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# Factors driving acceptance of hybrid mode and students' perceptions of ICT use in higher education with restricted access: the case of ISCAE

# Facteurs incitant à l'acceptation du mode hybride et perception des étudiants vis-à-vis de l'utilisation des TIC dans l'enseignement supérieur à accès restreint : cas de l'ISCAE

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**Introduction**
The context of the COVID pandemic imposed the use of technologies and teaching platforms as well as the blended learning in order to continue teaching students regardless of their level. While some institutions have adopted it and have given themselves the means to implement it as a pedagogical device, others have only used it during the crisis following ministerial directives and instructions. This hybrid mode of teaching now encounters enormous difficulties and shortcomings in its implementation in technical and pedagogical terms, so we can legitimately wonder about the reasons that encourage the acceptance of this hybrid mode as a teaching method, particularly for the category of students in higher education.

**Purpose**
The objective of this work is to understand the perception of students regarding the use of ICT in the learning process as well as the factors that encourage the acceptance of the hybrid mode in the initial education by students of higher education with restricted access, ISCAE in this case.

**Method**
Vankatesh and Davis (2003) developed an established theory of ICT acceptance, including determinants on individuals or a given organization. In this empirical study, we focused on a sample of 3760 Moroccan learners at ISCAE. The equation method based on structures and factors is the one used to analyze the results in this piece of work.

**Findings**
The answers explicitly indicate that the acceptance of blended learning is influenced by the usefulness, the perception of ease of use, the social context and the conditions that facilitate its use.

**Conclusion**
It is worth considering that students are in favor of hybrid pedagogy if the variables used during this study were able to find conditions that require their admissions.

**Key words**
Blended learning (hybrid), higher education at restricted access, technology, perception.

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**Introduction**
Le contexte de la pandémie COVID a imposé l'utilisation des technologies et plateformes d'enseignement ainsi que le mode hybride afin de continuer à former les étudiants quel que soit leurs niveaux. Si certains établissements l'ont adopté et se sont donnés les moyens de l'instaurer comme un dispositif pédagogique, d'autres en revanche ne l'ont utilisé que durant la crise suite à des directives et consignes ministérielles. Ce mode d'enseignement hybride rencontre désormais des difficultés et lacunes énormes en matière de sa mise en œuvre en termes techniques et pédagogiques, dès lors, on peut se demander légitimement des raisons qui incitent à l'acceptation de ce mode hybride comme mode d'enseignement, et ce, particulièrement pour la catégorie des étudiants de l'enseignement supérieur.

**Problématique**
Ce travail a pour objectif de comprendre la perception des étudiants vis-à-vis de l'utilisation des TIC dans le processus d'apprentissage ainsi que les facteurs incitant à l'acceptation du mode hybride dans la formation initiale par les étudiants de l'enseignement supérieur à accès restreint, ISCAE en l'occurrence.

**Méthode**
Vankatesh et Davis (2003) ont développé une théorie établie sur l'acceptation des TIC, y compris des déterminants sur des individus ou une organisation donnée. Dans le cadre de cette étude empirique, nous nous sommes focalisés sur un échantillon constitué des 3 760 apprenants marocains de l'ISCAE**.** La méthode d'équation établie à partir des structures et des facteurs est celle utilisée pour pouvoir analyser les résultats dans ce travail de recherche.

**Résultats**
Les réponses indiquent explicitement que l'acception de l'apprentissage hybride est influencée par l'utilité, la perception de la facilité dans d'utilisation, le contexte social et les conditions qui facilitent son utilisation.

**Conclusion**
Il revient de considérer que les étudiants sont favorables à une pédagogie hybride si les variables utilisées durant cette étude ont pu trouver des conditions qui exigent leurs admissions.

**Mots clés**
Enseignement hybride, enseignement supérieur à accès restreint, technologie, perception.

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## Introduction

The transition in each technological evolution process is an important debate, because the acceptance of the novelties that this brings is sometimes worrying. In fact, the acceptance of technological innovations in each sector of activity is more important than challenges that this technology may have endured before imposing itself in the market. Accepting a technology as it is and the required adaptations is sometimes complex for every individual in every industry.

For decades, the university and higher education system have been undergoing major changes. This is the case of hybrid education which is the new deal to alleviate the ills that undermine the current andragogy. The pandemic of covid-19 supports this form of teaching which was not anchored in all university and higher education pedagogies. This is the case in Morocco, which was slow to embrace this new educational technique. According to Chew et al, (2010), "blended learning is an opportunity to integrate the innovations and technological advances offered by online learning combined with the

interaction and participation derived from the best practices of face-to-face learning. The post COVID-19 context requires the use of teaching platform technologies to continue to teach students at all levels. Even if this is difficult enough due to the need for technological equipment, it is on the right track. However, the question that remains is integrated into the factors that explain the acceptance of hybrid education and its technological challenges by students in initial training and particularly those of the Higher Institute of Commerce and Business Administration. Due to technological challenges, the acceptance of this type of teaching is needed. Is it really a better way to adopt during the period of the COVID-19?

This article aims to identify through variables that induce the acceptance of the hybrid teaching within the higher education of ISCAE.

## 1. Hybrid teaching: the new educational technique

### 1.1 Definitions of hybrid education

“Blend learning refers to a combination of two teaching modes, namely face-to-face and online learning” (Boelens et al, 2015). These two modalities vary according to time and content (Osguthorpe and Graham, 2003). Hybrid teaching, although introduced late in Morocco following the evolution of the health situation caused by the spread of COVID-19, is however quite widespread in higher education outside our local borders. Indeed, it has shown its ability to allow flexibility in terms of time and space. Since students benefit from being able to choose where and when they will study (Al-Qahtani and Higgins, 2013; Huang et al, 2012). This mode of teaching adapts well to certain student profiles. Since they can have access to online courses and reduce the time spent in person. So they can reconcile their family, professional and student life. This teaching model also makes it possible to overcome the problems of travel between home and schools or universities. (Deschacht and Goeman, 2015). “This flexibility is made possible by the asynchronous nature of the moments not requiring the presence by the hybrid teaching device” (McCutcheon et al, 2018; Anderson, 2000). Finally, hybrid education promotes access to the professional world for each student without much interference with their academic responsibilities (Huang et al, 2012).

### 1.2 The student and hybrid teaching devices

The main stakeholders in a blended learning process are the students and the faculty, but also the institution delivering the learning. That said, of course, "blended learning devices involve different stakeholders, it is the learner with his or her diverse characteristics who has the most important role in the system" (Sharpe and Benfield, 2006). Thus, we can ask about the problem of accepting face-to-face and distance learning in higher education.

## 2. Perceived characteristics of hybrid teaching and their influence on its acceptance by students

This study contributes to show the conditions that indicate the acceptance of hybrid education for the learning of students of the higher institute of commerce and future business administrators. The conditions that determine the acceptance of hybrid training for this study are mainly established from the UTAUT model formerly defined by Venkatesh et al, (2003). Indeed, this model explains the attitudes of individuals within an organization. Also, it is widely used because it is the most common to all models in human theories. As a result, four variables

are defined by said model in relation to the determinants of acceptance of hybrid formation, namely perceived use, perceived usefulness, social influences and facilitating conditions.

### 2.1 Perceived ease of use

Davis (1989) defines it as “the intensity with which an individual believes that the use of a particular system will be done without difficulty or additional effort”. So Venkatesh (2000) explains to us that it is the degree of ease inherent in the use of a system. Consequently, the probability for an individual to make a decision to follow the courses in hybrid mode is positively correlated with the ease that he can find thanks to the tools by which the training is presented and the understanding linked to the use of this pedagogy. Thus, “ease of use is perceived through the prism of the concepts of ***compatibility and complexity*** derived from the theory of the diffusion of innovation” (Rogers, 1995). This explains the same concept of usability, or even similar measurement strategies. Therefore, our research recommends studying the impact of the ease of use perceived by the end user, namely the student.
The resulting hypothesis is therefore the following:

**H1: Perceived ease of use has a significant effect on intention to adopt hybrid instruction.**

### 2.2 Perceived usefulness

Research on technology adoption shows that the concept of perceived usefulness has a very powerful predictive capacity; it has proven its effectiveness in explaining usage behavior through different studies. Indeed, Davis et al, (1989) have pointed out that perceived utility is close to relative advantage in the innovation diffusion model. Relative advantage is defined as the personal perception of the benefits of adopting the innovation. In terms of information system, according to Moore and Benbasat. I., (1991), it is "the degree to which an innovation is perceived as providing a superior benefit to the practice it displaces". Relative advantage seems to be paramount in persuading individuals to adopt the innovation. However, according to Venkatesh et al (2003), suitability for work is a variable to be retained, based on the model developed previously by Thompson et al (1991), which was established from the application of portable computers as a new ICT within an organization. This variable studies the level of adequacy compared to the quality of the exercise that one carries out.
ISCAE students can only accept blended learning if they believe that it is useful for their needs and has a positive impact on improving their performance and productivity. This new mode of teaching should also allow them to develop and increase their efficiency. Therefore, the perceived usefulness is retained as a determinant of the adoption of hybrid teaching by students, it will be used to evaluate the usefulness generated by the perception of the use of this teaching modality.
Thus our second hypothesis is formulated as follows:

**H2: Perceived usefulness has a significant effect on intention to adopt hybrid teaching**

### 2.3 Social influences

As for social influences, they are concerned with both subjective norms and social factors and valuation expectations. Only the "subjective norms" component was retained for this study. Ajzen and Fieshbein, (1975) "proposed this same dimension in the theory of reasonable action".

Furthermore, Venkatesh and Davis, (2000) supported this theory through their extensions of the MAT such as the UTAUT method by Venkatesh et al. (2003).
This model implies the importance of social groups' opinions in the intention to use a new system. We found it more appropriate to study the relative impact of each dimension separately, namely the influence of others, the influence of management, and the expectation of valuation.

Accordingly, we have made the following assumptions:

**H3.1: The influence of other students has a significant effect on the intention to adopt hybrid teaching**

**H3.2: Management involvement has a significant effect on the intention to adopt hybrid teaching**

**H3.3: Expectation of valuation has a significant effect on the intention to adopt hybrid teaching**

### 2.4 Enabling conditions

According to Venkatesh (2000), enabling conditions are "the degree to which the user believes that the organizational and technical infrastructure is necessary for the use of the system. However, they directly impact usage behavior independent of intentional influence on behavior. (Venkatesh et al, 2003).
Furthermore, it is also crucial to consider that technical assistance is an integral part of the factors that may lead a given individual or organization to opt for a new technology.

In this study, it is a question of evaluating the opinions and to what extent administrations can opt for a short- or long-run investment of material and human resources that a pedagogical approach based on hybrid teaching requires.
The handling of the platform ensuring the framework of distance learning in the case of blended learning can also be an essential element for its adoption. In this sense, the "mastery of the computer tool or technology" is a key factor in the understanding of attitudes related to admission among individuals. This is because hybrid education, including the "distance education" dimension, is a fundamental fact with which they must deal.

Thus, we have deduced the following hypotheses:

**H4.1: Technical assistance has a significant effect on intention to adopt hybrid education**

On the other hand, "compatibility derives from the theory of diffusion of innovations and represents the degree to which the innovation is perceived to be consistent with existing practices, needs, and previous experiences of potential users" Moore and Benbasat (1991). Compatibility cannot be assessed without downstream study. Thus, the need for training must be compatible with the users and represent an option that facilitates the use of the tool. Therefore, accounting influences the attitude to adopt hybrid teaching.

Then, the following hypothesis can be retained:

**H4.2: Compatibility with training has a significant effect on intention to adopt hybrid education**

## 3. Empirical study

### 3.1 Methodology

In order to provide answers to our initial problem, we used a methodological approach adapted more or less to the requirements of scientific research. This methodological approach is based on a combination of elements drawn from classic systematic reviews and elements from second-order meta-analysis. Our exploratory research was carried out to adapt existing measurement scales in the literature. In fact, the selected parameters are measured by sub-variables from previous research and adapted to the present investigation. Concerning the measurement scales of the variables of the model, the Likert scale which is the most used in management was preferred. This study aims to highlight the proven effects of the acceptance of educational techniques (virtual reality, gamified teaching, learning analytics, online courses...) as well as the regulators of their effects, while considering a very vast panel of literary productions. Within this framework, this exploratory study contributes to the work that allows us, among other things, to position the educational technologies of hybrid teaching in a vast literature. Accordingly, a 4 degree Likert scale was assigned for each item deployed.

The tables below summarize the items identified for each variable:

***Mesure de la variable « Utilité perçue »***

| Variables | Articles | Sources |
|---|---|---|
| **Utilité perçue** | 1. J'approuve l'idée de l'utilisation des TIC dans mes études.<br>2. Je trouve que l'enseignement hybride est utile dans mes études<br>3. Adopter l'enseignement hybride agit sur la rapidité de mon travail<br>4. Adopter l'enseignement hybride affecte ma performance (assimilation des cours)<br>5. Le recours à l'enseignement hybride a un effet sur mon autonomie<br>6. Le recours à l'enseignement hybride a un effet qualitatif sur ma productivité (avancement dans le cours, nombre d'exercices, etc.). | Davis (1989), Moore et Benbasat, 1991 Venkatesh et al (2003) |

***Mesure de la variable « Facilité d'utilisation perçue »***

| Variables | Articles | Sources |
|---|---|---|
| Facilité d'utilisation perçue | 1. Je trouve la plateforme dédiée à assurer la formation à distance facile à utiliser<br>2. Le recours à l'enseignement hybride rend mes études plus faciles. | Davis (1989), Venkatesh (2000), Venkatesh et Davis (2002) |

***Mesure de la variable « Conditions facilitatrices »***

| Variables | Articles | Sources |
|---|---|---|
| Implication de la direction | 1. Le recours à la formation hybride est fortement préconisé et soutenu par la direction de l'établissement<br>2. La direction de l'établissement exprime un grand intérêt pour l'enseignement hybride<br>3. Un effort considérable est effectué par la direction en faveur de la formation hybride | Venkatesh et al. (2003), |
| Assistance technique | 1. Dans mon établissement les techniciens nous prêtent toujours assistance en cas de problème<br>2. Les instructions nécessaires au bon déroulement de l'enseignement en mode hybride sont mises à ma disposition | Schillewaert et al. (2001)<br>Thompson et al. (1991) |
| Compatibilité au travail | 1. Le recours à l'enseignement hybride est compatible avec la nature de la matière enseignée<br>2. Le recours à l'enseignement hybride convient avec ma façon de travailler | Agarwal et Karahanna (1998)<br>Mathieson K., Peacock E., Wynne W.-C. (2001)<br>Ajzen (1991)<br>Taylor et Todd(1995) |

***Mesure de la variable « Influences sociales »***

| Variables | Articles | Sources |
|---|---|---|
| influence d'autres étudiants | 1. Les étudiants ont une image valorisante de l'utilisation des applications | Schillewaert et al. (2001 |
| Attente de valorisation | 1. Les étudiants ayant un recours à l'enseignement hybride bénéficient d'un meilleur prestige<br>2. Les étudiants qui utilisent l'enseignement hybride ont une bonne image dans l'établissement<br>3. Les étudiants qui utilisent l'enseignement hybride sont valorisés dans la formation | Venkatesh et Davis (2000)<br>Moore et Benbast (1991) |

### 3.2 Data collection

To analyze the degree of acceptance of hybrid teaching technologies, we conducted a study using a questionnaire to find out the intention of using a technology based on usefulness, usability and acceptability.

For the collection and processing of field data for our study, we used various instruments (tools and techniques).
For the collection, a questionnaire developed and administered to our sample.

Regarding the processing and analysis of the data, we used:

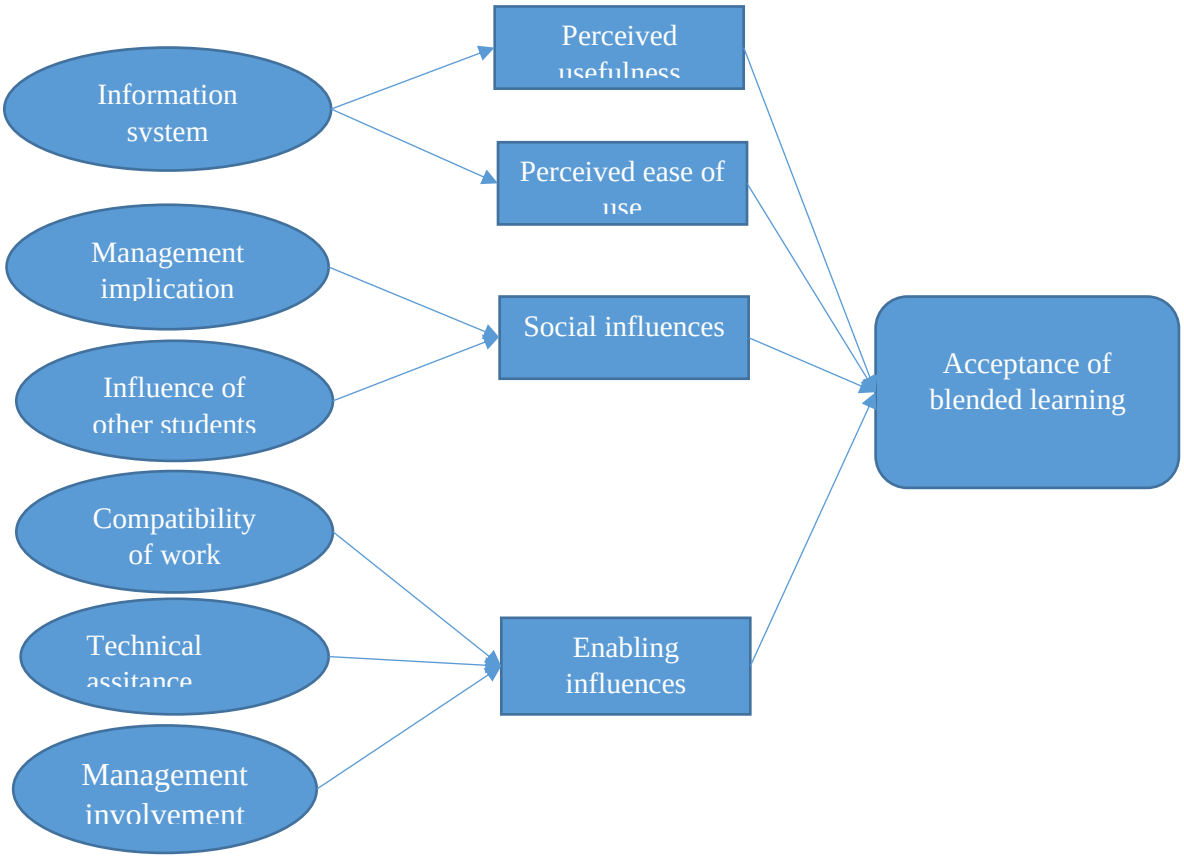
- SPSS 17.0 software for statistical analysis
- AMOS 18 for analysis through structural equation models

### 3.3 Sampling

Behind our qualitative exploration, a quantitative approach allowed us to test the hypotheses by administering a questionnaire to our sample of 3760 students (53.6% female), 43.1% of whom are enrolled in the virtual school. The modal class of our sample is made up of students between 19 and 20 years of age and approximately one fifth of the students are 23 years of age or older. The method of data collection was to invite participants via a phone text message and/or email to respond online to a series of questions by clicking on the link sent to them. It should be noted that in this sample, some preferred a paper version of the questionnaire.

To define the variables, we were inspired by Triandis' model (1980) which explains that whatever the social conditions, they indirectly influence the individual's behaviour, but directly the conditions of use. The facilitating conditions constitute the determinants of the environment that promote and support a behavior. Thus, the following diagram presents the four variables that lead to the acceptance of hybrid teaching.

**Proposed Triandis model**



## 4. Findings

Principal component analysis (PCA) was performed at the level of each scale with an elimination of statements with low factorial contributions (values lower than 0.3) and contributions shared between several factorial axes

| VARIABLES | ITEMS | Coefficients de régression standardisés pour tout l'échantillon | GROUPE DE CEUX QUI N'ADOPTENT PAS | | GROUPE DE CEUX QUI ADOPTENT | |
|---|---|---|---|---|---|---|
| | | | Coefficients Standardisés | CR | Coefficients Standardisés | CR |
| **La facilité d'utilisation perçue** | Facilité d'utilisation perçue 1 | 0,892 | 0,852 | 14,918 | 0,838 | 14,165 |
| | Facilité d'utilisation perçue 2 | 0,869 | 0,845 | 14,710 | 0,779 | 12,863 |
| **L'utilité perçue** | Utilité perçue 1 | 0,807 | 0,854 | 1,484 | 0,675 | 0,403 |
| | Utilité perçue 2 | 0,924 | 0,920 | 1,486 | 0,943 | 0,403 |
| | Utilité perçue 3 | 0,856 | 0,891 | 1,485 | 0,755 | 0,403 |
| | Utilité perçue 4 | 0,090 | 0,118 | - | 0,028 | - |
| | Utilité perçue 5 | 0,838 | 0,588 | 0,149 | -0,780 | -1,204 |
| | Utilité perçue 6 | 0,577 | 0,810 | 0,149 | -0,678 | -1,202 |
| **L'influence des autres étudiants** | Influence des autres étudiants 1 | 0,700 | 0,876 | 10,463 | 0,484 | 4,136 |
| **L'implication de la direction** | Implication de la direction 1 | 0,731 | 0,699 | 8,731 | 0,814 | 5,471 |
| | Implication de la direction 2 | 0,646 | 0,696 | 8,700 | 0,588 | 5,412 |
| | Implication de la direction 3 | 0,239 | 0,843 | 10,471 | 0,183 | 2,270 |
| **L'attente de valorisation** | L'attente de valorisation 1 | 0,840 | 0,893 | 12,277 | 0,752 | 9,125 |
| | L'attente de valorisation 2 | 0,956 | 0,974 | 12,936 | 0,976 | 9,706 |
| | L'attente de valorisation 3 | 0,712 | 0,744 | - | 0,601 | - |
| **L'assistance technique** | L'assistance technique 1 | 0,798 | 0,871 | 8,541 | 0,679 | 4,370 |
| | L'assistance technique 1 | 0,554 | 0,669 | - | 0,375 | - |
| **La compatibilité avec la formation** | La compatibilité avec la formation 1 | 0,879 | 0,877 | 15,467 | 0,843 | 13,346 |
| | La compatibilité avec la formation 2 | 0,947 | 0,946 | 17,562 | 0,948 | 14,813 |

The previous table presents the results of comparing the significance of the constructs for the entire sample and the two groups related to those who adopt hybrid teaching and those who do not. Note that the significance of the scale is reflected in the CR indices determined from all the respondents in our sample.

Apart from the values obtained for the six items of the "perceived usefulness" variable, all the values of the variables are higher than 1.96 for the CR indices of both groups.
We also note that the construct of the first four items of the variable "perceived usefulness" is reliable and the groups of our respondents have a good convergency. However, overall, the factorial contribution of this variable is low and the representativeness is not good.

For the variable relating to "management involvement", we see with the third item that the standardized coefficients have a very large difference which although acceptable at the level of those who do not adopt hybrid teaching (0.843) is seriously low at the level of those who do adopt it. The same is true for the CR index which reveals that for those who do not adopt hybrid teaching, it is 10.471 compared to 2.270 for those who adopt it. The representativeness is not good for those who adopt and we can therefore eliminate this item and return to the first two.

Similarly, the variable "expectation of valuation" can be reduced to two items and "technical assistance" to one item given the effective reduction through PCA due to the fact that the adopter category is once poorly represented for each variable. Student's t and standardized regression coefficients will be of great help in confirming the relationships we have discussed in the hypotheses we have formulated. The decisive character of the linear relationship is linked to the value of the coefficient which must necessarily be close to 1.

**Tableau : Validation des hypothèses**

| Hypothèses | Coefficients non Standardisés | Coefficients standardisés | T de Student |
|---|---|---|---|
| H1 - Validée | 0,517 | 0,199 | 2,221 |
| H2 - Infirmée | -0,101 | -0,071 | -1,083 |
| H3.1 - Infirmée ; | -0,136 | -0,101 | -1,445 |
| H3.2 - Validée ; | 0,342 | 0,217 | 2,54 |
| H3.3 - Infirmée ; | -0,038 | -0,026 | -0,338 |
| H4.1 - Validée ; | 0,198 | 0,154 | 1,964 |
| H4.2 - Infirmée ; | 0,220 | 0,128 | 1,776 |

### 4.1 Interpretation and discussion of results

The empirical data obtained at the 3760 student level reveals the influence of a specific number of elements that can justify the acceptance of blended learning technologies for learning and pre-service training.

The relationship between the variable "perceived ease of use" and willingness to use is significant. This result is consistent with the unified theory of "acceptance and use of a system" which reflects the significant link between the expression "effort expectations" and willingness to use the technology (Venkatesh et al., 2003). Thus, in this work, the student who feels able to adopt this system will have a positive impression of its application in order to reap its benefits. Since the application of hybrid teaching will be simple, it is of great evidence then that it will be adopted more.

Secondly, the fact that there is no real significance of the variable "perceived usefulness" seems paradoxical. In reality, we understand, with the work of Venkatesh (2003), that the student's impression of the benefit of using a system and the willingness to use it is important and justifies its significance. The use of PCA assisted in the removal by elimination of an item for the variable "perceived usefulness". Indeed, the item in question refers to the choice of hybrid teaching to increase the student's possibilities of obtaining the best rank in his class, thanks in particular to his performance. Most of the respondents who gave their position answered "Agree" and "Strongly agree" on this proposal. The resulting coefficients were not significant and led to the elimination of the item in question. Therefore, since the CR indices are lower than 1.96 for both groups of adopters and non-adopters, of course, despite the fact that the reliability and convergent validity are good, no significance exists.

This can be justified by the benefit of hydrid teaching, as students feel that they are acquiring the knowledge and getting a better rank. This has the obvious consequence of reducing variables. However, hybrid teaching in favor of students advocating face-to-face and distance learning can be explained by the variable "perceived ease of use".

As for the "expectation of value" variable related to the aspect of social influences, the significance is determined by the association of the application of hybrid teaching with the improvements it provides to the student. For this category, the use of this system is a sign of attractiveness that provides them with an academic advantage compared to their fellow students and teachers. However, the relationship associating other students with the desire to implement hybrid teaching remains negligible. It is noticeable that the choice of his fellow students to study, like him, through hybrid education to increase their learning and enrich their academic level plays essentially no role on his own choice. A situation that is not the case for those who do not adopt blended learning who are strongly influenced by other students who do. It could be concluded that the students in our different groups do not really discuss the application of hybrid teaching among themselves. This allows us to invalidate our hypothesis that there is a significance between the expectation of self-enhancement and the willingness to implement hybrid teaching.

The "management involvement" variable essentially specifies the entity's consideration for hybrid teaching and its activity within its walls to promote it to students and get them to adhere to it. The significance that emerges from this scale can be seen by observing the values obtained in the standardized coefficient. It is noted that the members of ISCAE and the promoters of hybrid education are making a lot of efforts to improve the teaching programs in order to provide students with adequate content for quality teaching. However, these actions are really oriented towards students who are not yet adopting it and hardly take into account those already enrolled.

The aspect related to facilitating conditions includes the variable "technical assistance". The latter indicates the availability of at least one person to help the student resolve any constraints that arise during the course of the course. Thus, the integration of such an assistant is a real asset for the student who remains serene, especially since he also benefits from the instructions he needs during his learning. Furthermore, the category of those who do not adopt and those who adopt testify to this need for assistance in hybrid teaching. However, the second item that stands out as the constant availability of assistance must be eliminated as a result of the PCA observation. In fact, with a standardized coefficient of 0.669 versus 0.375, we see that this assistance gives greater interest to those who do not yet adopt hybrid teaching, thus justifying the fact that the management is more involved for this category. This suggests that the instruction comes from management to bring all students to opt for this system with less emphasis on assistance for those who already adopt it.

Our study shows us that the application of hybrid teaching lacks a sufficient relationship with the variable "compatibility with training". A situation that is not the case in the work of Venkatesh and Davis (2000) that showed the existence of a real significance that associates the choice of the system with the type of work performed to the application of said system. In fact, it is understood that these works translate that the increase of the compatibility of the training received, thanks to the hybrid education with the purpose of having new knowledge and improving the skills, evolves in the same direction as the profits of performance related to the application of this education. A result, it is noticed, that is appropriate to our research, since the hybrid education proposes, on the whole, a general formation with the bonus of specific courses that should help to have, as an asset, professional knowledge in addition to the academic ones. Because the realities of the professions are very different from academic knowledge. In fact, both groups agree on this compatibility. Nevertheless, the hypothesis concerning the effect of compatibility is overturned, but the significance of this overturned finding an adequate explanation for the case of the pre-service student.
It is important to remember that this study presents a conceptual framework for the realization of a research mainly based on a review of the existing literature and a quantitative methodology near a sample constituted only by the students in initial training. The authors therefore presented their vision of the acceptance of blended learning technologies based on the analysis of the responses from the questionnaire. A total of 3760 respondents were able to provide valid responses. Due to the design of the research methodology, not all aspects fell within the scope of this review, thus leaving out some of the leads around the topic. Likewise, this study does not take into account the case of the relationship of the teachings to the technological issues that the acceptance of the hybrid teaching imposes. Also, the study does not take into account the specificities of the platforms made available to students within the framework of hybrid teaching.

## Conclusion

Our research is based on two primordial parts: the learners first and the pedagogy proposed to them in post COVID-19. Indeed, the acceptance of hybrid teaching was once little considered in university and higher education pedagogy. In order to reach a conclusive result, a methodology established on the assembly of data from classical reviews was used to elaborate the literature review and followed by a quantitative method thanks to questionnaires administered to 3,760 concerned students. An exploratory study was carried out to adapt existing measurement scales in the literature. Thus, the variables selected were measured by items from previous research and adapted to the survey conducted. The Likert scale was used in this research in order to measure the four (04) variables.

It is worth considering that students are in favor of a hybrid pedagogy if the variables used during this study were able to find conditions that require their admissions. However, this study may be a bit broader. Thus, the pandemic is not over and the conditions of hybrid training remain an important topic for teaching at all levels.

**References**


1. Agarwal R., K. E. (1998). « On the multi-dimensional nature of compatibility beliefs in technology acceptance »,. *September 1, Disponible en ligne sur : [http://discnt. cba.uh.edu/chin/digit 98/first.pdf]*.
2. Ajzen et Fieshbein, I. (1975). « Belief, attitude, intention and behavior », . *edition*.
3. Al-Qahtani et Higgins, S. (2013). Effets de l'apprentissage traditionnel, mixte et en ligne sur la réussite des étudiants dans l'enseignement supérieur. . *Journal d'apprentissage assisté par ordinateur, 29,*, 220-234.
4. Anderson, A. (2000). L'irrésistible ascension du elearning ou comment former dans la nouvelle économie. *[http//www.arthuranderson.com]*.
5. Boelens et al, R. V. (2015). Blended learning in adult education: towards a definition of blended learning [rapport]. *Université de Gent Belgique. http://hdl.handle.net/1854/LU-6905076*.
6. Chew, E. T. (2010). In love and War : Blended Learning Theories for computer scientists and educationists. *F L Wang, J. Fong et R. C Kwan (Eds)* , 1-23.
7. Davis. F.D. (1989). « Perceived userfulness, perceived ease of use and user acceptance of information technology ». , *MIS Quarterly, VOL.13, N°3, September,* , 319340.
8. Daviset al, F. B. (1989). « User acceptance of computer technology : a comparison of two theoretical models » . *Management Science, VOL.35, N°8 , August,*, 982-1003.
9. Deschacht et Goeman, K. (2015). The effect of blended learning on course persistence and performance of adult learners: A difference-in-differences analysis. *Computers & Education, 87,*, 83-89.
10. Huang et al, L. S. (2012). What type of learning style leads to online participation in the mixed-mode e-learning environment? A study of software usage instruction. *Computers & Education, 58(1),*, 338-349.
11. Mathieson, K. (1991). Predicting user intention: comparing technology acceptance model with the theory of planned behavio. *Information System Research, 3 (2), 173-191*.
12. McCutcheon et al, K. O. (2018). Online learning versus blended learning of clinical supervisee skills with pre-registration nursing students: A randomised controlled trial. *International Journal of Nursing Studies, 82, doi.org/10.1016/j.ijnurstu.2018.02.005*, 30-39.
13. Moore et Benbasat. I. (1991). « Development of instrument to measure the perceptions of adopting an information technology innovation »,. *Information Svstem Research, Vol. 2, N° 3, September,*, 192-222.
14. Osguthorpe et Graham, C. (2003). Blended learning environments: Definitions and directions. *Quarterly Review of Distance Education, 4,*, 227-233.
15. Rogers, E. M. (1995). « Diffusion of Innovations », . *4th ed. The Free Press,*.
16. Schillewaert. N., A. M. (2001). «acceptance of Information Technology in the sales Force », . *eBusiness ResearchCentre, 2001, Working*.
17. sharpe R, B. G. (2006). L'expérience de premier cycle de l'apprentissage en ligne mixte: une revue de la litterature et de la pratique au Royaune Uni. *academie de l'enseignement superieur*.

18. Taylor. S., T. P. (1995). « Understanding information technology usage: a test of competing models. *nformation System Research. Vol. 6. N °2. June.*, 144-145.
19. Thompson et al, R. H. (1991). « Personnel computing :Toward a conceptual model of utilization »,. *MIS Quarterly , VOL 15, N°1, ,* 125-145.
20. Triandis, H. (1980). « Values, attitudes, and interpersonal behavior», . *Nebraska Symposium on motivation, NE, University of Nebraska Press*.
21. Venkatesh et al, M. G. (2003). . User acceptance of information technology: Toward a unified view. . *MIS Quarterly, 27 (3), ,* 425-478.
22. Venkatesh, V. (2000). Determinants of perceived Ease of Use: Integrating Control, Intrinsic Motivation, and Emotion into the Technology Acceptance Model. *Information Systems Research, VOL.11, N°4, ,* 342-365.
23. Venkatesh. V et Davis, F. (2000). «A theoretical extension of the technology acceptance model: four longitudinal studies », . *Management Science, Vol. 46, N° 2 February,*, 186-204.