

**( ) Graduação (X) Pós-Graduação**

**BRAZILIAN'S PERSPECTIVE ABOUT ADOPTION INTENTION AND  
EFFECTIVENESS OF DIGITAL PLATFORMS FOR ONLINE LEARNING DURING  
COVID-19**

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**ABSTRACT**

Due to the social isolation imposed by the Covid 19 pandemic, many higher education institutions had to abruptly switch from face-to-face to online university instruction. Although distance education was a reality before the pandemics, the timely transition from traditional teaching to online teaching requires a complex approach to effectively integrate this system. Therefore, the purpose of this study is to identify the factors that influence the adoption of technological tools by business students during the pandemics. The methodology used for the research was quantitative with the submission of an online quiz to students of a Brazilian university. The results show that the perceived usefulness and the perceived ease of use of a technological tool do not have a positive influence on students' attitudes towards its use, while a positive relationship was found between the interactivity and the cost-benefit ratio of the platforms and students' attitudes. Therefore, it can be concluded that offering a digital teaching platform with resources that allow high interaction between students and instructors and that do not involve high costs for students can help to increase the willingness to use the platform.

**Keywords:** Covid-19; Pandemics; Online teaching; Technology Acceptance Model (TAM)

## **1 INTRODUCTION**

In March 2020, the Covid 19 pandemic outbreak was officially declared by the World Health Organization (WHO), according to the British Broadcasting Corporation (BBC) (BBC, 2020). Due to the high transmissibility of the virus, one of the recommendations to contain it was a high social distancing worldwide. In this scenario, the Brazilian Ministry of Education (MEC) has allowed public or private educational institutions to implement a distance learning system (MEC, 2020). This measure was taken to avoid high prejudice and delays in the academic calendar. However, it was at the discretion of the institutions whether to postpone classes or convert to distance education (MEC, 2021).

According to the report of the United Nations Educational, Scientific and Cultural Organization (UNESCO), 1.57 billion students in 191 countries were affected by the closure of schools and universities in the same year, and those who are in a vulnerable situation will suffer even more from the negative effects due to this change (UNESCO, 2020). This study by UNESCO also shows that the main concerns of Latin American students who want to continue their studies in this scenario are: the lack of Internet connections, the lack of financial resources, and the difficulty of maintaining an orderly study schedule. The use of an effective online education system is essential to reduce the harmful effects that this timely transition could have on countries (UNESCO, 2020).

Analysing the context of the pandemic in Brazil, it can be seen that it has had a profound impact on higher education, considering that by the end of April 2020, thirteen percent (30%) of students in public and private higher education institutions (IES) had to cancel their classes (UNESCO, 2020). According to this report, ninety-seven percent (97%) of private IES had an online instructional system, while only thirty-nine percent of public IES used this modality. This fact reveals that most public universities were not 'at least' prepared to offer distance education, which also explains the data published by Paixão (2020), according to which only 6 out of 69 of the Brazilian public universities managed to immediately adapt to the distance education system.

The number of truants in Brazil is worrying. According to 2018 data from the National Institute for Educational Studies and Research Anísio Teixeira (INEP), of the students who started studying in 2010, only 37.9% completed their studies, while 56.8% dropped out (MEC, 2019). Given the extremely negative scenario that the pandemics have imposed, especially on the low-income population, it is important to understand, analyze and develop a teaching system that at least reduces the tendency to evade students who have already

presented relevant data just before the social isolation caused by the pandemics. In the long term, this would have a significant impact on society, with fewer qualified professionals entering the market and an increase in the number of people in social and economic sectors, which would jeopardize the development and growth of society as a whole.

Thus, one can see the importance of knowing the needs and pressures of the target audience when designing an educational programme or technological tool, because the success of a system certainly depends on the acceptance of the users (ALMAIAH; JALIL, 2014; BALORAN; HERNAN; TAOY, 2021). Therefore, it is important to study the factors that lead to the acceptance or rejection of a remote control system in order to support the development of systems and teaching policies, especially in developing countries such as Brazil. In this sense, the research contributes to broaden the approval of this modality, since there was no other alternative in the face of the pandemics, and consequently to avoid the underutilization of a tool for which financial and technological resources were requested for its development. Thus, the core question of the project is: what factors contribute to the acceptance of the distance education system for higher education students? With this in mind, and in light of the great impact that isolation can have on students' academic lives, the objective of this article is to identify the factors that influence the acceptance of technological tools from the perspective of students in the Department of Economics at a Brazilian public university during the pandemic period.

This study has been divided into five sections. The first one is the introduction, the second one is the theoretical reference, in which several works with similar intention have been compiled, using the Technology Acceptance Model (TAM) as a parameter in their researches. In the third section the methodology of the article is presented and right after that the results and the analysis follow. The final section presents the conclusions drawn from the analysis of the research data, including limitations found in the research and recommendations.

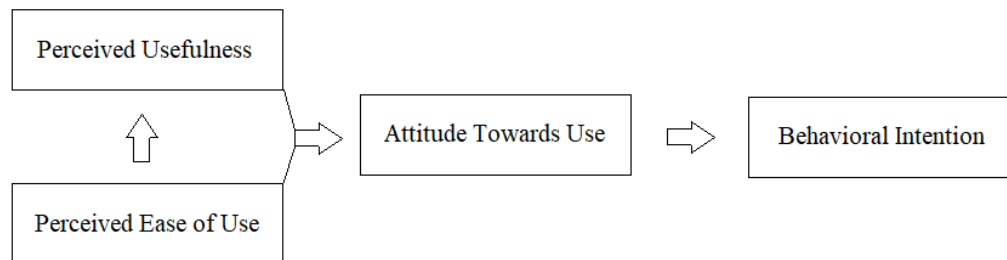
## **2 LITERATURE REVIEW**

### **2.1 Technology Acceptance Model (TAM), interactivity, and cost-effectiveness.**

The TAM is one of the most commonly used models to analyze and study technology adoption and implementation (WIRADINATA; ISRANDI, 2016). According to this model, final technology adoption behavior is a function of two behavioral variables: perceived usefulness (PU) and perceived ease of use (PEU) (DAVIS, 1989).

According to Davis (1989, p. 320), PU can be understood as "the degree to which a person believes that using a particular system will improve his or her job performance," while PEU refers to "the degree to which a person believes that using a particular system would be free of effort" (DAVIS, 1989, p. 320). These two variables directly affect attitude toward use (AT), which is understood as the affection individuals have toward the desired behavior, and which in turn affects behavioral intention (BI), described as the subjective likelihood that an individual will perform the desired behavior (FISHBEIN; AJZEN, 1975). In addition, PEOU is expected to have a direct influence on PU (DAVIS, 1989). The relationships described can be seen in Figure 1.

**Figure 1: Graphic representation of the relationships proposed by TAM**



Source: Adapted from Davis (1989)

In the context of online learning, two elements are highlighted in the literature: Interactivity and Cost-Effectiveness (SINGH; SHARMA; PALIWAL, 2020). Interactivity can be understood as the characteristics of digital technologies that allow the learner not only to passively observe the platform, but also to actively participate in the learning process (RADCHENKO; PERVUKHINA, 2020). This ability allows the user to actively interact with the information carrier and change the rhythm and form of the presented content (NAKEVSKA *et al.*, 2017). The degree of interactivity is expected to be directly related to students' attitudes toward learning and learning efficiency (SINGH; SHARMA; PALIWAL, 2020).

Cost effectiveness is also an important aspect in evaluating students' relationship with digital learning platforms. The main benefits derived from this practice are: flexible access to content (CLARKE; HERMENS, 2001), availability of research electronically (YANG; CORNELIUS, 2004), and savings in resources needed to travel to the institution (ALKINANI; 2021). These benefits have led to positive relationships between students and online learning (YANG; CORNELIUS, 2004; SINGH; SHARMA; PALIWAL, 2020).



## **2.2 Outlook on the Study of Factors Influencing the Adoption of Distance Learning During the Covid-19 Pandemic**

Although this is a relatively new topic, there is research that addresses the new reality that pandemics have brought to higher education worldwide. Although the use of distance learning tools was part of the reality of many students before the pandemics, this type of teaching has now become mandatory, i.e., the only way to continue the curriculum. Therefore, it was important to investigate the aspects that influence the acceptance of teaching on digital platforms.

The research in this context has used the model TAM to understand what are the main factors that influence the effective adoption of the tools of the remote system in this period of social isolation (SAHIN *et al.*, 2020; SANGEETA; TANDON, 2020). The authors aim to correlate the constructs already present in TAM and have included other elements that prove to be crucial factors in the analysis of the adoption of distance education systems. These articles address the perceptions of different groups, such as students, instructors, different members of universities, and also experts on the subject. The results of these studies help to see a scene of superior teaching situation during the lockdown fueled by Covid-19. For better analysis, these findings were divided into three subthemes to gain a better understanding of the factors that respondents believe influence distance learning.

Four studies aimed to determine what has the greatest influence on faculty decision-making about the acceptability of technology for instruction in an environment as controversial as we are experiencing today with Covid-19. Sahin et al. (2020) found that ease of use and perceived usefulness were not determinants of faculty intent to use. Another finding that could be explained by the mandatory adoption of the system is resistance to opening up to change (intrinsic factors), which are not significant factors in technology adoption. For the lecturers interviewed, self-efficiency in using the technology and facilitating conditions are great allies in the use of information and communication technologies (ICT).

Nevertheless, in this study, social influence has an impact on the PU but not on the intention to use, which contradicts the results of Sangeeta and Tandon's study, which states that social influence matters for intention to use and not for attitude (SANGEETA; TANDON, 2020). Nevertheless, their results are in line with those of the previous studies that address the relevance of facilitating conditions to the actual use of the remote control system. The study also confirms that anxiety affects the PEOU, but its influence on intention to use is not

supported, while Panisoara et al. (2020) found that mental exhaustion along with technology stress was not related to self-efficacy and extrinsic motivation was not related to intention to continue using. On the other hand, the study of Hussein et al. (2020) provided important information on qualitative and quantitative aspects, in which they found that financial conditions, technical conditions, i.e. quality of Internet services, and lack of interest and interactivity between instructors and students are relevant factors that inhibit the adoption of public distance education system.

There is research aimed at understanding the factors that influence technology acceptance from the perspective of the main stakeholders, i.e., the instructor and the student (KAEWSAIHA; CHANCHALOR, 2020). This approach is interesting because it allows the analysis of the perceptions of two users in different positions regarding the same system. Kaewsaiha and Chanchalor (2020) concludes that subjective norms, relevance of work, and perceived resources, i.e., technological and Internet resources, significantly influence PU and PEOU of technological tools in both groups. However, the results suggest that if the subjective norms, i.e., the influence of society, are not taken into account, the PU would be more likely to influence the instructors, while the PEOU would be more likely to influence the students.

Several studies have addressed the question of the influence of human inherent factors on this acceptance in times of global social crisis. Al-Marroof et al. (2020) tried to find out how the fear of pandemics affects the acceptance of Google Meet to continue with the lessons. The results of this study confirmed that PU and PEOU are critical to the acceptance of technology use. The study also indicated a strong relationship between subjective norms and intention to use, as the behavior of classmates of the students studied will have an impact on the effective use of the technology. It was concluded that the introduction of Google Meet into academic life at the time of a global pandemic helped to mitigate feelings of anxiety among faculty and students. Because this tool is easy to use and useful, it could allow academic schedules to continue while reducing the risk of disease spread.

In his article, Rivers (2021) attempts to understand how personality traits such as extroversion, agreeableness, conscientiousness, neuroticism, and openness to change affect the actual use of remote systems. The results show that extroversion, emotional balance, and openness to change are not factors that effectively influence technology acceptance, while people with a sense of responsibility for their commitments and the ability to develop pleasant interpersonal relationships are more likely to accept technology use. Self-efficacy was also

found to be a critical factor in PEOU and PU. Finally, it was found that a person's intrinsic characteristics do not affect the actual use of the technology, but can still have a positive impact on course completion.

Kim, Kim and Han (2021) used the TAM model and the Theory of Planned Behaviour (TPB) to investigate how users' innovativeness might affect the adoption of technology use. In this study, the propensity to accept change was found to be related to subjective norms and behavioural intention, but there was no direct relationship with attitude and PEOU. The study also confirmed the positive relationship between the PU and PEOU, and that attitude and subjective norms are directly related to users' behavioural intention.

The articles identified in the literature on this topic are usually about offering support to teaching institutions to adapt as best they can the forced transition from traditional teaching to a remotely controlled system in its integrity in a time of social isolation. Almaiah, Al-Khasawneh and Althunibat (2020) found that the main challenges for the effective implementation of the distance education system are: financial support, adequate technical support, available technological resources, user autonomy in using the system, reliability of the system (i.e. security), adequate management of the transition from the traditional system to distance education in its integrity. This result coincides in several aspects with the findings of Sukendro et al. (2020), who concluded that facilitating conditions such as appropriate technological recourse, suitable environment and easy Internet access would increase the PEOU and eventually its effective use.

Another study that confirms the previous findings is a survey conducted by Maheshwari (2021), which proves that external factors such as Internet qualification and available infrastructure for conducting distance learning activities have a direct impact on students' satisfaction in using the system and thus influence distance learning.

When considering intrinsic factors that might affect the adoption of remote systems, Rizun and Strzelecki (2020) found that student enjoyment and self-efficacy had a high positive correlation with PU of the system, while experience and anxiety in using the computer had a negative correlation. For their part, Cicha et al. (2021), in analysing students' expectations of the remote system, confirmed the result of the previous study when they concluded that the feeling of pleasure experienced in this form of instruction and the user's self-efficacy directly affect the acceptance of technology use. The result is also consistent with the experience having a negative relationship with the PU of the system. However, the results differ when analysed from the aspect of anxiety in the use of the computer, as these

authors did not find a relationship with the acceptance of technology, while these authors found a negative relationship between them.

From the point of view of the main constructs of the TAM model, PEOU and PU, not all authors reached the same conclusion. The study by Singh, Sharma, and Paliwal (2020) found that PEOU did not interfere with PU and PEOU did not affect user attitudes. Vladova et al. (2021) also concluded that the hypothesis that presented a positive relationship between the PEOU and the PU was not confirmed. Pal and Patra (2021), on the other hand, who studied the acceptance of video learning, pointed out that the PEOU and PU are directly related to acceptance, just as PEOU and PU are related to the attitude of the user, the PU is related to the actual use of the technology, and attitude will have an impact on the actual use of the technology. As for PEOU and PU related to attitude, the study of the German group came to the same conclusion.

Another aspect that has been frequently addressed by authors relates to subjective norms, which aim to understand how an individual's opinion might affect the acceptability of a technological agent. In the article by Ho et al. (2020), it was demonstrated that the attitude of users is directly influenced by the social factor. In an attempt to understand the factors that influence the acceptance of Youtube as a teaching platform, Yaacob and Saad (2020) found that in addition to the PU and PEOU of a system, the influence of society also has a strong impact on the acceptance of technological means. Nevertheless, these findings are consistent with those of the article by Cicha et al. (2021), who concluded that PU are not influenced by subjective norms. Moreover, the authors believe that this work is due to the mandatory use of remote systems to continue teaching.

### **3 METHODOLOGICAL PROCEDURES**

This study has an explanatory character with a quantitative approach, in which a bibliographic survey was first conducted for the last five years in the database: Web of Science, using the strings: "technology acceptance" OR "TAM" AND "covid" OR "pandemic" AND "online teaching" OR "learning" OR "education". The result of the search was eighteen articles to serve as a theoretical basis.

The second phase of the research used a quiz originally from Singh, Sharma, and Paliwal (2020), with some adjustments made to adapt it to the purpose of the current study. The quiz contained two blocks to determine the demographic profile of the respondents and to



determine the existing physical structure. For the development of the quiz, the perspectives of the Technology Acceptance Model (TAM) were used, which is widely used to assess the motivations that lead a person to adopt a particular technology, either in the school environment or in the work environment. The quiz consisted of six constructs and twenty-six variables, using the five-point Likert scale.

The quiz was divided into three main parts, the first part consisting of the profile of the respondents, the second part asking what structure the students had in using distance education. The third part was based on the TAM model, using 6 constructs with 26 variables to find out how these factors could influence the use of these tools, testing 6 hypotheses, presented below and graphically displayed in Figure 2.

H1: The PU of the technological tool has a positive effect in the students' attitude relatively to its use.

H2: The PEOU of the technological tool has a positive effect over the Perceived Utility.

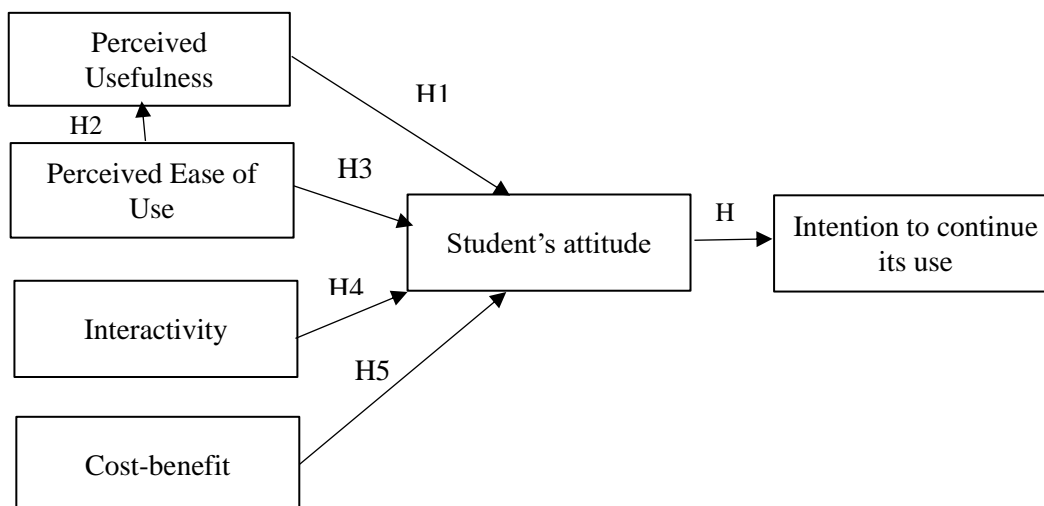
H3: The PEOU of the technological tool has a positive effect in the student's attitude related to its use.

H4: The interactivity provided by the remote teaching platform has a positive relation on the students' attitude in its use.

H5: The cost-benefit perceived in the use of digital platforms is positively related to the students' attitude in its use.

H6: Students' attitude related to the platform of remote teaching is positively related to the intention to continue its use.

**Figure 2: Hypothetical Theoric Model**



Source: Adapted from Singh, Parma and Paliwal (2020).

Descriptive statistics were used to analyze the collected profile using the software IBM SPSS Statistics, while the structural equations model was used to analyze and confirm the hypotheses using the software G Power 3.1.9.2.

The quiz was administered to students of the Business School of the Federal University of Mato Grosso do Sul (UFMS). The population of the survey consisted of twelve hundred and sixty-two (1262) students enrolled in the following courses: Administration with 214 students (full-time and evening students), Tourism with 138, Accountability with 258, Technology in Management Processes with 134, Finance with 218. The quiz was created remotely using the Microsoft Forms tool and sent by email to the coordinators of the business courses so that they could forward it to the students enrolled in the respective courses. This process resulted in 200 responses, of which 160 were considered valid for the survey.

## 4 DISCUSSION AND DATA ANALYSIS

### 4.1 Profile of the Surveyed

Descriptive statistics were used to analyse the collected profile using the software IBM SPSS Statistics. The public consisted of 94 individuals of female gender (58.8%), 61 individuals of male gender (38.1%), 4 individuals classified as LGBTQIA gender (2.5%), and one individual who preferred not to respond (0.6%) (see Table 1).

**Table 1: Profile of the surveyed – Gender**

	Frequency	Percentage	Accumulated Percentage
Female	94	58.8	58.8
Male	61	38.1	96.9
LGBTQIA+	4	2.5	99.4
Preferred not to answer	1	0.6	100
Total	160	100	

Fonte: Dados da pesquisa.

In terms of age, the greatest engagement is in the 17- to 20-year-old age group with 59 respondents (36.9%), followed by the 21- to 25-year-old age group with 55 respondents (34.4%), as shown in Table 2. The average is 28.4 years and the statistical median is 22 years.

**Table 2: Profile of the surveyed – Age group**

	Frequency	Percentage	Accumulated Percentage
17-20	59	36.9	36.9
21-25	55	34.4	71.3
26-30	19	11.9	83.1
31-35	7	4.4	87.5
36-40	8	5	92.5
Over 40	12	7.5	100
Total	160	100	

Fonte: Dados da pesquisa.

The survey was conducted among students of the School of Managing and Business of the Federal University of Mato Grosso do Sul, composed of courses in Administration, Accounting, Finance, Technology in Management Processes and Tourism. The statistical analysis showed that 74 of the respondents were enrolled in the Accounting programme (46.3%), 41 in the Administration programme (25.6%), 21 in the Tourism programme (13.1%), 16 in the Financial Sciences programme (10%), and finally 8 in the Technology in Management Processes programme (5%) (see Table 3).

**Table 3: Profile of the surveyed – Course registered**

	Frequency	Percentage	Accumulated Percentage
Accounting	74	46.3	46.3
Administration	41	25.6	71.9
Tourism	21	13.1	85
Financial	16	10	95
Technology in Managing Processes	8	5	100
Total	160	100	

Fonte: Dados da pesquisa.

#### **4.2 Physical structure available**

This subsection analyzes the results of the questions aimed at determining what technical and physical resources were available to the students to carry out their distance activities. The analysis shows that most of the respondents mainly used computers to access classes. This represents 38.1% of the respondents, followed by partial use of computers and cell phones with 36.9%, as shown in Table 4.

**Table 4: Which structures do you use to access the internet to attend the remote classes?**

	Frequency	Percentage	Accumulated Percentage
Only by cell phone	6	3.8	3.8
Mainly by cell phone	13	8.1	11.9
Half by cell phone and half by computer	59	36.9	48.8
Mainly by computer	61	38.1	86.9
Only by computer	21	13.1	100
Total	160	100	

Fonte: Dados da pesquisa.

As for access to the Internet, most of the respondents had a connection via WLAN (68.1%) and broadband (25.6%) (see Table 5). Meanwhile, only 2.5% of the sample relied on cell phone data to pursue their activities, which is in line with the result in Table 4, where only 6 people exclusively used cell phones to access distance learning content.

**Table 5: What type of internet access do you have?**

	Frequency	Percentage	Accumulated Percentage
Broadband	41	25.6	25.6
Wifi	109	68.1	93.8
Cable	6	3.8	97.5
Cell chip	4	2.5	100
Total	160	100	

Fonte: Dados da pesquisa.

It was found that the place students use for their academic activities is mostly at home (60%), followed by mostly at home (21.9%). This could indicate that students had the least structures available in their homes to continue their distance learning activities (see Table 6).

**Table 6: From which site do you access the remote classes?**

	Frequency	Percentage	Accumulated Percentage
Only at home	96	60	60
Mainly at work	1	0,60	60.6
Mainly at home casa	35	21.9	82.5
Half at work half at home	28	17.5	100
Total	160	100	

Fonte: Dados da pesquisa.

The purpose of this item of the survey was to determine the students' self-perception of their performance in distance education. The result of the survey shows that most of the respondents thought that their performance during this period was good (41.3%), right after



that the normal option was chosen (38.8%) and 10% rated their performance as great (Table 7). The statistical median for this item was 4, indicating a good rating. This means that at least half (50%) of the respondents rated their performance as good or great, while the other half were distributed among the terrible, poor, or normal options.

**Table 7. How was my performance in the courses taken, in general form?**

	Frequency	Percentage	Accumulated Percentage
1-Terrible	5	3.1	3.1
2-Poor	11	6.9	10
3-Normal	62	38.8	48.8
4-Good	66	41.3	90
5-Great	16	10	100
Total	160	100	

Fonte: Dados da pesquisa.

#### 4.3 Analysis of the Results and of the Hypothesis

In order to analyze and confirm the hypotheses, the structural equations model was used, using the G Power 3.1.9.2 software to first check the lowest value of the sample to confirm its viability and reliability. It was found that the value of 129 is the least acceptable, and the original sample obtained with the research was 200, yet it was necessary to eliminate 40 for reasons of incompleteness, thus reaching the number of 160 valid responses. Since the valid number of the obtained sample is too close to the lowest acceptable number, the bootstrapping technique, also known as resampling, developed by Efron and Tibshirani (1993) was used to make the sample feasible and reliable. This technique consists in simulating new databases starting from the original sample using a computational algorithm to perform the comparison with the original one. This procedure has been performed 500 times to allow a higher statistical relevance when used in hypothesis tests according to Pillar (1999).

After making adjustments to test the viability of the data obtained from the survey, the structural equations model was used to verify whether or not the initially proposed hypotheses were rejected. First, convergent validity was checked by the value of the average explained variance (AVE), with values above 0.50 considered appropriate (HENSELER; RINGLE; SINKOVICS, 2009). This metric assesses the presence of positive correlations between constructs or variables. A value greater than 0.50 means that the model provides satisfactory results (FOORNELL; LARCKER, 1981). All 6 constructs assessed had values higher than the reference value (see Table 8).

Subsequently, the factors of reliability composition (Composite Reliability - CR) and

the values of confidence (Alfa of Cronbach- AC) were analysed. These indicators are used to check whether the sample has biases that could affect the reliability of the survey (RINGLE; SILVA; BIDO, 2014). Values above 0.70 for AC and for CR are considered appropriate (HAIR *et al.*, 2014). Again, each construct examined was found to be appropriate (see Table 8).

In the third part of the analysis, the Pearson coefficient (R2) was calculated to check the quality of the fitted model. For the social and behavioural domain, R2 = 2% is considered a low effect, R2 =13% a medium effect, and R2 =26% a high effect (COHEN, 1988). As well as the other indicators, the 6 constructs also have a significant effect, which proves the suitability of the model (see Table 8).

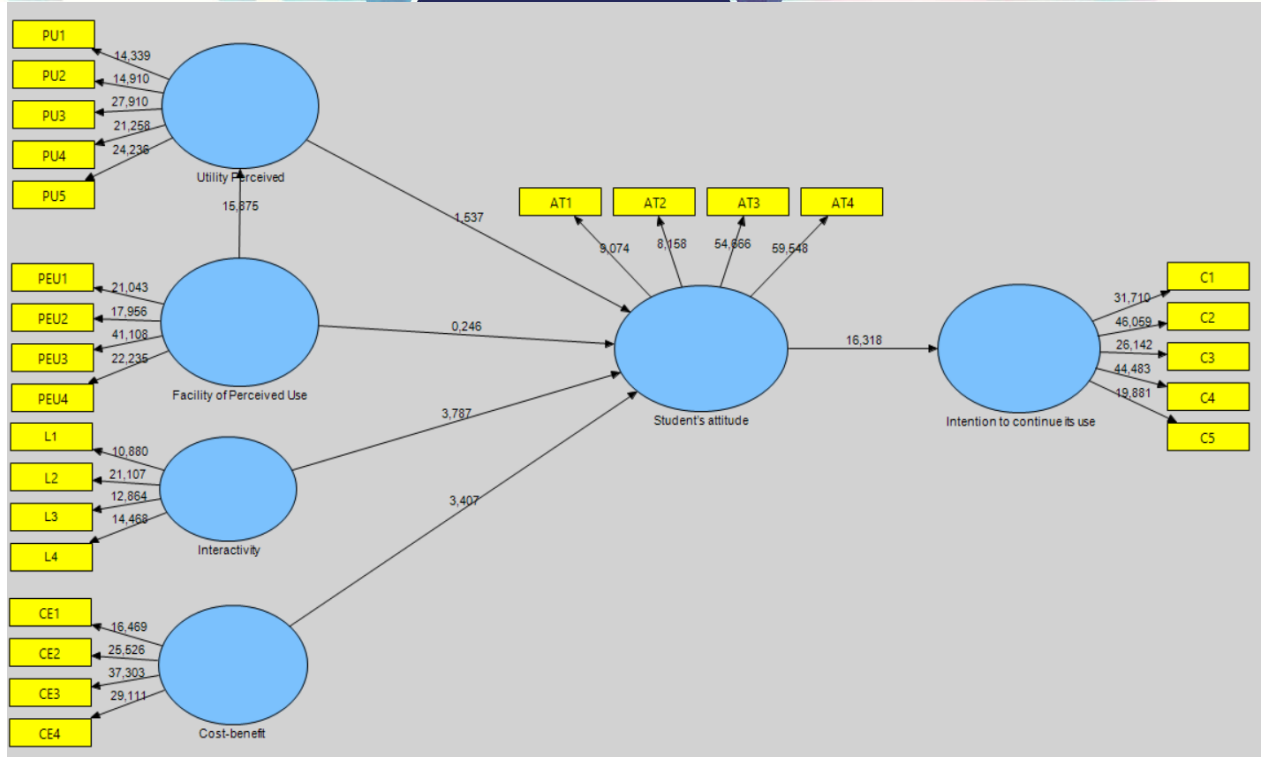
**Table 8: Values achieved with the Structural Equations Model**

	AVE	Composite Reliability	R <sup>2</sup>	Alfa of Cronbach
Attitude of the students	0.579795	0.841621	0.508328	0.744374
Intention to Continue the Use	0.729145	0.93074	0.472923	0.906636
Cost-benefit	0.670046	0.890113		0.837909
Interactivity of the Students	0.533851	0.820364		0.708089
Perception of Use Facility	0.674973	0.892366		0.838918
Perception of Utility	0.594131	0.879365	0.455114	0.828567

Fonte: Dados da pesquisa.

After analyzing the correlations of the constructs, the tests of the proposed hypotheses were effectively performed. Due to the application of the resampling technique, the test t was calculated to make a comparison between the original values and the values simulated by bootstrapping. The hypotheses with values above 1.96 indicate that the hypothesis does not need to be rejected, while the values below this value indicate that the hypothesis needs to be rejected (see Table 9). Values above 1.96 indicate a p value less than or equal to 0.05, i.e., a confidence index of 95% and a margin of error of 5%. All 6 hypotheses were tested simultaneously using the G Power program. Figure 2 shows the correlation between the constructs and the values indicated in the arrows.

**Figure 3: Structural Equation Model**



Fonte: Dados da pesquisa.

The results in Table 9 show that hypotheses H1 and H3 were rejected, i.e., PU and PEOU have no significant effect on students' attitude in using a digital teaching platform because H1 is not consistent with the result of the article by Singh, Sharma, and Paliwal (2020) and H3 leads to the same result. Moreover, a positive relationship was found between the PEOU of a platform and its PU, a result that differs from the article of Singh, Sharma, and Paliwal (2020) but confirms the model proposed by Davis, Bagozzi and Warshaw (1989).

Hypotheses H4 and H5, which stated that interactivity in the use of digital platforms and cost advantage were positively related to students' attitudes toward the use of these technological tools, were considered unrejected. Student attitudes were found to be positively related to student intention to continue using digital platforms, confirming H6. These 3 hypotheses are consistent with the findings of Singh, Sharma, and Paliwal (2020).

**Table 9: Test of the proposed hypotheses**

Hypotheses	B	Value t	Situation
H1	0.146	1.537	Rejected
H2	0.675	15.875	Unrejected
H3	-0.022	0.246	Rejected
H4	0.276	3.787	Unrejected
H5	0.405	3.407	Unrejected
H6	0.688	16.318	Unrejected

Fonte: Dados da pesquisa.

Thus, from the results obtained, it can be deduced that the factors that most influence a student's decision to use a technological tool are the interactivity and the cost advantage that a digital platform offers to students. This information obtained from the research could be significant for instructors when planning classes, because if they know the relevant factors from the students' perspective, they can create a more attractive teaching program and consequently have a greater tendency to retain students. Understanding that students consider interaction in class as an important factor, it is possible to plan a lesson that makes the student a character that participates more actively in the activities, rather than being a simple spectator that allows instructors to design activities that are focused on this goal. Nevertheless, it is necessary to choose tools that are easily accessible to students, and it is important to consider the cost benefits to ensure effective implementation of the system. Developing a technological system and an academic timetable with these features suggests that students are more likely to continue using them, even in a panorama where there is no mandatory remote system.

Since the PEOU and the PU are not directly related to adoption, the rejection of these two hypotheses is a different result from what the original model proposed by Davis, Bagozzi and Warshaw (1989) yielded. From this, one might infer that respondents do not expect a regress to be free of effort in deciding whether or not to accept it. Respondents need not expect the adoption of a technology to contribute anything positive to their studies. This result could be due to the fact that the quiz was conducted in a scenario where distance education was the only possible means to continue teaching, i.e., it was an unavoidable system at that time.

## **5 CONCLUSIONS**

The context of the problem leads to the need to know the factors that influence student acceptance of digital instruction platforms in order to enable the development of more assertive online systems and thus be able to deliver distance learning with greater effectiveness. Therefore, the proposal of this article was to review the factors that influence the acceptance of technological resources by students in a business school. The results of the quiz revealed that the factors that have a greater influence on the acceptance of a technological resource by students are the interactivity offered by the system and the cost advantage recognised by users.

The hypotheses tested in this work were based on the model TAM (DAVIS; BAGOZZI; WARSHAW, 1989), and of them, only 2 were rejected by the applied model,



which checked whether the PEOU and the PU of a system could have a positive effect on students' attitude. Other hypotheses that said that the interactivity of a system and its cost advantage positively affect students' attitudes were not rejected, nor was the hypothesis that tested whether students' attitudes affect their intention to continue using technological tools for their studies.

It is concluded that creating a virtual education system with resources that provides high interactivity between students, faculty, and the institution, and is accessible at low cost, allows for greater acceptance by faculty and thus increases the likelihood that it will be adopted. The information obtained from the research also enables instructors to conduct their own instructional planning, in terms of the didactic approach that students perceive to be a better fit for distance learning. According to the results, students expect instruction that allows them to participate more actively in class and not just listen, so greater instructor and student involvement is the ideal. However, it is important to realise that the tools chosen for academic activities must match the reality of the physical resources available to students once it is important to have a cost advantage so that the tool is actually adopted by students. These initiatives will contribute in a positive way to provide quality instruction in distance education and avoid an expressive increase in evasion.

The research also showed that respondents in their places of residence had the least prerequisites for using the digital teaching platforms, as more than 80% of respondents accessed the system from home or mainly from home. In addition, the hypotheses that PEOU and PU of a system influence student attitudes were refuted. However, students' attitudes positively affect their intention to continue using the distance education system.

The methodology used was quantitative in nature and consisted of a quiz administered to students of a public university in the state of Mato Grosso do Sul who were taking basic courses in business. A limiting factor was the application of the survey to only one of the groups that make up the teaching system, as it is relevant to understanding what influences the acceptance of technological resources by other participants such as lecturers and postgraduates.

Therefore, it is recommended that the survey be applied to senior faculty in order to determine the difficulties and expectations this group has when it comes to using technological resources in their teaching. By collecting data from different areas, it will be possible to more effectively influence the design of a distance education system.

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