

“Email Blows Up Quickly” - Adoption/Rejection of CMCs by Science Organizations During COVID-19

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Introduction

- Two years into the pandemic, nearly 60% of remote-capable U.S. workers are still primarily working from home, a trend established before the Omicron variant. started to spread in the United States, according to a new Pew Research Center survey. Further research shows (e.g., Sevill, 2020) that Computer Mediated Communication (CMCs), such as teleconferencing platforms were a game changer for most industries.
- Related research categorize workers, generally as teleworkers. Meanwhile, some research (e.g., Dey et al., 2020, Tucker et al., 2023) argue the need for unique CMC Current study takes a look at major facilities (MF) are large and complex science organizations, and they include the National Center for Atmospheric Research, IceCube Neutrino Observatory, Ocean Observatories Initiative, etc

Method

- Collecting data: Semi-Structured Interviews over Zoom. N= 56; Snowball Sampling MF staff across US
- IRB
- Transcripts on Otter.ai
- Editing Transcripts
- Analysis : Thematic Analysis (Braun & Clarke, 2021)
- Results and Discussions



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Abstract

Complex science organizations, such as NSF major facilities, must proactively assess and adapt their decision-making processes to incorporate CMCs. This requires understanding organizational demographics, CMC familiarity, digital proficiency, and user preferences. Our Study found that NSF professionals desire that their organizations should determine their optimal CMC strategy based on internal factors and emerging trends (e.g the declining use of email among younger generations), especially during crisis.

Findings/Themes

Subjective Attribute of CMCs

[B]eing able to see someone's face... creates a facsimile of being in a room with someone. It's not the same by any stretch of the imagination. But I think it (Zoom) helped give a better sense of connection than it would be during just using a phone. You actually well see, when you're in person, you can read people better. (A project facilitator)

Facsimile of Face-to-Face Communication & Ease of Collaboration.

So we had all the processes in place, we had all our Zoom, well, actually, we switched from WebEx to Zoom, that was really about it. We had all our meetings already planned. My team was it, like I said, distributed across multi time zones, states etc ...I did some research and Zoom was just easier to run conference calls, whereas I find WebEx is easier to do document shares (Senior cyberinfrastructure and data manager)

Complexity leads to Switching CMCs

“If we do turn on our cameras, the development team could care less. In fact, those cameras are almost always off. We will raise a hand, we have Slack, which is IE, we had Slack before. And that's where most of the emoticons and other more colorful interactions happen” (Senior manager of a cyberinfrastructure department)

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Less formal/mentally demanding Slack

Research Questions

- What CMCs did professionals at NSF major facilities adopt for day to day communication during the COVID-19 pandemic?
- What were the objective and subjective attributes that led to the adoption/rejection of CMCs during the pandemic?

Result and Discussion

This study investigated the pandemic-induced adoption of CMCs among NSF major facility personnel across diverse roles. Our analysis sought explicit and implicit drivers of CMC utilization throughout the pandemic's trajectory.

In order to replicate the in-person experience, the organization adopted CMCs (Computer-Mediated Communications) that fostered a sense of presence. Slack and Zoom emerged as preferred platforms for maintaining regular meetings and check-ins. These tools effectively simulated face-to-face interactions, enabling swift and efficient communication.

While CMCs proved instrumental, consensus emerged on the irreplaceable nature of in-person interaction during specific phases. This view was uniformly held by management, IT, project facilitation, and instructional staff, who emphasized its critical role in organizational resilience

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