now become inefficient and the transition of email functionality to the online collaboration platforms. The components of this theme were mentioned a total of 24 times. The components were as follows:

Component (Topic)	Business A	Business B	Total
Eliminating email noise, distros	3 / 5	4 / 7	7 / 12
Email is too slow	1 / 5	4 / 7	5 / 12
Ability to react to messages instead of replying	3 / 5	1 / 7	4 / 12
No longer emailing static documents	2 / 5	2 / 7	4 / 12
Poor response rate for emails	1 / 5	3 / 7	4 / 12

Since online collaboration platforms aim to be an email replacement, much of what the participants had to say was centered around how the platforms give them less of a use for email. The most frequent topic that came up surrounding email use was the elimination of long email chains and distros, thus minimizing the clutter in email inboxes. A participant from Business B discussed their displeasure in dealing with mass emails, saying:

In a mass email, you get a bunch of people; but receiving back just a bunch of emails of ‘Well, I think this’, ‘I think this’, ‘I think this’. But nobody is in the same room together,

and it just delays. By using (Slack), what otherwise would be an effort of monumental task at times, we turn into a simple conversation.

Since Slack and Microsoft Teams incorporate a chat-style messaging platform for simple virtual communication, this allows for different forms of responses to occur, such as sending emojis or reacting to messages. In the Business A focus group, participants discussed reacting to messages as opposed to replying to them, with one participant saying in regard to emails, *“you kind of feel obligated to write back and say ‘Thanks’, you know? In things like Teams, where you’re in a conversation, you just use the thumbs up, or the heart, or a face.”* After hearing this, another participant in the focus group said, *“I find myself wanting to do that in email and then get sad because you can’t.”*

International Collaboration. This category was only mentioned at Business B, as Business A has very little international business taking place. This category combines the different topics surrounding how online collaboration platforms have assisted the participants in working with others across the world, a daily task for participants from Business B. The components of this theme were mentioned a total of 17 times. The components were as follows:

Component (Topic)	Business A	Business B	Total
Connecting with people globally	0 / 5	6 / 7	6 / 12
Seamless cross-time zone collaboration	0 / 5	5 / 7	5 / 12
Open communication regardless of time	0 / 5	4 / 7	4 / 12
Attract international talent without relocation	0 / 5	2 / 7	2 / 12

Almost all participants from Business B discussed how using online collaboration platforms simplify the process for connecting and collaborating with colleagues across the world. One participant spoke highly of the opportunities for international collaboration given by the platforms, saying *“I’ve done collaborative work both in Japan and Germany extensively. Both of*

which, the projects never would have been timed if there had not been the ability for online tools, live-action interactive meetings, data changes; all of those are done in live timeframes.” These instances of international collaboration highlight the major impact of online collaboration platforms on breaking down communication barriers of the global economy.

Another participant discussed their experience with using Zoom as a way to remove the boundaries of time zones when it comes to virtual meetings. Beyond this perspective, this participant also discussed how this has allowed for easier organization of tasks and collaboration, noting that:

The ability to not have to worry quite so much about the time zones, about the geographic location of people; so if we didn't have those collaboration platforms, you would be reliant on everyone being in one place at one time...this stuff would just take far longer to organize and facilitate to get everyone together.

Staying Connected While Mobile. This category combines a few distinct components that were discussed surrounding the use of online collaboration platforms while the user is not in front of their computer screen, or even at work. The components of this theme were only mentioned a total of 14 times. The components were as follows:

Component (Topic)	Business A	Business B	Total
Communicating using smartphone app	2 / 5	3 / 7	5 / 12
Responding to messages while preoccupied	1 / 5	3 / 7	4 / 12
Messaging, collaborating while traveling	1 / 5	2 / 7	3 / 12
Find it hard to “turn off” work	0 / 5	2 / 7	2 / 12

Despite one of the main positives of online collaboration platforms being the ability to communicate and share information at any time and anywhere, few participants appeared to take advantage of collaborating while mobile. A participant from Business A mentioned that one

thing they liked about their platform was the ability to use the Microsoft Teams mobile application when they were not at their desk. They said:

I'm running around a lot, so I have it on my phone and I can pull it out...I don't have to wait until I get back to my desk to respond (to messages). Or I can give an instant response that may not necessarily be the answer to the question, but I acknowledge that I have seen it and yes, I will get to it.

While this participant focused on their use of the mobile app while at work still, another participant from Business A discussed how they use the mobile app while not officially at work, in addition to using it while not being at their desk, saying “*I know that definitely helps me when I'm traveling because I'm not at a desk...or on my way from the airport or to the airport.*”

Another way that participants are able to stay connected while mobile is responding to messages or questions while working on something or meeting with someone else. One participant from Business B said this was a frequent occurrence for them, saying:

A lot of times I'll be on a call with someone else on my team who is across the table, but I don't want to stop the conversation, so I'll Slack (them) and ask what they just mentioned; and they will respond or just send me a document. That is a need that wouldn't be fulfilled just through normal conversation.

Discussion

As indicated by the results, online collaboration platforms serve a variety of uses for the employees of organizations who use them. By far the most common use of online collaboration platforms in the organizations that were studied were virtual meetings, with every participant mentioning the use of their platform(s) to interact with colleagues in a meeting-like setting.

Some of the other most commonly mentioned uses were the ability for easy file sharing, screensharing, and the facilitation of real-time, multi-user document editing.

In addition, the facilitation of communication through online collaboration platforms was found to vary based on the individual or company's specific needs. For example, the 75 percent of participants who mentioned using their platform(s) to collaborate with other teams within their organization mostly came from Business A. Whereas the need for instant feedback on messages was also mentioned by 75 percent of participants, this came primarily from Business B. This difference in the important factors for facilitating virtual communication likely comes from a difference in the business requirements determined by the organization where the participant works.

The largest takeaway from the interviewees' perspectives is that workplace virtual collaboration not only works but is an effective way to get work done. With features of online collaboration platforms allowing users to conduct work from home, in an airport, or even between meetings, the flexibility that is given to the employees of organizations who use these platforms is astonishing. Given that Slack has set its goal on being an email replacement, the participants have indicated that the platforms are on their way to doing just that. Even though almost all participants had some level of frustration with the collaboration platform(s) that they use, every participant was able to discuss how the platforms help the facilitation of communication at their organization, especially with an exponentially growing remote workforce.

All organizations around the world are unique and have different needs, and their communication needs are no different. For example, while a major advantage of Business B's collaboration platforms is the ability to seamlessly communicate with people around the world,

Business A has no use for it, as they are almost entirely based in the United States. Some features that one organization may love such as sending gifs, emojis, or video chatting; another organization may have no use for, or even deem as unprofessional. One thing that is consistent across both studied organizations is that the platforms provide an opportunity for the remote employees to feel like they are a part of their workplace team, rather than an additional piece. With trends in remote work indicating that the frequency of it will be increasing, it will become vital for organizations to learn how to better integrate their virtual workforce, rather than alienating them.

Despite all the positives of the platforms, 50 percent of the participants stated that they still prefer face-to-face over virtual communication for work, and in some cases outright require it. Interestingly, all of these participants who explicitly prefer face-to-face communication belong to Business B. Beyond this, half of that group (25 percent total) stated that they believe face-to-face communication is more efficient. With a quarter of participants believing that they still work less efficiently when communicating virtually, it identifies that there are many improvements that need to take place before virtual communication can become the norm in organizations.

Conclusion

Limitations of the Study

Undoubtedly the largest limitation concerning this study was the narrow scope of organizations that participated. Since both companies who were studied feature a generally younger workforce, there may have been greater acceptance of the use of the platforms in those organizations. Expanding the scope of the research project to contrast the different types of businesses (technology, health care, nonprofit, etc.) that use online collaboration platforms

differently would have allowed for the development of more general conclusions surrounding the use of the platforms.

In addition to the narrow scope of the organizations, the sample size of participants was also a strong limitation. Since not all of the individual interview questions could be asked in the one focus group interview due to time constraints, there could have been an opportunity to hear more differentiating perspectives on more topics than what could be covered in this study.

Recommendations for Future Research

Looking outside the specific scope of this study, there are a wide array of different paths for future research that can and should be taken to advance this topic. For instance, since Slack is positioning itself in the market as an email replacement, one big research question could be if online collaboration platforms truly can replace email altogether. This study found that people are generally using email less as a result of better messaging and file sharing resources. However, this concept could be explored by seeing if email can be outright eliminated in organizations, in favor of completely transitioning virtual communication into online collaboration platforms.

Another interesting facet of this topic to explore would be the effective strategies for online collaboration platform implementation. Since many new technological advancements in organizations can be met with pushback from employees, conducting research on the means of effectively implementing new virtual communication practices in organizations could help those who struggle with resistance against new technologies.

One final, more general topic that could be explored is to determine if, in the future, workplace communication could ever become completely virtual. With working trends

indicating that work is becoming increasingly remote, one of the most pivotal questions to answer would be if the workplace could ever transition into a fully virtual environment.

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Appendix A

Individual Interview Questions

1. Describe the organization that you work for.
2. Describe the role that you have within your virtual team.
3. What do you like about your virtual team? What don't you like about it?
4. Describe the characteristics, behaviors, and norms of your virtual team.
5. What do you like about your online collaboration platform? What don't you like about it?
6. What are your primary uses of your online collaboration platform?
7. Discuss how your online collaboration platform helped you to complete a project that you are proud of.
8. How do you use the online collaboration platform to facilitate communication within your team?
9. What features of online collaboration platforms do you typically substitute for face-to-face, when applicable?
10. What features do you feel help you feel more connected with your virtual team?
11. How does your online collaboration platform meet the needs of your team that hasn't been fulfilled otherwise?

Appendix B

Focus Group Interview Questions

1. Discuss the characteristics, behaviors, and norms of your virtual team.
2. What do you like about your online collaboration platform? What don't you like about it?
3. What are your primary uses of your online collaboration platform?
4. Discuss how your online collaboration platform helped you to complete a project that you are proud of.
5. Discuss how you use your online collaboration platform to facilitate communication within your team.
6. What features of online collaboration platforms do you typically substitute for face-to-face, when applicable?
7. What features do you feel help you feel more connected with your virtual team?
8. How does your online collaboration platform meet the needs of your team that hasn't been fulfilled otherwise?