# Understanding Challenges When Researchers in Different Generations Manage Files Together

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**Abstract**

This statement reports the preliminary findings of an ongoing research project that investigates how researchers manage shared files in cloud-based repositories for collaborative research projects. The initial analysis of the interview data from 19 researchers in different age groups revealed that a generation gap is one of the challenges researchers experience when managing shared files in cloud-based repositories for collaborative research projects. Challenges were reported from both older and younger generations. The findings suggest that better support is needed in managing shared files for people of different generations. In addition, the personal information management (PIM) tools need to be developed in consideration of users from multiple generations, especially older people.

*Keywords*: personal information management, shared file management, cloud-based repositories, generation gap

## Introduction and Background

Cloud-based repositories such as Google Drive and Dropbox are widely used among researchers in managing shared files for their collaborative research projects. There are several

benefits to using cloud-based repositories for collaboration, such as being able to work on the same file simultaneously, avoiding duplicating work, and accessing files from anywhere at any time (Bergman et al., 2014, 2019; Park & Ryoo, 2013). However, there are some challenges as well, such as security issues and privacy concerns (Capra et al. 2015; Lee, 2019; Li et al., 2020; Widjaja et al., 2019). Previous studies have reported on the difficulty of retrieving shared files in cloud-based repositories that were created, organized, and maintained by multiple people (Bergman et al, 2014, 2019, 2020a, 2020b; Jones et al., 2017; Massey et al., 2014). Another challenge that has not been fully examined yet is a generation gap in managing shared files in cloud-based repositories.

**Methods**

The preliminary findings discussed in this statement are based on the data collected during an ongoing research project that investigates how researchers manage (i.e., create, update, organize, find/re-find keep, archive, delete) their files in shared cloud-based repositories while working on collaborative research projects. In this project, the author identifies the challenges researchers encounter as well as the successful strategies they use in managing shared files in cloud-based repositories.

In this study, the participants were researchers in the United States across disciplines who had an ongoing collaborative research project that uses a shared cloud-based repository. Data were collected via two different methods: an online survey and a semi-structured follow-up interview. Thus far, the author has collected 525 completed survey responses and finished interviewing 30 researchers.

The preliminary findings reported here are based on the initial analysis of 19 interviews that are fully transcribed. During the interview, the author specifically asked participants if they experienced any challenges while managing files with people with different backgrounds (e.g., gender, age, ethnicity, nationality, work experience, discipline) or characteristics (e.g., work style, norms, personalities). The author also asked if they had any successful strategies they would like to share in terms of working with collaborators with different backgrounds or characteristics.

## Preliminary Findings

### *Participants*

Among 19 participants, 52.6% were male (*n*=10), and 47.4% were female (*n*=9). In the case of age, 31.6% were 20s (*n*=6), 26.3% were 30s (*n*=5), 21.1% were 40s (*n*=4), 10.5% were 50s (*n*=2), and 10.5% were 60s or older (*n*=2). In terms of ethnicity, 36.8% were White/Caucasian (*n*=7), 26.3% were Latino/Hispanic (*n*=5), 21.1% were Asian (*n*=4), and 15.8% were Black/African American (*n*=3). For discipline, 42.1% were from social sciences (*n*=8), 36.8% were from sciences (*n*=7), and 21.1% were from arts & humanities (*n*=4). Among participants, 42.1% were graduate students (*n*=8), 31.6% were others such as director, lecturer, or postdoctoral researcher (*n*=6), and 26.3% were faculty members (*n*=5).

### *Generation Gap in Managing Shared Files*

During the interview, one of the common themes that emerged was the generation gap. More specifically, when asked if they experienced any challenges while managing files with people with different backgrounds or characteristics, P3 said “I would say the biggest one, are[is]

differences in age". In a similar vein, while answering this question and describing their research team, P14 stated "We are of very different generations".

One of the main challenges was some of their older colleagues' unfamiliarity with any cloud-based repository. Multiple participants mentioned that they had colleagues who were not used to navigating between cloud-based storage and local-based storage. For example, P1 said, "For other projects that I did before, they might be older than me and they might not be familiar with the Google Drive stuff". In addition, multiple participants reported that some of their older colleagues were not willing to learn or use the cloud-based repository, saying that "I would say that there were few times that hasn't been from very old faculty who were kind of luddites to begin with" (P3). In these cases, participants usually created a personal folder in the cloud so that the colleague could work on their own and didn't have to use the shared files, or they sent a separate folder with files through email so that the colleague could work without using the cloud-based repository, which required extra work and effort. P15 said, "We will have to make sure that we get a copy of the document to save for him because I don't see him going and doing it on his own". P1 also stated, "So when we try to work together in the Google Drive, what we did is not add him into the Google Drive. We are like, send him a separate folder with downloaded files through the email so he can edit in his laptop instead of using the drive". Another challenge was some of the older colleagues' not following the agreed-upon conventions or requiring others to work in a way they wanted, making it hard for younger colleagues to disagree. For example, P3 said, "They follow all sorts of conventions (laughter). Um, they follow even when we suggest to them and say, "You should do it this way", but it's hard to tell an emeritus faculty or endowed chair how to do something".

There were some challenges when working with younger colleagues as well. One of the participants pointed out that younger colleagues tend not to keep a local copy, saying, “I’ve noticed that among, as I said earlier, my millennials, some of them are just so used to doing everything in the cloud, they never keep a local copy. And say hey you know even the cloud can go down and have problems so please also keep a local copy” (P3). Another participant mentioned that he/she felt slow in catching up with technologies while working with younger colleague, stating, “I am usually like the traditional person. I do things usually the old way. Um, but my colleagues who are, were born in an environment that they had earlier exposure and greater access to technology, it would utilize them to the advantage. And so sometimes personally, I feel I am a bit slow in catching up with some technologically related things in the project” (P9). This response indicates that the generation gap is experienced by both younger and older researchers.

However, older colleagues’ expertise was recognized and respected, which also showed why other colleagues are willing to make adjustments. For instance, while sharing why he/she didn’t ask older colleagues to use shared files and folders, P3 said “the reason that we asked these people to contribute is because they are experts in their particular field. And so, limiting, telling them how to do their expertise would be counterproductive”. Similarly, P2 stated, “They just don't have the time and you don't want to make them spend the time to learn things. Because everyone is busy, you want their expertise”. In the case of younger colleagues, their open mind and willingness to learn and follow agreed-upon rules were appreciated. For example, P12 said “Sometimes an undergrad is easier to work with because they don’t, they’re just happy to be there and learning. And they don’t know anything, and they don’t bring any baggage to it, so

they just listen and do as they are told". In a similar vein, P3 also stated, "My observation is that our younger colleagues tend to follow the conventions we lay out for them".

## Conclusion

The findings reported here are preliminary and are not based on the full analysis of the data. However, they have revealed an important challenge that needs more attention – namely, the generation gap that people experience when managing shared files in cloud-based repositories. The findings also suggested that researchers of different generations may have different understandings of how cloud-based repositories work. Participants shared some suggestions to address this issue, which included: reminding colleagues to upload updated files to the cloud or save local copies of files; providing quick training; having clear and frequent communication with each other; and being open-minded and adapting to change. However, a more systematic and practical solution is needed. In particular, it is essential to think about and develop tools that will better support the management of shared files by people in different generations. As one of the participants said, "Google Drive is not friendly enough for the elder person" (P1). It would be worthwhile to explore how and when researchers in different generations develop their mental models of how cloud-based repositories work, and what would make our PIM tools more friendly and easily usable for people in different generations, especially older people.

## Acknowledgements

The author gratefully acknowledges the grant from the Alfred P. Sloan Foundation (#G-2021-16833).

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