**Project #4**

Factors affecting the Adoption of Videoconferencing across American Universities during COVID-19 Pandemic

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# **INTRODUCTION**

The coronavirus pandemic has adversely impacted several sectors of the economy. Among the sectors affected upon by the pandemic is education. According to Chaka (2020), the pandemic has brought changes to the teaching-learning process, particularly across the institutions of higher learning. Besides, the pandemic has brought new changes to how teachers and students interact during the learning process. The pandemic has seen learning institutions, not only in the United States (US) but across the world, find themselves constrained towards undertaking their academic endeavours with students exclusively online. The adoption of online learning through such platforms as zoom and videoconferencing emerged among the best measures for governments to curb the further spreading of the pandemic. Also, this has been a critical measure through which governments can stamp continuity that is required in the educational process (Turgut and Karal, 2015). Thus, universities had no option other than to adhere to the government directives to adopt online learning.

Despite the benefits of online teaching across universities, during the coronavirus pandemic, no study has been done to examine the possible factors affecting the adoption of videoconferencing across universities. This confirms a major research gap in this area, with stakeholders in the education sector yet to define factors defining the success of e-learning. In return, the e-learning sector, particularly videoconferencing, is subjected to several risks, all of which might jeopardize the quality of learning. The proposed study will address the already existing research gap in the e-learning sector across the American universities at the time of COVID-19. The proposed research will shed light on factors behind the successful adoption of e-learning at the current times of COVID-19. The developed insights will be vital in enhancing the quality of education by improving the successful adoption of video conferencing.

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# **LITERATURE REVIEW**

To supplement the research methods, a comprehensive literature review will be relevant during the actual research study. This section of the proposal seeks to provide a detailed literature review on the defined research topic. This will be all about a review of the related previous studies done on ICT adoption in learning, during the COVID-19 pandemic. The section also borrows a lot from the previous studies, by looking at their conceptual models and research methodologies, alongside their findings.

# **Literature selection and database**

A unique process will be adopted in selecting the actual materials for the research. To address the technical aspects of the research, it will be important to settle on literature materials that were published in 2015. To shed light on factors affecting the Adoption of Videoconferencing across American Universities during the COVID-19 pandemic, it will be important to focus on literature materials that were published from 2020. The assertion is based on the fact that the first case of the covid 19 pandemic was reported in Wuhan City of China in 2019. Even though the epidemiology of the diseases was first speculated, active research materials were majorly published from January 2020. Since 2020, there has been several research studies drawn from both the western and academic circle to shed light on the adoption of video conferencing during the covid 19 pandemic in most of the American universities.

According to Zalat, Hamed, and Bolbol (2021), one of the key strategies that most governments adopted to control the spread of the covid 19 pandemic was social distancing. To implement social distancing, most universities adopted video conferencing. The main search engine that will be used in locating the research materials is google scholar. Google scholar equally gives an option APA formatting that will form the basis of the research. Some of the keyword phrases that will be employed in locating the research materials are; Adoption of video conferencing in universities during the covid 19 pandemic, demographic factors that affected the adoption of video conferencing in universities during the covid 19 pandemic, and technological factors affecting the adoption of video conferencing in university during the covid 19 pandemic. Below is the literate synthesis that will supplement the actual research method.

**Available Literature synthesis**

Coman *et al.,* (2020) looked at how Romanian universities managed to offer education during COVID-19. The researchers were specifically interested in the adoption of e-learning by Romanian universities. In particular, the researchers were interested in the perceptions held by students when it comes to online learning. This extended to the students' capacity and ability to stimulate information, alongside the adoption of e-learning platforms. Realizing the above objectives saw the researchers going for an online survey comprising of semi-structured questionnaires. The study participants included 762 students across two top Romanian universities. The data analysis established that universities in the region were not ready for exclusively online learning. Coman *et al.,* (2020) revealed that the advantages or benefits that come with e-learning tend to dimmish in value, with the associated disadvantages becoming prominent. The study established those technical problems are the significant e-learning inhibitors, followed by teacher lack of skills among the educators.

Zalat, Hamed, and Bolbol (2021) examined the experiences of e-learning as a critical pedagogical tool during COVID-19 among faculty members. They aimed at estimating the perceptions held by the faculty members, their experiences. Besides, the researchers sought to tell the barriers and challenges facing the adoption and effectiveness of e-learning during COVID-19. Realizing the above objectives saw the researchers going for an electronic questionnaire comprising a validated technology acceptance mode (ATM). The study established that at least 88% of the faculty members educational value associated with e-learning is enhanced by the improved technological skills of the faculty members. Besides, the researchers established that unstable internet connectivity and lack of computers alongside inadequacy in computer labs are critical barriers to adopting e-learning across the selected universities. Turgut and Karal (2015) examined factors impacting the interaction between an instructor and the learners in a distance education process using video conferencing. The researchers embraced a case study as a qualitative research pattern alongside purposive sampling. The collected data were subjected to content analysis. Turgut and Karal (2015) established that the techniques and methodologies employed by the instructors are factors impacting their interaction with students. The study further established that the instructors' supportive behaviours are critical determinants of their interaction with students during videoconferencing.

Finally, the conceptual framework that will inform the research is:

*Demographic factors and technological factors are key determinants for a successful adoption of videoconferencing across the American universities, during COVID-19 pandemic.”*

# **METHODOLOGY**

This section presents a detailed methodological approach that will be used in developing the proposed study. The section begins with a discussion of the research design used in the proposed study. The next section will be a discussion on the data collection procedure and the data analysis approach to be employed. The chapter will conclude with a discussion on the ethical principles to be observed while developing the proposed study.

**Research Design, data collection, and analysis**

The proposed study will employ a descriptive research design. This will entail observing the successful adoption of videoconferencing across the selected American universities without influencing the demographic and technological factors. Thus, the proposed study will employ the design in describing the successful adoption of videoconferencing across the selected American universities without influencing their causal factors. The data collection strategy that will be employed during the research process is online surveys. This will entail the use of structured questionnaires to gather respondents from the study participants. The online surveys will be created on the Qualtrics software. An active link will be generated on the Qualtrics software and sent to respondents. The survey link will remain active so that the respondent can easily feed in their responses. As reflected in the instrument, the survey link that will be used to collect data is:

[*https://qfreeaccountssjc1.az1.qualtrics.com/jfe/form/SV\_eRS4HTRt5jw8l*ng](https://qfreeaccountssjc1.az1.qualtrics.com/jfe/form/SV_eRS4HTRt5jw8lng)

The data collection process will take one week. After data collection, all the responses on the Qualtrics software will be subjected to a comprehensive analysis. This will be followed by coding and inputting in SPSS 26. The data analysis will entail a mixture of descriptive and inferential statistics. The latter will entail correlation and regression analyses. The proposed study will adhere to the relevant ethical principles guiding a study like any other research. Thus, the researcher will observe such principles as anonymity, confidentiality, and participant consent, among others. There will also be a specific timeline that is illustrated in the figure below.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Week no | **1** | **2** | **3** | **4** | **5** | **6** | **7** |
| *A* | Literature Review |  |  |  |  |  |  |  |
| *B* | Developing of research instrument on Qualtrics software |  |  |  |  |  |  |  |
| *C* | Selecting research population |  |  |  |  |  |  |  |
| *D* | Sampling participants |  |  |  |  |  |  |  |
| *E* | Conducting the actual online survey |  |  |  |  |  |  |  |
| *F* | Survey analysis |  |  |  |  |  |  |  |
| *D* | Write up Research |  |  |  |  |  |  |  |

# **RESEARCH QUESTIONS**

Below are the research questions that the study will seek to answer

1. *What are the demographic factors impacting the successful adoption of videoconferencing across American universities during COVID-19?*
2. *What are the technological factors impacting the successful adoption of videoconferencing across American universities during COVID-19?*

The research questions are formulated to present a comprehensive answer to the research topic: Factors affecting the Adoption of Videoconferencing across American Universities. The research questions were formulated originally, and they have not been borrowed from any secondary sources.

# **SAMPLING OVERVIEW**

 **Population, sample, and survey distribution**

The target population which will be used in collecting data for the research study are students and staff members from American universities. A total of 200 respondents will be sampled to participate in the study. The sampling strategy which will be used in identifying the respondents during the research is stratified random selection. According to Nguyen et al (2021), stratified random selection is a sampling strategy that is often focused on a specific group of people with unique characteristics. The need to settle on stratified random selection is inspired by the objective to achieve more valid results. Through stratified random selection, the respondents who will participate in the research will either be students or university staff. Even though there will be the possibility of getting more responses, only a total of 200 responses will be considered for the analysis. From the 200 responses,100 responses will be considered from the students while the other 100 respondents will have to be university staff. Even though most of the respondents will be drawn from the New Jersey City University, other respondents will also be drawn from other universities to present a clear picture of the factors affecting the Adoption of Videoconferencing across American Universities during the COVID-19 pandemic.

As mentioned in the methodology section, the main data collection strategy that will be employed to retrieve the data from the respondents will be online questionaries. The Qualtrics links will be sent to the study population and the respondents will be captured through the software. The Qualtrics link will be distributed to the respondent through emails. It is anticipated that emails will be more effective since most students and university staff often use it as a communication tool. Even though it is anticipated that the total sampled respondents will be 200, there is a high probability that more than 200 responses will be received assertion is based on the fact that the specific respondents would possibly share the link with other people who will be tempted to respond to the survey questions. During the analysis, the upper limit for the responses will be 200 people. The focus on 200 responses is centered on the need to stick to the initially targeted people during the research.

 **Possible issues and solutions**

Even though it is generally anticipated that sampling and the subsequent data collection will be a success, there are potential issues that may occur. An imminent issue that may occur is non-response from the participants. Based on the fact that the main strategy that will be used to collect data is the Qualtrics link, there is a possibility that some of the respondents may fail to answer all or some of the survey questions. It means that there could be a challenge when it comes to comprehensive data analysis. A comprehensive solution that has often been adapted to address the non-response issue is centered on administering questionaries that are presented physically to the respondents. In such cases, the respondents often have no option but to respond to all the survey questions. The assertion is centered on the fact that the researcher is in the same physical location as the respondent; hence they can monitor their activities during the data collection process. Moreover, one of the ethical guidelines that dictated most research studies is based on consent. According to Chen et al. (2020), consent is the voluntary agreement or permission from an individual. Because the introduction section of the instrument dictates that the respondents to the research will participate at will, some respondents may opt out. A possible solution to address the challenge of respondent opting out is analyzing the responses that are fully completed during the research process. Focusing on full responses will be significant towards reliability and the validity of the research.

Another possible challenge that may be experienced issues with the Qualtrics link. Even though the research will be centered on evaluating the factors affecting the Adoption of Videoconferencing across American Universities during the COVID-19 pandemic, there is a probability that some of the respondents will have challenges opening the Qualtrics link. responding to all the questions and closing the response link for data analysis. Just as Malathesh et al. (2021) put it, embracing technology has been one of the common issues among most people. While technological benefits outweigh the disadvantages, some people are still stuck to the traditional research methods. A possible resistance may be experienced majorly by the elderly respondents who are the university staff. The survey question has been simplified as much as possible to address these challenges. The simplification strategy has been adopted to ensure that the respondents get the most minimal time answering the questions online. As a result, the technological challenge that would come with the Qualtrics link will be addressed.

Untrusted data may also be an issue during this process. The collection of untrusted data means that there will also be more issues that are related to data analysis. Also, some respondents will feed information that may not reflect the factors affecting the Adoption of Videoconferencing across American Universities during the COVID-19 pandemic. A major contributing factor to such untrusted data would be the need to finish the data collection process. The instrument has been designed with social desirability scales to address these issues that ensure that the surveys give more specific information. Equally, the survey team is also expected to run in less than 20 minutes. It means that the respondent will have a higher probability of concentrating on the responses during the research. Finally, there will also be a quality control and assurance protocol to ensure that the data that is collected from the sample population is of high quality.

# **REFERENCES**

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# **SURVEY INSTRUMENT**

**Qualtrics survey link:** <https://qfreeaccountssjc1.az1.qualtrics.com/jfe/form/SV_eRS4HTRt5jw8lng>

My name is Juan Rodriguez, and I am a doctorate student at New Jersey City University. I am undertaking a survey to explore the factors affecting the adoption of videoconferencing across American universities during the COVID-19 pandemic. We understand that there has been part of the video conferencing initiatives across American universities during the COVID-19 pandemic. I am hoping that you will be prepared to participate in my study and to complete this survey questionnaire, and submit it back through the link sent to you. Kindly note that your participation in this survey is voluntary. You may refuse to take part in the research or exit the survey at any time without penalty. If you return the survey questionnaire, it will be taken as voluntary informed consent. Thank you so much for your attention and participation.

Please click on your preferred response.

* YES.I want to participate in the survey
* NO. I don't want to participate in the survey.
1. Are you a student or university Staff? Tick appropriately.
* Student
* University Staff
1. On a scale of 100, how do you rate yourself in the adoption of videoconferencing during the COVID-19 pandemic?
2. On a scale of 100, how do you rate the quality of teaching as a factor defining the adoption of videoconferencing during the COVID-19 pandemic?
3. On a scale of 100, how do you rate age as a factor defining the adoption of videoconferencing during the COVID-19 pandemic?
4. On a scale of 100, how do you rate the quality of teaching as a factor defining the adoption of videoconferencing during the COVID-19 pandemic?
5. On a scale of 100, how do you rate the race as a factor defining the adoption of videoconferencing during the COVID-19 pandemic?
6. On a scale of 100, how do you rate information and communication resources as a factor defining the adoption of videoconferencing during the COVID-19 pandemic?
7. In a scale of 100, how do you rate ICT competency as a factor defining the adoption of videoconferencing during the COVID-19 pandemic?
8. On a scale of 100, how do you rate compatibility as a factor defining the adoption of videoconferencing during the COVID-19 pandemic?
9. On a scale of 100, how do you rate complexity as a factor defining the adoption of videoconferencing during the COVID-19 pandemic?
10. On a scale of 100, how do you rate relative advantage as a factor defining the adoption of videoconferencing during the COVID-19 pandemic?

# **IRB Application**

NJCU Institutional Review Board Application for Review of Research Proposal

Email: IRB@njcu.edu

|  |
| --- |
| **FOR OFFICE USE ONLY** |
| File Number |  |
| Review Type | Exempt ☐ Expedited ☐ Full☐ |
| PI |  |

Date of Submission

Proposal type:

* Original
	+ Revised\*

\*If this is a revised application, there is no need to complete the remainder of this form. However, please describe in detail the changes that you have made in response to the IRB’s

concerns.

|  |  |
| --- | --- |
| Principal Investigator |  |
| Proposal title | Factors affecting the Adoption of Videoconferencing across American Universities during COVID-19 Pandemic |
| Proposed start date | November 15, 2021 |
| Anticipated duration of research | Seven weeks |

## Type of Research

* + Student/Classroom project

☐■ Faculty project

* + Staff project
	+ External researcher project (All external researchers must have an NJCU sponsor.)

**NJCU Investigators** (Please list additional investigators as necessary.)

**Principal Investigator** (The faculty advisor is the PI.)

Name Department Telephone

Email

**Co-Investigator** (including student researchers) Name Department

Telephone

Email

**Co-Investigator** (including student researchers) Name Department

Telephone

Email

**Co-Investigator** (including student researchers) Name

Department

Telephone

Email

Any NJCU investigator who plans to work on this project either with or for a Principal Investigator or a Co-Investigator at another institution must identify those investigators and their institutions.

## External Investigators

|  |  |
| --- | --- |
| Name |   |
| Title |   |
| Institution |   |
| Name |   |
| Title |   |
| Institution |   |
| Name |   |
| Title |   |
| Institution |   |
| Name |   |
| Title |   |
| Institution |   |

**NJCU Sponsor** (if the researcher is not affiliated with NJCU)

Name

Department Telephone Email

## Data Sources

Number of participants 200

How was this number determined (e.g., power analysis)? Does this project require the collection of new data?

# Power analysis

■☐ Yes

* No

If Yes: How will participants be selected or recruited? Will subjects participate on an entirely voluntary basis?

Will subjects be compensated for their participation?

If yes: Please briefly describe the compensation.

# stratified random selection

No No

■☐ Yes

* Yes

☐

■☐

Does this project make use of human tissue or cell lines?

* Yes

■☐No

Briefly describe the research methodology(ies) to be used in this study (e.g., focus group, participant observation, survey, experiment).

# The data collection strategy that will be employed during the research process is an online survey

Does this project use data that have already been collected for a non-research purpose or by another researcher?

* Yes

■☐No

If yes: What is the source of the data?

# Selected students and University Staff

Are the data accessible in the public domain?

■☐Yes

No

If no: Are fields included that would allow identification of individuals, either directly or indirectly?

* Yes

■☐No

If yes: Please explain briefly how participant confidentially will be safeguarded.

## Participant Risks

Will participants be exposed to any stresses (e.g., anxiety, pain, etc.) or physical harm (e.g., injury,

infection, etc.) in connection with this research?

* + Yes

■☐No

If yes: Please briefly explain what risks may be involved in the research, what specific steps will be taken to minimize and monitor the risk, and what will be done to compensate and/or treat participants harmed by the research.

Does the research design require that participants be deceived?

* + Yes

■☐No

If yes: Please briefly explain why deception is necessary and what steps will be taken to reduce potential harm from this deception.

|  |  |
| --- | --- |
| **Potentially Vulnerable** |  |
| Populations Will this research involve: |
| Physically/Mentally Challenged Individuals |
| Young children (ages 0-13) | * Yes
 | ■☐No |
| Older children (ages 14-17) | Yes | * No
 |
| Senior Citizens (over age 65) | Yes | * No
 |
| Pregnant Women | Yes | * No
 |
| Prisoners | Yes | * No
 |

If yes to any of the above: Please briefly explain how the rights of this (these) population(s) will be protected.

## Informed Consent

Will participants are fully informed about:

The voluntary nature of their participation and the freedom to No withdraw without penalty at any time

■☐Yes

The purposes and procedures of the research No Any reasonably foreseeable risks or discomforts

■☐Yes

■☐Yes

No

Any benefits to them or others from the research

■☐Yes

No

The extent to which confidentiality will be maintained

■☐Yes

No

The compensation and/or treatments available if injury occurs

(This question need only be answered for research that involves risks.)

Whom to contact for information about the research participants’ rights and any research-related injury

Yes No

Yes No

If the answer to any of the above is no, please briefly explain why the research requires an alteration of the standard elements of informed consent.

How will participants’ informed consent be documented? Please check all that apply.

* + Signature on the written consent document
	+ Signature on the document to be read to the participants and witnessed by another party

☐■Written documentation of informed consent will not be obtained because one or more of the following criteria is satisfied (check all that apply):

* + - The only link between the subject and the research would be the informed consent documentation, and the primary risk is loss of confidentiality.
		- The risks to participants, including risks associated with the loss of privacy, are no more significant than those ordinarily encountered in daily life. The research involves no procedure for which written consent is normally required outside of the research context.

Who will obtain the informed consent from the participants?

* + Principal Investigator
	+ Co-Investigator
	+ Sponsor (in cases where PI is not affiliated with NJCU)
	+ Other

☐■ Not applicable

Please include your protocol summary (5 pages maximum) and your recruitment materials (as applicable).

## External Reviews and Funding

Has this protocol been reviewed by an Institutional Review Board or Human Subjects Review Committee at another institution(s)? ☐Yes ☐No

If yes: At what institutions(s)?

What is its status? ☐Approved ☐Rejected ☐■ Pending (or provisionally approved)

Has this protocol been submitted for Federal Funding? ☐Yes ☐■ No If yes: Agency or Organization:

Submission Date:

Funding Start Date: ☐Anticipated ☐Actual

Contact Person:

Contact's Telephone:

Has this protocol been submitted for any other types of funding?

* Yes ☐No

If yes: Agency or Organization:

Submission Date:

Funding Start Date:

 ☐Anticipated ☐Actual

Contact Person:

Contact’s Telephone:

## Proof of NIH or CITI Certification

Please provide documentation of current CITI and/or NIH certification in human subjects research for all researchers involved in this project.

## Certificate of Agreement

**The signatures of all researchers involved in this project must be provided.**

I certify that I agree to comply with the requirements of both NJCU and the Office for Human Research Protection (OHRP) of the United States Department of Health and Human Services as described in 45 CFR §46.

PI Signature

Co-PI Signature

Co-PI Signature

Co-PI Signature

Co-PI Signature

Date

Date

Date

Date

Date

Please submit the completed application and accompanying documents as one document or pdf to IRB@njcu.edu and kresch@njcu.edu.

All applications must be submitted by the NJCU faculty or staff member serving as the Principal Investigator (PI). Neither students nor external researchers may apply.