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FACTORS THAT INTERFERE IN THE BEHAVIORAL INTENTION OF USING REMOTE CLASSES BY THE ACCOUNTING SCIENCES COURSE OF PARANÁ STATE PUBLIC INSTITUTIONS

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ABSTRACT

The objective of this study is to verify the factors that interfere with the behavioral intention of using the classes in the remote modality by the Accounting Sciences Course Students of Paraná State Public Universities. The research was carried out through the quantitative approach and the structural equation modeling technique was used for data analysis (SEM). Technology Acceptance Model (TAM) was used as the basis, and the sample consisted of 292 respondents. The results of the study point out that the students perceived the usefulness and importance of the classes in remote modality using digital technologies, and that previous knowledge of technologies contributed positively to the ease of use perception. It was also possible to verify that the students found no difficulty accessing the classes in the environment provided by the IHE. Finally, despite all the challenges of the pandemic period and the emergency adoption of the remote classes modality, the Paraná State IHEs managed to continue with the school activities, overcoming great difficulties at a time of great uncertainty, and that the students understand that such changes were necessary, even if they didn't happen exactly as they would like to. The findings of this research are expected to contribute positively to the formulation of crisis coping strategies by the IHEs as well as to the planning of institutional virtual platforms.

Keywords: TAM Model. Accounting Sciences. Pandemic. Remote Classes.

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1 INTRODUCTION

In the year 2020, the world suspended many of its activities due to the new Coronavirus (Covid-19 -English *coronavirus disease*) pandemic, a highly contagious disease that was among the biggest problems faced by the global community (Sponchiato, 2020). Covid-19's rapid advance mobilized all countries around the world on a large scale, imposing social distancing as one of the ways to reduce the spread of the disease (Rossoni, 2020; Ministério da Saúde, *2020*) [Ministry of Health, 2020]. The restrictive measures have significantly impacted countries' economy and public and social policies.

In Brazil, the restrictive measures to deal with the pandemic were enacted by Law number 13.979, dated from February 6th, 2020. As the disease worsened, on March 11th of the same year, the World Health Organization, decreed a pandemic. (World Health Organization [WHO], 2020). Thereafter, in an autonomous way, Brazilian states and municipalities applied the measures to combat the pandemic according to the level of worsening in their region, with emphasis on social isolation actions, which included, among others, the prohibition of public meetings, closing borders, companies, public bodies, educational institutions and other sectors of the economy.

In response to the closure of higher education institutions, the Ministry of Education (MEC) issued the Ordinance number 343 on March 17th, 2020, regulating educational activities and guiding the institutions of higher Education (IHE) to replace in-person classes with remote online classes , with the use of technologies, for an initial period of 30 days, and may be extended throughout the period of the pandemic (Santos Junior & Monteiro, 2020; Lei n. 13.979, Portaria n. 343, 2020) [Law number 13.979, 2020; Ordinance number 343, 2020]

Although the use of technologies as a teaching and learning mediation is not something new, because Distance Education (EAD) is a methodology consolidated by IHE of the private universities, in the context of public universities with in-person education, the classes in the remote emergency modality mediated by technologies have caused many concerns and required from the educational institutions and educators a re-adequacy of the pedagogical project and adjustments or acquisitions of platforms or virtual environments for hosting the classes. The whole process of educational policies, form of teaching and resources used for education needed to be rethought, because these activities involve not only the IHE, but the students, professors, pedagogical resources, educational policies and codes of conduct (Nasu, 2020). In view of this fact, Nasu (2020) argues that some Institutes of Higher Education (IHE) have undergone changes in the passing of content to students and others have opted for the suspension of the academic calendar.

In view of the above, the motivation for this study was due to the difficulties that the state of Paraná State HIEs were facing with the suspension of the in-person activities, in parallel to the discussions to adapt the in-person classes to the remote modality, according to the emergency solution proposed by MEC before the uncertainties generated by the decree of pandemic – with no expected ending date. So much so that this subject has generated commotion in the academic environment, involving the faculty, the student body and technologies adjustment.

Thus, this study seeks to analyze the context of public universities that offer courses in Accounting Sciences in the in-person modality, proposing the following research problem: **What factors interfere in the behavioral intention of using the classes in the remote modality by the Accounting Sciences course students in the Paraná State Public Universities?** Therefore, the objective underlying this research issue is to identify the factors that interfere in the behavioral intention of using remote classes by the Accounting Sciences course students in the Paraná State Public Universities.

To achieve this objective, the technology acceptance model (TAM), adjusted by Wu and Chen (2017), was used, which states that the use of technology facilitates scalable peer-based learning and can be used as a dominant communication channel through which professors and students can interact. The use of academic technologies allows students to remotely access free and open online forum portals and materials . This teaching method is already offered by the

world's most respected universities, and can generate debates substantially larger than traditional online education (Wu & Chen, 2017).

Mondini and Domingues (2018) stated that the Acceptance and Use of Technology Model and the Success Factors of DeLone and McLean Information Systems (1992) Model included a number of important aspects regarding acceptance of the use of technology for education. Some studies have already been developed to analyze the use of technological tools in education (Owens, Hardcastle & Richardson, 2009; Wu & Chen, 2017; Mondini & Domingues, 2018) and pointed out that there are still certain conflicts regarding acceptance, pedagogical issues and adaptation of students to online teaching and learning processes .

In response to the growing importance of information technology, the user's acceptance of technology has been widely studied (Gong, Bay & Kong, 2004). The efforts of these studies examined different aspects of the technology acceptance and used a variety of theoretical perspectives (Park, Roman, Lee & Chung, 2009; Wu & Chen, 2017, Mondini and Domingues, 2018; Aguilera-Hermida, 2020).

It is worth remembering that platforms and online learning resources were used in a complementary way, but the Covid-19 scenario brought an unprecedented situation, which led to a radical change in the delivery mode of education and could only operate "online*"* (Pal & Vanijja, 2020).

Aguilera-Hermiduma (2020) reiterates that there is still not enough information to know how Covid-19 (social isolation) measures and online learning interfere with the learning process from the student's point of view. Upon examining whether social isolation has any interference in the acceptance and continuity process on the use of technologies , it will be possible to identify important *insights* for the academic environment, contributing to the insertion and adjustment of new teaching methodologies.

This being said, the results and experiences of this study are expected to contribute positively to the Higher Education Institutions, enabling a better understanding of the students' behavior in relation to the use of technologies in the teaching and learning process in times of crisis such as that imposed by Covid-19, facilitating the planning of coping strategies.

Therefore, the remaining of the research is structured as follows: in section 2, we present the literature review, contextualizing the emergency remote teaching and the constructs of the technology acceptance model. In section 3, the methodological procedures adopted for data collection and processing. In section 4, the model validation and the analysis of the results and, finally, in section 5, the final considerations.

2 LITERATURE REVIEW

This section approaches the studies theoretical framework. As a background, there is the emergency remote teaching, the technology acceptance model – TAM, the design and support of the research hypotheses.

2.1 Emergency Remote Teaching

In Law number 13.979, established on February 6th, 2020, the Brazilian Presidency established among the measures to cope with Covid-19, the suspension of in-person classes (Lei n. 13.979, 2020*)* [Law number 13.979, 2020] and, after the decree of pandemic by the World Health Organization, on March 11th, 2020, the Brazilian states and municipalities suspended the in-person classes modality. In order to provide a solution to the academic community, MEC issued, in March 2020, the Ordinance number 343/2020, presenting as an alternative the replacement of in-person classes by remote classes, with the use of technologies, during the pandemic period (Santos Junior & Monteiro, 2020; Lei n. 13.979, Portaria n. 343, *2020)* [Law number 13.979, 2020; Ordinance number 343, 2020]

Online emergency remote learning differs from distance learning (EAD). The distance learning modality is established through a didactic-pedagogical project, containing details of the classes, content materials and technological support and a virtual learning environment - asynchronous (Hodges et al., 2020). Whereas, remote teaching, although occurs in virtual platforms, is synchronous classes, with virtual meetings, and the simultaneous presence of the professor and the student is required (Rondini, Pedro & Duarte, 2020). For Hodges et al. (2020) and Rondini et al. (2020), the introduction of remote education is not intended to structure a new modality or robust educational ecosystem, but only "to provide temporary access to curricular content that would be developed in person."

In addition, Hodges et al. (2020) say that remote emergency education, unlike in-person classes, was not planned, but created as a temporary measure by the Teaching Institutions, as an alternative mode of education due to the circumstances of the crisis generated by Covid-19. As a result, the challenges of the lack of experience with online lessons, as well as the time for preparing and adjusting technologies, are some of the challenges created and to be overcome by the IHE (Bao, 2020).

Since many institutions were not prepared to meet the necessary demands of large-scale remote education, in addition to all the system support, educational institutions needed to adapt the communication channel between them and the academic community, making relevant public and accessible information (Bao, 2020).

Crawford et al. (2020) add that, even before the difficulties faced, remote education, when well employed, has the potential to facilitate education, as it employs more flexible and innovative methods, compared to totally in-person teaching. Thus, universities that are undergoing a period of rapid change need to be aware that they need to improve their ability to continuously monitor and evaluate the quality of the teaching and learning process.

Despite the problems faced by educational institutions, some advantages can be highlighted. Zayabalaradjane (2020) reinforces that *online* engagement strategies, if applied for teaching, learning and evaluation purposes, can help the students to engage continuously in the learning process and offer good study habits without compromising the professional activities. But, for proper engagement, a number of factors must be considered, such as: materials availability, professor's involvement, and appropriate digital learning platforms. Aiming to understand this student's engagement in remote *online* classes, this study applies the technology acceptance model.

Given the above, this study addresses remote classes as a modality of emergency education, investigating factors that interfere in the students' behavioral attitude in relation to the acceptance of the substitution of in-person classes by remote classes, using the technology acceptance model – TAM.

2.2 Acceptance of Technology Model and Constitution of the Research Hypotheses

The TAM model is used to measure the determining factors that imply acceptance of a new technology. Developed by Davis (1989), based on cognitive theories, it aims to explain the users' behavior and the willingness to use continuous technologies (Aguilera-Hermida, 2020). The TAM model is based on the elementary variables: Perceived utility (UP) and perceived ease of use (FUP), considered as decisive in the real attitude of Behavioral Intention of Using (ICU) a certain technology (Venkatesh, Morris, Davis, & Davis, 2003).

Perceived utility measures the user's perception of how much he or she believes that using certain technology implies improving his or her performance. Ease of use measures the degree to which a person perceives that the use of certain technologies does not demand effort, positively influencing continuity of use. Park et al. (2009) evidenced that the perceived ease of use of the library system had a significant impact on perceived utility, which eventually led to the behavioral intention of use.

In this line, it is believed that perceived utility perception and the ease of use of the technologies applied in remote classes imply in the students' behavioral intention to continue their studies. Considering the internal variables and the influence on the using behavior, the following hypotheses are elaborated:

H1a. The ease of use perception mediated by perceived utility is positively related to the students' behavioral intention to use classes in remote modality during the pandemic.

H1b. The ease of use perception is positively related to the behavioral intention of using the classes in the remote modality during the pandemic by the students.

H1c. The perceived utility is positively related to the students' behavioral intention of using the classes in the remote modality during the pandemic.

Besides the variables base, UP and FUP, Davis (1989) and Park et al. (2009) propose the use of external variables to mediate these two perceptions and to amplify the power of explanation of the behavioral intention of use. For this study, the adjusted Wu and Chen model (2017) was used as a basis, used to explain the continuity of the use of open courses, considering the variables of social recognition, influence and adjustment of technologies and tasks. To adjust the model to the expectations of this study, the constructs of the social recognition variables (Park et al., 2009) and the adjustment of technologies aligned with the Fagan's study (2019) were adjusted.

In Hu's and Chen's (2017) view, the students' perception of the use of educational technology allows them to understand, in part, how social motivations occur in the academic environment. Social influence (IS) is defined by Venkatesh et al. (2003 page 451) as "the degree to which an individual perceives that other people who consider important believe that he or she should use the new system."

In this line of reasoning, personal motivation can be influenced by other people's beliefs to strengthen the relationship with members of a group (Hernandez, Montaner, Sese & Urquizu, 2011; Hu & Chen, 2017). Thus, considering the period of social isolation generated by the pandemic and the social characteristics of the academic environment, it is believed that the beliefs of other individuals can positively interfere so that the students decide to continue to use classes in remote teaching as a means of strengthening personal beliefs. The following hypotheses are proposed for this.

H2a. The social influence mediated by the perceived ease of use is positively related to the behavioral intention of using classes in the remote modality.

H2b. The social influence mediated by perceived utility is positively related to the behavioral intention of using classes in remote modality.

Hu and Chen (2017) argue that social recognition (RS) plays a key role not only in understanding one's own or other people's skills, but also in facilitating social interaction. Thus, social recognition can develop a deep understanding and awareness of self-confidence and self-esteem, enhancing social interactions.

Although the RS variable is little explored in the academic environment, Hu and Chen (2017) sought to evaluate the holistic effect of perceived utility and the motivational variables that lead users to use open courses, such as reward structures, influence of the environment, the focus on academic certification and identity. As undergraduate courses differ in terms of access, through more rigorous selective processes, and not just for convenience, this research seeks to evaluate the relative importance that students attach to the continuity of the course through remote classes, through the following hypotheses:

H3a. The social recognition mediated by the perceived ease of use is positively related to the behavioral intention of using classes in the remote modality.

H3b. The social recognition mediated by perceived utility is positively related to the behavioral intention of using lessons in remote modality.

The variable *technology adjustment* refers to accessibility and media issues, such as internet networking and virtual environments made available by an educational institution. Park et al. (2009) define accessibility as the degree of convenience with which an individual accesses an information system, so that the greater the accessibility perception (ease of use), the greater the users' intention to use (continuity). The authors also show that the perception of ease and intention of using a system can be mediated by the experience with other technologies with similar functionality.

In this study, this variable was added according to the contingencies generated by the Covid-19 pandemic, before the closing of the Institutions of Higher Education and the necessary adjustments to prepare a virtual environment so that it would not interrupt the pedagogical activities for a very long period and compromise the school year. In this line, Aguilera-Hermida (2020) points out the relevance of these adjustments and access to technological support tools for teaching and learning in remote emergency mode. In this context, the following assumptions will be tested:

H4a. The adjustment of technologies by universities mediated by the perceived ease of use is positively related to the behavioral intention of continuing to use the classes in the remote modality.

H4b. The adjustment of technologies by the universities mediated by perceived utility is positively related to the behavioral intention of using classes in remote modality.

Based on the theoretical framework, the adjusted theoretical model of the research is shown in Figure 1.

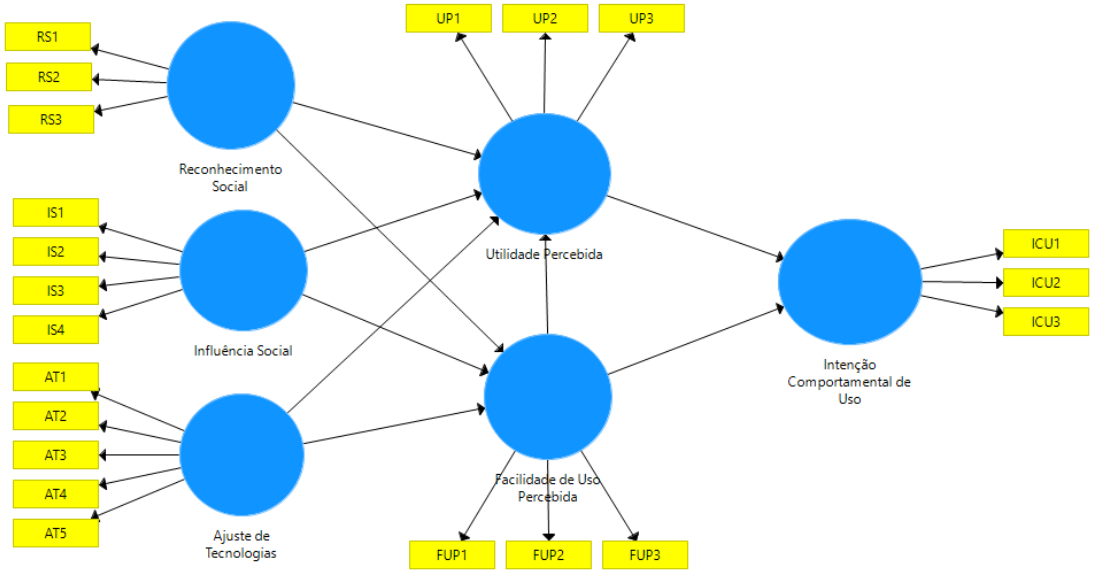

Figure 1: Theoretical Model Adjusted based on Wu and Chen (2017)
Source: Research Data.

3 METHODOLOGICAL PROCEDURES

The population and initial sample of this study is delimited by accounting science course students enrolled in public universities in Paraná state. Initially composed of 10 IHEs, it was

established, as a strategy for data collection, to analyze only those who joined the classes in remote mode in the first and/or second semesters of 2020 and/or who were organizing for this application in the near future. The procedure adopted for such verification was in contact *via e-mail* with the undergraduate courses coordinators in Accounting Sciences, questioning the adoption and the expected period of the classes in the remote modality. Based on the information collected, it was chosen to send the electronic questionnaire to institutions that had already started the classes remotely for at least one month before the date of the survey, to focus on those students who had already made use of the new modality and could have a formed opinion about it.

For this study, the initial population comprised 10 public IHEs from Paraná state. After the post-contact with the undergraduate courses coordinator in Accounting Sciences, it was identified that only 7 universities joined the remote education modality and started to compose the sample, thus determining a sample for convenience.

The research instrument adapted for analysis was built based on the TAM model adapted by Wu and Chen (2017). The *survey* questionnaire type has 24 affirmations and was structured to measure the perception and intention of using the classes in the remote modality with an intensity scale of 11 points, where 1- expresses the student's level of agreement in "I agree a little" and 11 "I strongly agree." According to DeVellis (1991), the 11-point scale is recommended for continuous scale application, rather than categories, as it occurs in the Likert scale. Thus, the scale is no longer categorical and becomes ordinal, in which it is observed that those who answered 1 have a lower weight than those who answered 8. Corroborating, Collings (2006) proved that the Likert scale, with one category for each number, makes people's response difficult and can bias data analysis.

The questionnaire was structured in two blocks: Block I, containing the respondents' characterization; And Block II, containing the basic constructs of the TAM model, the internal variables of perceived utility (PU), ease of use (FU), intention of use and external variables of social recognition (RS), Social influence (SI) and Technologies Adjustment, as presented in Table 1.

Table 1
Number of affirmations per variable in the instrument composition

Construct	Number of affirmations	Basis
Perceived utility (PU)	3	WU and Chen (2017).
Ease of Use (Fu)	3	WU and Chen (2017).
Intention of Use (UI)	3	WU and Chen (2017).
Social recognition (RS)	3	WU and Chen (2017).
Social influence (IS)	4	(Venkatesh et al., 2003).
Technology Adjustment (AT)	5	Park et al. (2009).

Source: Adjusted based on the studies by Wu and Chen (2017), Venkatesh et al., (2003) and Park et al. (2009).

The adjusted research instrument was validated by means of a pre-test for content adequacy with doctoral students from the Graduate Program in Accounting at the Federal University of Paraná with experience in teaching online courses, who presented recommendations and adjustments for the instrument. After adjustment and validation of the research instrument, data collection was started.

Data collection was carried out in the second half of 2020 and covered the period from August to November 2020, through a questionnaire hosted on *the Survey Monkey* platform. Data collection resulted in 292 valid responses. After collection, the data were tabulated in a Microsoft Excel spreadsheet and later analyzed with the support of *SmartPLS software*.

Considering the behavioral factors and latent variables of the proposed model, the statistical technique adopted for data analysis was Structural Equations Modeling. The protocols followed for the use of the technique are shown in Table 2.

Table 2
SEM Analysis Protocol

Step		Objective	Parameter	Reference
Descriptive Statistics		To describe the percentage values for the respondents' characteristics	None	None
Measurement Model	Average variance extracted (AVE)	To measure the portion of the data (in the respective variables) that is explained by each of the constructs.	Values above 0.50	Hair, Black, Babin, Anderson & Tatham (2009); Henseler, Ringle & Sinkovics (2009)
	Reliability	To evaluate the reliability and capacity of the construct internal grouping.	Values above 0.70	Sanchez (2013)
	Crossed factorial loads	To evaluate the independence of the latent variables observed in relation to the others.	Values above 0.5 and higher value of the crossing	Hair, Hult, Ringle & Sarstedt (2014); Sanchez (2013)
Structural Model	Estimation of coefficients	To evaluate the significance of endogenous coefficients and regressions (*t* test).	significant p-value up to 10%	Sanchez (2013)
	Correlations between the latent variables	To evaluate the correlation between the latent variables.	Relevant correlations, above 0.5.	Sanchez (2013)
	R2	To evaluate the explanatory power of exogenous variables for endogenous variables.	Up to 2%, small effect; above 2% up to 13%, medium effect; above 13% up to 26%, large effect.	Cohen (1988)

Source: Research Data.

After the analysis protocol was presented, it is reinforced that the choice of Structural Equations Modeling technique occurred because it was a statistical technique suitable for studies in the field of social and behavioral research (Baumgartner & Homburg, 1996) in accounting (Lee, Petter, Fayard & Robinson, 2011; Hair, Ringle & Sarstedt, 2011, Nascimento & Macedo, 2016). In addition, according to Brei and Liberali Neto (2006), the basic statistics used in the SEM application is the matrix of covariance and correlation, which makes it possible to bring more information to understand the correlation patterns among the sets of variables, in addition to explaining most of the variance possible through the model used by the researcher.

Some other studies in the studied subject also made use of SEM, namely: Yakubu and Dasuki (2019), Kemp, Palmer and Strelan (2019), Aguilera-Hermida (2020) and Pal and Vanijja (2020).

4 ANALYSIS AND DISCUSSION OF THE RESULTS

This section will discuss the analysis and discussion of the results. The first sub-section deals with the respondents' profile through demographic characteristics and the second section deals with the evaluation of the applied model.

4.1 The respondents' demographic characteristics

The study had as its target students enrolled in the undergraduate course in Accounting Sciences of the Public Universities of the State of Paraná. It is believed that a study using these

students can provide a good understanding of the practice of the real use of the technologies used by the IHE in the remote emergency period.

It should be noted that, before the data were processed, all the 292 responses were analyzed with the aim of finding possible deviations or irregularities in the responses, which was not observed. Thus, the total sample generated 292 valid responses.

Based on the research carried out, the questions were divided into blocks, starting with the respondents' characteristics and, in the sequence, the means of access used by the accounting students of the IHE for the classes remote access.

Table 3 shows the research respondents' profile.

Table 3
Respondents' profile

Gender	**N.º**	**%**
No gender or non-binary gender	1	0
Female	191	65
Male	98	34
I'd rather not answer	2	1
Total	**292**	**100**
Age range	**N.º**	**%**
less than 20 years	33	11
from 20 to 25 years	188	64
26 to 30 years	44	15
31 to 39 years	16	5
Over 40 years	11	4
Total	**292**	**100**
Marital Status	**N.º**	**%**
Single	237	81
Married	30	10
Divorced	9	3
Common Law Marriage	16	5
Total	**292**	**100**

University of origin	**N.º**	**%**
UEL	20	7
UEM	175	60
UEPG	36	12
UNESPAR	31	11
UNICENTRO	3	1
UNIOESTE	3	1
UTFPR – PB	24	8
Total	**292**	**100**
Period/stage or semester of the course	**N.º**	**%**
1st year or 1st/2nd stage/period	103	35
2nd year or 3rd/4th stage/period	55	19
3rd year or 5th/6th stage/period	61	21
4th year or 7th/8th stage/period	64	22
5th year or 9th/10th stage/period	9	3
Total	**292**	**100.0**

Source: Research data.

In the first block, which presents the respondents' profile, it was found that 65% were identified as being female, 34% of the male gender. The age group corresponding to those surveyed showed that those aged between 20 and 25 years, with 64% of the responses, followed by those prevailing with a 26 to 30- year-old group (15%). On the other hand, the marital status indicates that 81% are single, 10% are married, 5% in common-law marriage and 3% are divorced.

Table 3 also shows that most respondents are enrolled at the State University of Maringá (UEM) (60%), State University of Ponta Grossa (UEPG) (12%) and State University of Paraná (UNESPAR) (11%). It can be said that the respondents of this research are distributed throughout the Accounting Sciences course, but the vast majority of them are coursing the 1st year or 1st/2nd stage/period (35%), followed by the final stages of 4th year or 7th/8th stage/period (22%) and 3rd year or 5th/6th stage/period (21%).

In order to understand the means of access used by the students during the remote classes activities, Table 4, which synthesizes the results, was elaborated.

Table 4
Means of access to remote classes

Experience with EAD courses	**N.º**	**%**
No	201	68.84
Yes	91	31.16

Electronic access device	**N.º**	**%**
Microcomputer	18	6
Notebook	220	75

Total	**292**	**100.00**
Network type for Internet access	**N.º**	**%**
Broadband Internet	69	23.6
Mobile Internet	11	3.8
Fiber optic internet	189	64.7
Radio Internet	15	5.1
Satellite Internet	7	2.4
I do not have internet	1	0.3
Total	**292**	**100.0**
Smartphone	53	18
Tablet	1	0
Total	**292**	**100**
Quality of internet	**N.º**	**%**
Good	229	78
Bad	62	21
Did not give an opinion	1	0
Total	**292**	**100**

Source: Research data.

It can be said, through Table 4, that most respondents (69%) had no experience in *online* courses. Regarding Internet access, 65% claim to make use of fiber-optic Internet and 24% broadband Internet. What draws attention is that it was found that 1 student claims that he or she does not have any kind of Internet access and 11 others rely only on mobile Internet, that is, they have Internet access through the cell phone. The electronic device used for internet access is mostly *notebook (* 75%), followed by *smartphone* (18%) and microcomputer (6%). Most respondents state that the quality of the internet signal used is good (78%), but 21% of them consider their internet connection to be bad.

In comparison to these results, Silva et al. (2021) identified in their sample that 13% of the students interviewed did not have any type of Internet access and 87% had smartphone access with a data package ranging from 2 to 10 Gb (*gigabyte*), and only 43% with fiber-optic Internet connection. Regarding the remote school access device, they reported that 68% had computers (*tablets* and *notebooks*).

The study by Oliveira, Tertuliano, Silva and Castro (2021) identified that 58.7% prefer to access classes via *notebook and* more than 87% of the respondents claimed to have problems with connection due to the quality of the internet network. In this sense, Oliveira, et al. (2021) observed in their sample of 92 respondents that 46.7% thought of suspending their enrollment or quitting for finding difficulties in adaptation and connectivity problems.

From these results, it can be inferred that the devices for access to classes and the quality of the connection are determinant for the acceptance and continuity of the classes remotely. After identification of the respondent's profile and means of access to remote classes, the measurement model was evaluated.

4.2 Evaluation of the Measurement Model

After analysis of the descriptive statistics, the model for statistical adjustment was evaluated in order to observe the predictive capacity and the quality of the relations among the constructs, using two models: (a) Structural model, which shows the internal reliability and the relations among the constructs, and (b) measurement model or external model, which analyzes the causal relations of the constructs and indicators in relation to the behavioral intention of use (Nascimento & Macedo, 2016). This process allows the analysis and comparison of the structural model with the theoretical reality, that is, how the theoretical model fits the data. From this analysis, it was identified that the Social Influence construct has no relation to the other constructs. Before this observation, the initial theoretical model was adjusted according to the observed reality.

The evaluation of the measurement model occurred through a Factorial Comparative Analysis, involving the analyzes of convergent validity, composite reliability, estimation of coefficients (Table 5) and discriminating validity (Table 7). The convergent validity refers to the AVE (*average variance extracted)* , which evidences the variance shared among the constructs,

that is, allows to observe whether the latent value has a strong correlation with its own factor, defining the unidimensionality and reliability of the adjustment measures and the explanatory capacity of the model constructs (Hair et al., 2009).

The objective of the analysis of discriminant validity is to verify that the observed variables are not unduly correlated with indicators of other constructs (Hair et al., 2009; Henseler, Ringle & Sinkovics, 2009), that is, it measures the degree to which a latent variable is discriminated by other latent variables (Sanchez, 2013). This test is performed by means of the (1) Crossed Loads Matrix and (2) Fornell-Larcker criterion.

The cross-loadings matrix checks whether the indicators present higher loads in their constructs in relation to the values of the other variables. As observed in Table 5, all the constructs present higher loads in their respective indicators in relation to the others, indicating the existence of discriminant validity.

Table 5
Crossed load matrix

	AT	FUP	ICU	UP	RS
AT1	0.774	0.491	0.437	0.399	0.409
AT2	0.698	0.347	0.355	0.269	0.450
AT3	0.849	0.512	0.454	0.351	0.476
AT4	0.756	0.430	0.411	0.337	0.468
AT5	0.729	0.460	0.466	0.412	0.509
FUP1	0.614	0.770	0.553	0.480	0.568
FUP2	0.482	0.897	0.706	0.720	0.498
FUP3	0.447	0.892	0.689	0.695	0.531
ICU1	0.498	0.723	0.915	0.764	0.683
ICU2	0.473	0.569	0.837	0.574	0.663
ICU3	0.536	0.741	0.933	0.780	0.678
UP1	0.469	0.708	0.775	0.924	0.621
UP2	0.436	0.691	0.763	0.950	0.592
UP3	0.398	0.676	0.675	0.908	0.512
RS1	0.539	0.608	0.766	0.635	0.876
RS2	0.510	0.505	0.595	0.496	0.896
RS3	0.525	0.481	0.565	0.465	0.834

Source: Research data.

From the reading and analysis of Table 6, it can be observed that the measurement of convergent validity - AVE ranges from 0.58 to 0.86, converging into a satisfactory model, as Hair et al. (2009) and Sanchez (2013) consider AVE ≥ 0.50 an adequate convergence validity indicator.

Table 6
Convergent Validity and composite reliability

Constructs	Composite reliability	Average Variance Extracted (AVE)	Cronbach's Alpha
AT	0.874	0.582	0.820
FUP	0.890	0.731	0.814
ICU	0.924	0.803	0.878
RS	0.902	0.755	0.839
UP	0.949	0.860	0.919

Source: Research data.

For internal consistency analysis Table 6 also presents *Cronbach's Alpha* indicators, an indicator that determines the constructs measurement error expectation. This indicator states that the closer the error expectation to 1.00 is, which gives the model greater reliability (Hair et al., 2009; Sanchez, 2013). The observed indicators range from 0.814 to 0.919, validating the constructs internal consistency. Regarding the composite reliability, this measures if the constructs were correctly measured to assess whether they are free of bias and/or whether the answers are reliable; the values between 0.70 and 0.90 (Hair Jr. et al., 2014) are the parameter of consistency analysis. In the proposed model, the composite reliability indicators presented values between 0.874 and 0.949, supporting the model consistency along with the other indicators.

In view of the protocol, item 2, Fornell-Larcker criterion, was analyzed to verify the discriminant validity. The discriminant validity is confirmed when the square roots of AVE are greater than the constructs correlations (Fornell & Larcker, 1981). Thus, it is observed that the largest cross-loads adhere to the variable that refers to the analysis, taking into account the criteria for the model.

As shown in Table 6, all the constructs present the square roots of the upper AVE in relation to the correlations with the other latent variables, indicating the existence of discriminant validity for all of them. In view of this, tests were performed for the validation of the structural model.

Table 7
Discriminant Validity – Fornell-Larcker criterion

	AT	FUP	ICU	RS	UP
Technologies Adjustment	**0.763**				
Ease of Use	0.595	**0.855**			
Intention of Use	0.561	0.763	**0.896**		
Social Recognition	0.604	0.619	0.751	**0.869**	
Perceived Utility	0.470	0.746	0.797	0.622	**0.928**

Source: Research data.

As stated in Table 7, the values obtained in discriminant validity are above 0.50, signaling that the affirmations of the latent variables can explain at least 76% of the construct (Sanchez, 2013). In general, discriminant values are higher than the values of the other constructs, indicating that there is independence among the latent variables studied. Based on the analysis of reliability and the convergent and discriminant validations, it is possible to obtain that the measurement model of the present study is adequate and can represent the latent variables that are proposed to be measured. Figure 2 shows the values evidenced for R^2 of all the constructs.

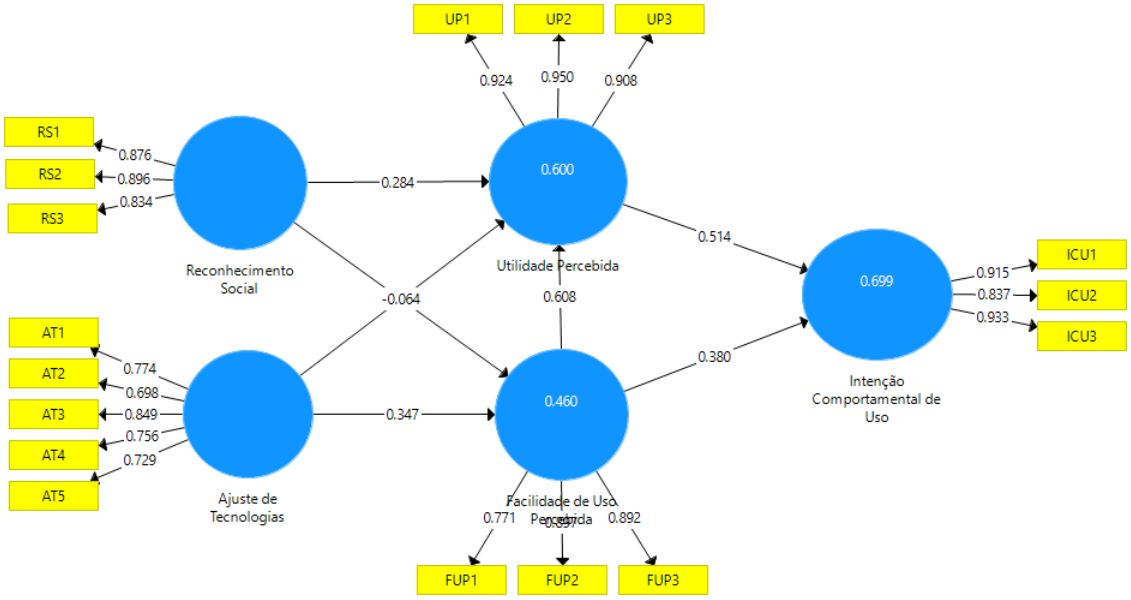

Figure 2. Research structural model
Source: Research data.

Figure 2 shows that the coefficient of R^2, which aims to explain the endogenous variables and the model predictive capacity, is 60% for Perceived Utility, 46% for Ease of Use, and 69.9% for Behavioral Intention of Use. This analysis allows us to infer that approximately 70% of the students have behavioral intention of using classes in the remote modality.

The structural model assessment and the research hypotheses were carried out together. Therefore, to verify the relations between the Perceived Ease of Use and Perceived Utility for the Behavioral Intention of Use, Table 8, is presented, which synthesizes these results.

Table 8
Structural Model and Mediation Evaluation

Hypothesis	Structural Relation	Effect	t-value	p-value	Significance
H1a	FUP -> UP	0.380	9.527	0.001<	Significant
H1b	FUP -> ICU	0.600	7.176	0.001<	Significant
H1c	UP -> ICU	0.514	9.933	0.001<	Significant
H3a	RS -> FUP	0.396	6.606	0.001<	Significant
H3b	RS -> UP	0.278	4.554	0.001<	Significant
H4a	AT-> FUP	0.327	5.558	0.001<	Significant
H4b	AT -> UP	-0.076	1.320	**0.187**	**Not significant**

Source: Research data.

It was observed, through the results, that the behavioral factor represented by the variable Behavioral Intention of Use for the technologies can be explained in 70%. In this sense, it can be said that most hypotheses could be explained by the model.

The Perceived Utility measured the Accounting Sciences students' perception, showed that they believe that the use of technologies applied in the classes during the emergency period contributed to the continuity of pedagogical activities, in a way that they do not interrupt the specific knowledge of their professional training. These findings corroborate the results of Venkatesh et al. (2003), Park et al. (2009) and Aguilera-Hermida (2020), which evidenced the

same positive relation, that is, the students perceived the usefulness and importance of activities in remote way using digital technologies.

Regarding the results presented, the variable Perceived Ease of Use of the students contributes to the continuity of classes in this modality, confirming hypotheses H1a and H1b. The TAM model, proposed by Davis (1989), assumes that the previous knowledge of technologies contributes positively to the ease of use perception, which justifies the results observed in H1b.

As external factors that may interfere with the students' behavioral intention, this study showed that the Social Recognition mediated by Perceived Utility and Ease of Use in the remote mode classes motivated the continuity and maintenance of use, corroborating with Wu's and Chen's studies (2017), which confirm the importance of the IHE to have adopted the classes in the remote modality, obtaining recognition of the academic environment, which confirms the H3a and H3b.

Regarding Social Recognition, it was observed that the use of this variable in the study brought a deeper view of the validation of the classes in remote way by the academic community and its social network, interfering in the students' behavioral intention to continue participating in the classes, acting as a motivational factor. These findings corroborate with Wu & Chen's (2017) results, which observe that motivational social factors have a significant effect on users' perception of the usefulness of open courses, when they observe that their social network had the same perception of benefits and values, influencing continuity of use.

The technology adjustment in the present study is based on the IHE's accessibility and promotion in the establishment of a virtual learning environment for the realization of pedagogical activities in the emergency period. In this sense, it is observed that the students' perception of ease of use favored access to classes in the remote modality. In other words, the students found no difficulty accessing the classes in the environment provided by the IHE, which corroborates the data found in Table 4 of the present study, in which the students claim to have the fiber optic network (64%) and broadband (26%) as the means of access to the Internet, considered to be of good quality. The findings of this research corroborate, in part, the observed results of Silva et al. (2021), which identified that, in general, the students had devices for access to remote classes, however, the quality of the Internet was not enough to follow the classes, only 43% (fiber optic) of the sample classified the connection to the Internet as good quality.

Thus, the ease of access was not identified as a problem by the students, which made it possible to confirm the hypothesis H4a. However, regarding the hypothesis of Perceived Utility and the Technology Adjustment, it was observed that the students' perception did not generate a significant relation. It can be inferred, therefore, that the students do not perceive or manifest interest in continuing their course in remote modality, and that they understand that it is a necessary measure due to the pandemic, that is, a palliative situation. These results corroborate those observed in the study by Silva et al. (2021), which identify that the students understand the benefits of not interrupting the academic year and confirm their interest in continuing the classes even remotely.

5 FINAL CONSIDERATIONS

The present study aimed to verify the factors that interfere with the behavioral intention of using remote classes by Accounting Sciences Course students in the Public Universities of Paraná state. Due to the situation caused by Covid-19, the importance of assessing the tools employed by educational institutions to provide remote education to higher education (Pal & Vanijja, 2020) is emphasized.

The results of the study indicate that the students perceive the usefulness and importance of activities remotely using digital technologies, and that previous knowledge of technologies has positively contributed to the ease of use perception. Social recognition mediated by perceived utility and ease of use in remote mode classes motivated the continuity and maintenance of use. It

was also possible to verify that the students found no difficulty accessing the classes in the environment provided by the IHE.

It was observed that the present study brought contributions regarding the use of technologies for the emergency period. In some points, in the perception of Accounting Sciences students of the Paraná State Universities, it was positive, on the one hand, in the sense that the contents for the purposes of the teaching plan were fulfilled. On the other hand, it is noticed that the in-person classes are still of their preference. This finding points out that, despite all the challenges of the emergency period, the Paraná State IHEs managed to continue with the academic activities, overcoming great ordeals at a time of great uncertainty and, furthermore, that the students understand that such changes were necessary, even if they didn't happen exactly as they would like to.

In general, the findings allow us to infer that the perception of ease and usefulness of technologies for the application of remote classes mediated by the social recognition of the academic community, together with the adjustments of technologies promoted by the IHE, positively interfere in the students' perception, fact which implies acceptance and continuous use of the *online* modality. In summary, the findings of this research are expected to contribute positively to the formulation of crisis coping strategies by the IHE, as well as to the planning of institutional virtual platforms.

Finally, as a limitation, this study focused specifically on analyzing the factors that interfere in the behavioral intention of continuing remote classes, analyzing the students' perception. Thus, it is recommended that new research be carried out in order to analyze the academic community perception and the virtual environment platforms provided by the IHE , as well as the difficulties encountered for adaptation by the faculty.

Another limitation was to study only public IHE located in the state of Paraná, so it is recommended that new research be developed with the aim of increasing the geographic scope and covering private IHE, which can also analyze the adaptation time and methodologies employed by these institutions in the emergency period.

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