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# The Viability of Video Conferencing Applications in an Online Classroom through the Lens of Technology Acceptance Model

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## Abstract

This study aims to determine whether the perceived ease of use and perceived usefulness can significantly predict the students' intention to use video conferencing applications in an online classroom. This study utilized a descriptive predictive quantitative research design. This study used the survey questionnaires adopted from the study of Salloum et al. (2019). The researchers conducted an online survey using Google form for over a month. Out of 153 target respondents, 130 responded to the survey questionnaire. Linear regression was initiated using JASP 0.16.0.0. The findings revealed that the two variables perceived ease of use and perceived usefulness can both significantly predict the students' intention to use video conferencing applications in an online classroom. The results further showed that the perceived ease of use can better predict the students' intention to use video conferencing applications in an online classroom as compared to perceived usefulness. The findings imply that video conferencing applications used in the teaching and learning process should be user-friendly and pedagogically relevant to support students' desire to use video conferencing applications.

**Keywords:** technology acceptance model (TAM), online classroom, video conferencing applications

## 1. Introduction

The COVID-19 pandemic has changed the world (Simbulan, 2020). As of November 2, 2021, there are approximately 248 million cases and over five million deaths. In the Philippines, this translates into almost three million cases and 43,000 deaths (Worldometer, 2021). To control the spread of the virus, the government has imposed quarantine protocols and shut down educational institutions temporarily. Schools have been closed for more than a year forcing more than 27 million Filipino students to enroll in the distance learning modalities (Unicef, 2021) including online learning.

Online learning, as described by Coman et al. (2020), is education that takes place through the internet. It has become a tool to continue activities in school as an alternative to traditional learning. Learning in an online context is not new, however, it has remained not familiar for students and faculties in many developing countries. To augment the gap in this new learning modality, schools have adopted available technologies such as digital video conferencing platforms like Zoom, Microsoft Teams, and Google Meet (Stankovska et al., 2021) ensuring the continuation of learning during the pandemic. Moreover, Nguyen et al. (2021) specified that Video Conferencing Tools are favored as a substitution for traditional face-to-face classrooms, while in a study by Avsheniuk et al. (2021), it was found that Zoom is the most effective video conferencing application for online lecture delivery along with Google Classroom.

Video conferencing applications are used in Vietnam to enable continuous learning. Video conferencing is a teaching tool that is used to facilitate communication and engagement between professors and students during an epidemic. Previously, web conferencing had garnered little attention because most educational institutions relied on actual classes and lectures. Web conferencing, on the other hand, provides practical ways of facilitating instruction, and virtual classes have evolved as technology has progressed. This benefits an increasing number of students all over the world who wish to pursue their education (Chazen, 2021).

Dogget (2008) investigated "The Videoconferencing Classroom: What do students think?" in Kentucky. He discovered that over 80% of the students were in favor of using video conferencing and that all students agreed that the instructor used the technology appropriately and encouraged the students to ask questions. To avoid the spread of COVID-19, video conferencing applications are used in the Philippines to start classes. During the COVID-19 pandemic, video conferencing applications are considered a way to keep students engaged in online education (Mobo, 2020). Furthermore, while online learning is student-centered and offers a lot of flexibility in terms of time and place, it does have some drawbacks, such as technical difficulties that make communication between the learner and the educator difficult (Dhawan, 2020). Similarly, Permatasari and Oktiawati (2021) concluded that during the conduct of online learning, tension, discomfort, and confusion were experienced by students since they were not prepared. Students felt unsatisfied for reasons related to technology.

In light of the above discussion, this study is designed to determine whether the students' perceived ease of use and perceived usefulness can predict their intention to use video conferencing applications during online learning. By working with a problem that is timely and relevant in today's context, this study may grant teachers to utilize video conferencing applications that cater to the needs of the students in online learning.

### *1.1 Statement of the Problem and Theoretical Support*

Even though the setting in an online environment changes, the ultimate goal of learning remains the same (Armstrong & Mulvihill, 2007). However, online learning, like any other educational technology, has many advantages and disadvantages, opportunities, and threats (Salloum et al., 2019). In this regard, this study is geared towards unveiling the students' perceived ease of use and perceived usefulness in predicting their intention to use video conferencing applications in an online classroom.

As a result, the theoretical framework that underpins this research is mostly based on Davis's (1986) Technology Acceptance Model (TAM), which is considered an extension of Ajzen and Fishbein's Theory of Reasoned Action (TRA) (1980). The Technology Acceptance Model (TAM) addresses challenges of technology acceptance and usage based on people's perceptions of technology's utility and ease of use (Samuel et al., 2018). The Technology Acceptance Model (TAM) aims to assist academics and practitioners in determining why a given technology or system is acceptable or unsuitable, as well as taking appropriate measures, by offering explanations and predictions (Lai, 2017). Furthermore, TAM identifies two main belief structures, Perceived Usefulness (PU) and Perceived Ease of Use (PEOU) as attitude determinants of both the intention to use and actual use of information technologies (Taylor & Todd, 1995).

Individuals' intentions to use information technology are also determined by two belief structures, according to the TAM: perceived usefulness (PU), the belief that using information technologies can improve one's work performance, and perceived ease of use (PEOU), the belief that using information technologies will require no significant effort (Vankatesh & Bala, 2008 as cited in Baki et al., 2018). This research evaluated the students' responses to these constructs and the responses will be used to predict their intention to use video conferencing applications in online learning.

### *1.2 Research Questions*

In light of this, this study investigates the factors that influence students' intentions to use video conferencing applications in online learning, particularly during the COVIID-19 pandemic. The following research questions were developed to further the study's objectives:

a. What is the level of the students' perceived ease of use using video conferencing applications?
b. What is the level of the students' perceived usefulness using video conferencing applications?
c. What is the level of the students' intention to use using video-conferencing applications?
d. Do perceived ease of use and perceived usefulness significantly predict the students' intention to use video conferencing applications in an online classroom?

Considering the preceding discussion, the findings of this study may show students' intention to utilize video conferencing applications in an online classroom by revealing whether perceived usefulness and perceived ease of use can significantly predict it. The study can examine whether these two theoretical structures can significantly predict students' intention to use video conferencing applications in an online classroom by incorporating these two theoretical structures that are the basic determinants of systems usage of the TAM.

## 2. Review of Related Literature

In recent years, implementing innovation or new technology has become popular. As a result, users such as teachers and students must accept video conferencing applications. The key to growing the use of video conferencing programs is to raise their acceptance, which may be evaluated by conducting a survey among individual users about their future intentions to use them. A number of theoretical models have emerged to examine and explain why people accept, reject, or continue to use new technologies (Ajzen & Fishbein, 1980; Venkatesh & Davis, 2000; Venkatesh et al., 2003). Davis (1989) initially developed the Technology Acceptance Model, based on Ajzen and Fishbein's Theory of Reasoned Action (TRA) (TAM). It is a well-known study model for predicting how people would utilize and embrace information systems and technology. The TAM is based on the premise that users' behavioral intentions impact their acceptance of technology, which is influenced by perceived ease of use and perceived usefulness. These two main belief structures of the TAM, PU, and PEOU are attitude determinants of both the intention to use and actual use of information technologies (Taylor & Todd, 1995).

According to the original Technology Acceptance Model, perceived ease of use and perceived usefulness are two significant determinants of user acceptability (TAM). These two factors are critical to TAM because they explain how the system is used. Davis (1989) defines perceived ease of use as the degree to which a person believes that using a certain technology will be simple. Many researchers have found that perceived ease of use influences attitudes and behavioral intentions to use (Sumak, Hericko, Pusnik, & Polancic, 2011; Teo, 2011; Wong & Teo, 2009). Perceived Ease of Use relates to the extent to which students perceive that using video conferencing applications is effortless. According to the study of Wong and Teo (2009), perceived ease of use is a significant driver of student teachers' attitudes and intentions towards using technology. Further, Chiu and Wang (2008) pointed out that individuals will be more willing to learn about a system's features if it is reasonably simple to use, and they will eventually plan to use it again.

On the other hand, the degree to which a person believes that employing a certain technology will improve his or her job performance is referred to as perceived usefulness (Davis et al., 1989). Perceived usefulness describes the user's subjective likelihood of improving their activity by using a given application system. Perceived Usefulness is considered to be a direct predictor of behavioral intention to use (BI) of the technology of interest. In the context of this study, PU is another important factor that has an immediate impact on students' intention to use video conferencing applications in an online classroom. Perceived usefulness relates to the degree to which the students

believed the video conferencing applications will increase their efficiency in learning. Many studies have shown that perceived usefulness has a significant impact on intention to use. For example, Alrajawy et al. (2018) investigated the factors that influence the intention to utilize mobile learning in Yemen and discovered that perceived usefulness has a significant impact on the intention to use.

In recent studies, it has been found that perceived ease of use has a significant impact on intention to use. In the study by Bailey, Almusharraf, and Almusharraf (2022), they found out that with video conferencing tools, perceived ease of use was an important predictor of perceived usefulness, attitude to use, and perceived learning outcome. Furthermore, perceived usefulness with Zoom predicted future intents to utilize Zoom, but not perceived learning outcomes. In addition, according to the study by Prasetyo et al. (2021), it was revealed that perceived ease of use was found to have the greatest impact on behavioral intention to use, actual use, and user interface. The level of student acceptability takes into account the ease of use, user interface, system quality, and information quality, leading to a behavioral intention for actual use.

Furthermore, in the study by Ping and Liu (2020), it has been found that students have a high intention to use augmented reality in learning. This finding is attributed to their high perceived ease of use and perceived usefulness. However, while some studies revealed that perceived ease of use can significantly predict intention to use, other research implies that students' perceived ease of use is not a reliable predictor of their behavioral intention to use due to the variety of technologies and purposes used throughout augmented reality deployment.

Moreover, according to Buabeng-Andoh (2018), perceived usefulness had a minimal indirect effect on intention through attitudes toward use. This shows that if students believe mobile learning would benefit them, they will be willing to use it. In addition, perceived usefulness was determined to be a significant factor in students' attitudes. This finding is consistent with earlier research (Teo & van Schaik, 2012). However, perceived ease of use had a significant impact on perceived usefulness. This means that students will refuse to use a technology if they believe it is difficult to use, regardless of how effective the system is.

The intention to use technology, which is recognized as the best single predictor of actual usage, is one of the major characteristics that contributed to the development of the TAM (Davis & Venkatesh, 1996; Mutahar, Daud, Ramayah, Putit, & Isaac, 2018). Intention to use was defined by Fishbein and Ajzen (1975) as a measure of the strength of one's intention to engage in a specific behavior. The indicator "intention to use" is used to track the factors that impact intended behavior (Ajzen, 1991). According to the Theory of Reasoned Action (TRA), intention to use is the cognitive representation of a person's preparedness to do a task, and it is thought to be the immediate antecedent of behavior. The intention to use reflects how much work an individual is willing to put forth in order to carry out such actions. A user's desire to use technology in the future is reflected in their intention to use (Ajzen, 1991; Turner et al., 2010). In the context of this research, the intention to use technology was utilized as the outcome variable because it has been demonstrated to be a good predictor of actual technology use, more specifically, in the use of video conferencing applications in an online classroom.

Currently, in times of pandemic, teaching takes place over long distances, necessitating the employment of various forms of videoconferencing in education since it plays such an important role in the students' learning experience. Through technological progress, online learning opens up new possibilities in the realm of education. Supporting devices such as software and hardware are required for online learning. In the application of online learning, Oranburg (2020) identified two tools that allow teachers and students to be connected. Computers in CPUs, laptops, webcams, microphones, and internet networks are all part of the hardware. Teachers and students must have special knowledge of the program in order to use online learning assistance tools such as teleconferences or video conferencing applications such as Zoom, Google Meet, and others that are part of the software.

Video conferencing applications are technologies that allow both teachers and learners in various parts of the world to hold important meetings without having to travel or meet in the same place. When learning is done directly, this technology feels comfortable and practical. Video conferencing applications can definitely save time without having to deal with travel challenges, allowing teachers and learners to finish the task while remaining safe in their homes - even in the middle of the pandemic (Pratama et al., 2020). Teachers and students should take advantage of the chance to increase learning quality by incorporating technology. According to the studies of Kassymova et al. (2019a,b), Kassymova et al. (2020, as cited by Pratama et al. 2020), digital technology fosters the development of human cognition and digital competence. Teachers and students must become accustomed to the future ways and processes of life skills education by leveraging technology to help education; they must also develop their teaching

competencies. Online learning can benefit from video conferencing applications such as Zoom and Google Meet. These innovations have a huge impact on educational institutions. Video conferencing applications have been around for a long time, but their use exploded in 2020 as the world's educational system shifted from traditional face-to-face learning to online learning. In the course of this study, video conferencing applications were used as the basis for realizing students' responses to the survey questions.

The literature reviewed here provided comprehensive support on the level of predictability that the independent variables which are perceived ease of use and perceived usefulness provide in determining the students' intention to use video conferencing applications in an online classroom. It has been proven that perceived usefulness has a greater significance in predicting the students' intention to use certain technologies in an online classroom as compared to the perceived ease of use. However, various studies also show that perceived ease of use has a greater significance in predicting the students' intention to use certain technologies. For the purpose of this paper, the researchers sought the answer to the question of whether the perceived ease of use and perceived usefulness have the capacity to predict the students' intention to use video conferencing applications in an online classroom.

## 3. Methodology

### *3.1 Research Design*

The study used a descriptive-predictive design to conduct non-experimental quantitative research. A non-experimental study is one in which no independent variable is altered and participants are randomized to conditions or conditions ordering, or both, at random (Price et al., 2015). The researchers did not control, manipulate, or change the predictor variable; instead, they relied on the respondents' interpretation of the results.

### *3.2 Research Respondents*

Senior High School students from Region XI, Philippines, participated in this study for the academic year 2021-2022. To find and identify the respondents, simple random sampling was used. Easton and McHoll (2014) define simple random sampling as a fundamental sampling strategy in which a set of people (sample) for investigation is selected from a larger group (population). Moreover, this study has 130 respondents, which is derived from 43 students of Davao Oriental, 44 students from Davao City, and 43 students from Davao De Oro. Furthermore, the sample respondents were identified using G*Power to obtain the appropriate sample from the target population. G*Power is a program that calculates statistical power analysis for a variety of tests, including t-tests, F tests, 2 tests, z tests, and several exact tests. G*Power can also be used to calculate effect sizes and display the findings of power analyses graphically (Faul, 2007).

### *3.3 Research Instruments*

This study utilized an adapted questionnaire that was related to the perceived ease of use and perceived usefulness as predictors to intention to use in using video conferencing applications in an online classroom through a checklist with the use of the Likert scale. The researchers used Google forms due to movement restrictions resulting in the researchers not being able to conduct the survey in a face-to-face manner. Google forms can serve as an accessible and free platform to administer questionnaires without sacrificing the health of the researchers and without compromising the quality, consistency, and confidentiality of data (Rayhan, 2013).

The questionnaire was composed of two parts. The first part was the *intention to use video conferencing applications in an online classroom* and the second part was the *perceived ease of use and perceived usefulness.* The survey questionnaires used in the study of Salloum et al. (2019) entitled Exploring Students' Acceptance of E-Learning through the Development of a Comprehensive Technology Acceptance Model were adapted in this study. Consequently, the variables *perceived ease of use* have a Cronbach Alpha value of .919, *perceived usefulness* with a Cronbach Alpha value of .936, and *intention to use* with a Cronbach Alpha value of .910.

### *3.4 Data Gathering Procedures*

The researchers observed the following stages in acquiring data: (a) The researchers employed online survey questions based on the study's purpose which is to predict the factors that influence students' intentions to use video conferencing applications in online learning, particularly during the COVIID-19 pandemic. (b) The researchers' study instrument was adopted in the study of Salloum et al. (2019). This was subjected to content evaluation by language experts in the field. (c) This study has targeted130 respondents, which is derived from 43 senior high school students

of Davao Oriental, 44 students from Davao City, and 43 students from Davao De Oro. Furthermore, the number of samples was identified using G*Power. (d) The participants were provided with information about the study and were asked to fill out consent forms before the start of the survey. (e) In order to accommodate all the respondents, the researchers ran an online survey using Google form over a month. In the course of the time provided for the dissemination and retrieval of the responses from the target population, 130 respondents took part in answering the survey questionnaire.

### *3.5 Data Analysis*

The questionnaire sought to examine the level of predictability of the independent variables perceived ease of use and perceived usefulness in predicting the students' intention to use video conferencing applications in an online classroom. An intention to use is a term used in the technology acceptance literature to describe a user's desire to use technology in the future (Ajzen 1991; Turner et al. 2010). In other words, this questionnaire attempted to identify whether the perceived ease of use and perceived usefulness can predict the students' intention to use video conferencing applications in an online classroom.

A Likert scale ranging from 1 to 5 was used to examine the data collected in the study. 1 indicates Strongly Disagree, 2 indicates Disagree, 3 indicates Neutral, 4 indicates Agree, and 5 indicates Strongly Agree. In order to answer the first part of the questionnaire that was adapted from the study of Salloum et al. (2019), which explores the students' intention to use video conferencing applications in an online classroom, descriptive analysis was conducted while the second part of the questionnaire focuses on the students' perceived ease of use and perceived usefulness in using video conferencing applications. The researchers used a Likert scale to determine the students' level of agreement in terms of their perceived ease of use and perceived usefulness with regards to their intention to use video conferencing applications in an online classroom. Linear regression was utilized to examine the data collected.

To describe the sample's characteristics, JASP 0.16.0.0 was used to conduct descriptive analyses. The researchers utilized linear regression to see how much variance in intention to use can be explained by perceived utility and simplicity of use. While interpreting the mean scores, Oxford's (1990) scoring system of the 5-point Likert scale was used. The scores 0.00 - 1.50 indicate a very low level of agreement, while the scores 1.51 - 2.50 indicate a low level of agreement. The scores ranging between 2.51 – 3.50 indicate a moderate level of agreement. Furthermore, the scores 3.51 – 4.50 indicate a high level of agreement. The scores 4.51 – 5:00, on the other hand, refer to a very high level of agreement. Next, to determine the viability of perceived ease of use and perceived usefulness in predicting the students' intention to use video conferencing applications in an online classroom, the questionnaire data were run through regression analysis.

## 4. Results

### *4.1 Level of the Students' Perceived Ease of Use Using Video Conferencing Applications*

The main goal of this study was to determine the perceived ease of use and perceived usefulness as predictors to students' intention to use video conferencing applications in an online classroom. The first research question in this study examined the level of the students' perceived ease of use using video conferencing applications. Based on four items, Table 1 displays the mean and standard deviation of students' perceived ease of use of video conferencing applications.

Table 1. Level of perceived ease of use using video conferencing applications

| Items | Mean | Standard Deviation |
|---|---|---|
| 1. There is clarity and understanding in my interaction with the video conferencing apps (Google Meet, Zoom, Messenger Room, Microsoft Teams, Skype, etc.). | 3.408 | 0.690 |
| 2. The video conferencing apps (Google Meet, Zoom, Messenger Room, Microsoft Teams, Skype, etc.) are easy to use for me. | 3.631 | 0.789 |
| 3. Interacting with the video conferencing apps (Google Meet, Zoom, Messenger Room, Microsoft Teams, Skype, etc.) do not require a lot of my mental effort. | 2.954 | 0.852 |
| 4. My interaction with the video conferencing apps (Google Meet, Zoom, Messenger Room, Microsoft Teams, Skype, etc.) are clear and understandable. | 3.208 | 0.785 |

As the table shows, item 2 (*M=3.631, SD=.789)* received the highest score which means that students find the video conferencing applications easy to use. This is followed by item 1 *(M*=3.408, *SD=0.690)* which received the second-highest score which means that students have clarity and understanding in their interaction with the video conferencing applications. Item 4 *(M=3.208, SD=0.785)* is ranked third which means that students' interaction with the video conferencing applications is clear and understandable. Meanwhile, Item 3 *(M=2.954, SD=0.852)* had the lowest score which means that for the students, interacting with the video conferencing applications requires a lot of mental effort.

*4.2 Level of the Students' Perceived Usefulness Using Video Conferencing Applications*

In order to determine the respondents' perceived usefulness using video conferencing applications through descriptive statistics, statistical tools such as mean and standard deviation were applied. As presented in Table 2, item 4 *(M=3.646, SD=0.766)* had the highest score which means that students find the video conferencing applications useful in their learning. This is followed by item 3 *(M=3.331, SD=0.709)* which had the second-highest score which means that the video conferencing applications enhance the students' learning effectiveness. Item 1 *(M=3.277, SD=0.826)* ranked third which means that the video conferencing applications enhance the students' learning performance. However, item 2 *(M=3.223, SD=0.729)* is ranked the lowest which means that students' productivity is elevated with the use of video conferencing applications.

Table 2. Level of perceived usefulness using video conferencing applications

| Items | Mean | Standard Deviation |
|---|---|---|
| 1. The video conferencing apps (Google Meet, Zoom, Messenger Room, Microsoft Teams, Skype, etc.) enhance my learning performance. | 3.277 | 0.826 |
| 2. My productivity is elevated through the utilization of video conferencing apps (Google Meet, Zoom, Messenger Room, Microsoft Teams, Skype, etc.) in my study. | 3.223 | 0.729 |
| 3. Using the video conferencing apps (Google Meet, Zoom, Messenger Room, Microsoft Teams, Skype, etc.) enhances my learning effectiveness. | 3.331 | 0.709 |
| 4. I find video conferencing apps (Google Meet, Zoom, Messenger Room, Microsoft Teams, Skype, etc.) to be useful in my learning. | 3.646 | 0.766 |

*4.3 Level of the Students' Intention to Use Using Video Conferencing Applications*

Table 3. Level of students' intention to use using video conferencing applications

| Items | Mean | Standard Deviation |
|---|---|---|
| 1) I will make use of the video conferencing apps (Google Meet, Zoom, Messenger Room, Microsoft Teams, Skype, etc.) regularly in the forthcoming time. | 3.377 | 0.613 |
| 2) I intend to make use of the content and functions of video conferencing apps (Google Meet, Zoom, Messenger Room, Microsoft Teams, Skype, etc.) for providing assistance to my academic activities. | 3.800 | 0.720 |
| 3) I will give out my recommendation to others to use the video conferencing apps (Google Meet, Zoom, Messenger Room, Microsoft Teams, Skype, etc.). | 3.535 | 0.662 |
| 4) I will use the video conferencing apps (Google Meet, Zoom, Messenger Room, Microsoft Teams, Skype, etc.) on a regular basis in the future. | 3.569 | 0.787 |

In order to determine the respondents' intention to use using video conferencing applications through descriptive statistics, statistical tools such as mean and standard deviation were applied. As shown in Table 3, item 2 (M=3.800, SD=0.720) had the highest score which means that students intend to use the content and functions of the video conferencing application for providing assistance to their academic activities. This is followed by item 4 (M=3.569, SD=0.787) which had the second-highest score which means that students intend to use the video conferencing

applications on a regular basis in the future. On the other hand, item 3 (M=3.535, SD=0.662) ranked third which means that students recommend the use of video conferencing applications to others. Lastly, item 1 (M=3.377, SD=0.613) had the lowest score which means that students intend to use the video conferencing applications regularly in the forthcoming times.

*4.4 Perceived Ease of Use and Perceived Usefulness as Predictors of Intention to Use*

As shown in Table 4, the R Square is 0.472 which means that perceived ease of use and perceived usefulness are indeed fit predictors to students' intention to use using video conferencing applications.

Table 4. Perceived ease of use and perceived usefulness as predictors of intention to use

| $R^2$ | Adjusted $R^2$ | RMSE |
|---|---|---|
| 0.000 | 0.4640.000 | 0.495 |
| 0.472 | | 0.362 |

Table 5. ANOVA

| Model | | Sum of Squares | Df | Mean Square | F | p |
|---|---|---|---|---|---|---|
| $H_1$ | Regression | 14.903 | 2 | 7.452 | 56.746 | < .001 |
| | Residual | 16.677 | 127 | 0.131 | | |
| | Total | 31.581 | 129 | | | |

*Note.* The intercept model is omitted, as no meaningful information can be shown.

In this study, we found out how well each of the independent variables contributes to the final equation by analyzing the coefficients. As reflected in Table 5, the p-value is .001 which is less than .005 which can be interpreted that the independent variables, perceived ease of use and perceived usefulness, are highly significant in predicting the students' intention to use using video conferencing applications.

Table 6. Coefficients

| Model | | Unstandardized | Standard Error | Standardized | t | p |
|---|---|---|---|---|---|---|
| $H_1$ | (Intercept) | 1.378 | 0.209 | | 6.594 | < .001 |
| | Perceived ease of use | 0.360 | 0.071 | 0.399 | 5.052 | < .001 |
| | Perceived usefulness | 0.298 | 0.063 | 0.374 | 4.731 | < .001 |

As shown in Table 6, the unstandardized coefficient in a linear regression of perceived ease of use is 0.360 while the unstandardized coefficient in a linear regression of perceived usefulness is 0.298 which means that perceived ease of use has a higher predictability level than perceived usefulness.

## 5. Discussion

In this study, the researchers utilized the survey questionnaire adapted from Salloum et al. (2019) to determine whether the perceived ease of use and perceived usefulness can significantly predict the students' intention to use video

conferencing applications in an online classroom. Based on the findings, it can be concluded that students' intention to use video conferencing applications in an online classroom is highly influenced by perceived ease of use and perceived usefulness. Nonetheless, the independent variable perceived ease of use predicts intention to use more accurately than perceived usefulness.

These findings are consistent with the prior studies of Ibrahim et al. (2018), Tahar et al. (2020), Panergayo and Aliazas (2021), Hamid et al. (2016), and Cigdem and Ozturk (2016) which found out that both the perceived ease of use and perceived usefulness have a significant effect on the intention to use. As evident in our study, both the perceived ease of use and perceived usefulness have a p-value of .0001 which is less than .005, which can be interpreted that the independent variables perceived ease of use and perceived usefulness are highly significant in predicting the students' intention to use using video conferencing applications in an online classroom. However, it was found out that perceived usefulness (Lew et al., 2019; Park, 2009; Yuen & Ma, 2008) and perceived ease of use (Lew et al., 2019) was found to be non-significant in predicting intention to use E-learning in a number of previous studies.

Moreover, the findings of the present study also agreed with the study of Tahar et al. (2020) which examines the evidence of the effect of perceived ease of use, perceived usefulness, and perceived security on the citizen's intention to use e-Filing. The study revealed that out of the three possible predictors, only two, namely perceived ease of use and perceived security can positively affect the respondents' intention to use e-Filing which leaves out perceived usefulness as a possible predictor. Specifically, it was determined that the variable perceived ease of use has a regression coefficient (beta) of 0.456 and sig. of 0,000. The significance level of perceived ease of use variables was 0,000. Based on the findings, it can be concluded that perceived ease of use can predict intention to use.

The current study supports the findings of Tahar et al. (2020) that the perceived ease of use can influence the intention to use. This is backed up by the current study's data which shows that perceived ease of use can significantly influence students' intention to use video conferencing applications in an online classroom by 36 percent. However, in the present study's case, perceived usefulness was found to be a predictor of intention to use by 29.8 percent which is not reflected in the study of Tahar et al. (2020). It can be concluded that based on these findings, perceived ease of use can greatly predict the intention to use in using video conferencing applications in an online classroom than the perceived usefulness.

However, the current study contradicts Lanlan et al. (2019), who looked into the relationship between the model of technology acceptance (TAM) and the use of Computerized Accounting Systems (CAS) and discovered that perceived usefulness had a higher beta value ($\beta = .58$, $p < .001$) than perceived ease of use ($\beta = .28$, $p < .001$). In a different context, Hamid et al. (2016) explored the intention to use E-government among government employees who worked in Malaysian public schools with the variables perceived usefulness and perceived ease of use as predictors. The same study arrived to a conclusion that perceived usefulness had a higher beta value ($\beta = 0.65$, $p < 0.01$) than the perceived ease of use ($\beta = 0.14$, $p < 0.05$). Another study by Cigdem and Topcu (2015), which examined 155 students who use LMS found out that perceived usefulness has a greater chance of predicting students' intention to use the Learning Management System (LMS) ($\beta = .616$, $p < .000$) while the perceived ease of use ($\beta = .033$, $p < .680$).

Adding to the existing findings, Sun et al. (2008) arrived at a conclusion that perceived ease of use can better predict students' intention to use E-learning than perceived usefulness. Lastly, in the study of Liaw (2008) which was conducted among 560 university students in Taiwan on their intention to use the Blackboard e-learning system, it was found out that perceived usefulness was the biggest contributing factor in determining the students' intention to use the Blackboard e-learning system. Based on the findings of the current study, it has been found that the perceived ease of use can significantly influence the students' intention to use using video conferencing applications in an online classroom as compared to the perceived usefulness.

## 6. Conclusion

The study began with a discussion of whether the variables perceived ease of use and perceived usefulness can significantly predict the students' intention to use video conferencing applications in an online classroom. The study employed non-experimental quantitative research utilizing a descriptive-predictive design and used a questionnaire adapted from Salloum et al. (2019) for the survey. Based on 130 pieces of feedback from the respondents, the study found out that the perceived ease of use and perceived usefulness can both significantly predict the students' intention to use video conferencing applications in an online classroom. Further, it was also found out that the variable perceived ease of use can significantly predict the students' intention to use video conferencing applications in an online

classroom more, as compared to the variable perceived usefulness. As a result, the study's primary purpose was achieved, and the research issues raised in the previous chapter were addressed.

Taking into consideration the findings of the study, the conclusions that can be made are the following: (a) the variable perceived ease of use can significantly predict the students' intention to use video conferencing applications in an online classroom; (b) the variable perceived usefulness can significantly predict the students' intention to use video conferencing in an online classroom; and (c) the variable perceived ease of use can significantly predict the students' intention to use video conferencing applications in an online classroom more, in comparison to the variable perceived usefulness. Based on findings, this study gives the following suggestion of ideas for both teachers and learners in the utilization of video conferencing applications in an online classroom that may help in the online learning process. By taking insights from the current study, the teachers must consider the following: (a) conduct a survey on the students' level of exposure to using the preferred video conferencing to be utilized in the conduct of the online classroom that will give the teachers an idea on the students' perception on the ease of using such applications; (b) choose video conferencing applications that would best complement students' online learning to improve their academic performance, and (c) formulate teaching and learning activities that fit the needs and capabilities of the students in terms of their perceived ease of use and perceived usefulness in using the video conferencing application in an online classroom.

### *6.1 Implications of the Study*

The findings of this research are significant in the short and long run. The researchers identified two areas of implications which are educational technology and research.

#### 6.1.1 Educational Technology

Video conferencing applications such as Zoom, Google Meet, and Microsoft Teams, as well as Google Classroom as a learning platform for the organization of the teaching process, were primarily used for teaching during the time of the study. In light of this, the direct user feedback collected in our study contains useful advice for educational technology developers. The results of the study provided us with information that perceived ease of use is a significant predictor of students' intention to use. Given these findings, educational technology developers will be urged to innovate new technology with user-friendly interfaces that can aid the teaching and learning process.

#### 6.1.2 Research

In the long run, in a COVID-19 neutral setting, the predictability of perceived ease of use and perceived usefulness to students' intention to use should be objectively examined and investigated. In addition, changes in the TAM components over time reflect the impact of experience on the acceptance model in education. Future research should look into whether this experience affects students' intention to use video conferencing applications and, as a result, their acceptance of face-to-face instruction. This is important during the transition back to direct face-to-face teaching during the crisis, but it is even more important in the long run as school instruction becomes increasingly technology-mediated.

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