
RESEARCH ARTICLE

Investigating Students' Attitudes Towards the Use of ICT in Learning: The Specialized Institute of Applied Hotel Technology and Tourism in Ouarzazate-Morocco- as a Case Study

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ABSTRACT

This study seeks to examine the students' attitudes towards the use of information communication technology (ICT) in learning based on the Technology Acceptance Model (TAM) developed by (Davis, 1989) among tourism students at the Specilaized Institute of Applied Hotel Technology and Tourism in Ouarzazate, Morocco. In the current research, a questionnaire in Google form is administered to 238 students enrolled in the Institute to easily get responses. The study espouses a mixed-methods research design that uses both qualitative and quantitative techniques to collect and analyze data. To unknown reasons, only sixty-four student-respondents managed to fill out the questionnaire entitled : Investigating Students' Attitudes Towards the Use of ICT in Learning: The Specialized Institute of Applied Hotel Technology and Tourism in Ouarzazate-Morocco- as a Case Study. The findings reveal that most respondents hold a positive attitude towards the use of ICT in their learning. Furthermore, the results indicate that respondents perceive ICT as valuable and easy to use, enhancing engagement, interaction, and achievement in learning. On the other hand, technical issues, internet connectivity, ICT competency, and hardware issues are the major challenges faced by students while espousing ICT in their learning process.

KEYWORDS

ICT- Attitudes- Perceived ease of use-Perceived usefulness of use

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1. Introduction

The integration of Information Communication Technology (ICT) has become an integral part of modern education, offering numerous opportunities for interaction, collaboration, and access to a vast array of resources" Anderson et al.(2019). In recent decades, ICT has played a pivotal role in empowering learning, fostering a culture of life-long learning, and equipping learners to take part and succeed in a globally interconnected and technologically advanced community. In specialized fields like tourism and hospitality education, the effective use of ICT is particularly critical, as it equips students with the digital skills necessary to thrive in a technology-driven industry (Cantoni & Xiang, 2013). The Specialized Institute of Applied Hotel Technology and Tourism in Ouarzazate, Morocco, offers a fertile setting for investigating students' attitudes towards the use of ICT in learning, given the region's prominence in tourism and the vocational nature of the training provided.

The present study seeks to investigate the students' attitudes toward the use of ICT in learning at the Specialized Institute of Applied Hotel Technology and Tourism in Ouarzazate based on the Technology Acceptance Model (TAM) proposed by Davis (1989). This model posits that two factors- perceived usefulness and perceived ease of use- significantly influence users' acceptance

and adoption of new technologies. While research on teachers' and students' attitudes towards ICT in general instructional settings is abundant, studies focusing on vocational institutions, particularly those in tourism and hospitality, especially in the Moroccan context, remain scarce. Therefore, this study fills a substantial gap in the literature by probing students' perspectives in this specialized field.

The subsequent sections of this study will delve into the theoretical framework underpinning the paper, present the research methodology opted for it as present the findings. Afterwards, a fine-grained analysis of the data, valuable insights into the constructs influencing students' attitudes towards ICT as well as recommendations for optimizing ICT integration in the target institute, or potentially institutions in similar contexts, will be ensued.

2. Review of Literature

2.1 ICT Definition

Anderson (2010) defines ICT as an all-inclusive phrase that "includes the full range of electronic tools by which we gather, record, and store information, as well as by which we exchange and disseminate information to others." Along with the broadband Internet, interactive Web 2.0 technologies, and cloud applications, it also incorporates laptop computers, electronic pads, cellphones, and other mobile devices. Because of the growing usage of ICT in education, learning may occur whenever and wherever.

In a similar vein, Asabere and Enguah (2012) define ICT as the infrastructure, procedures, instruments, and machinery that enable the production, distribution, processing, storage, and retrieval of data, information, and images, videos, and text.

As a matter of fact, technology has been acknowledged in many educational institutions as one of the major forces behind the enhancement of teaching and learning. In this regard, the use of ICT is seen to be beneficial for both instructors and students in the classroom. The availability of technology, the accessibility of ICT tools, and technical and administrative assistance are only a few of the aspects that may have an impact on the achievement of meaningful ICT use in the area of education (Al-Ruz & Khasawneh, 2011; Fu, 2013; Lin, Wang, & Lin, 2012). Users' attitudes regarding using technology in the classroom is also another factor that may have a significant influence on teaching and learning.

2.2 The Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM) developed by Davis (1989) is one of the most significant technology adoption models that tackle the theoretical framework that describes how individuals use modern technology in the workplace, business, communication and other sectors. Davis suggests that the TAM model is influenced by two main factors for measuring users' perception and usage of new technology : Perceived ease of use and perceived usefulness. According to Davis, the TAM model can predict an individual's attitudes from a number of variables, which constitute the two aforementioned factors : Perceived ease of use and Perceived usefulness. As defined by Davis (1989), Perceived ease of use is the degree to which an individual believes that a particular system would be effortless, while Perceived usefulness refers to the degree to which an individual believes that a particular system will enhance job performance.

Davis's (1989) Technology Acceptance Model (TAM) provides a foundational framework for understanding technology adoption. TAM posits that perceived ease of use and perceived usefulness are the primary determinants of technology acceptance.

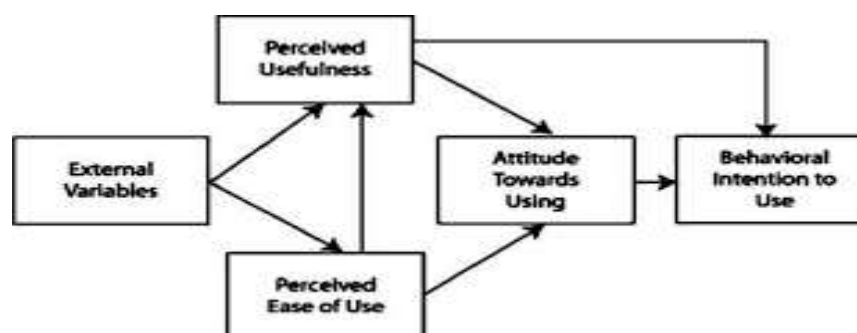


Figure 1 : The Technology Acceptance Model (1989)

2.3 Review of Related Studies

The potential advantages of using information and Communication Technologies (ICT) in educational settings have been widely emphasized in numerous studies (Becker, 2000; Roblyer & Edwards, 2000). ICT offers opportunities for active learning, personalized instruction, and access to a plethora of materials outside the walls of the traditional classroom (Bebell & Kay, 2010). In recent studies, researchers have acknowledged the crucial role of students' attitudes in determining the successful implementation of ICT in educational environments (Teo, 2011 ; Al-Dwairi & Al-Mahasneh, 2021). A positive student attitude towards ICT can foster engagement, motivation, and, ultimately, improved learning outcomes.

Furthermore, (Ali & Al-Emran, 2023 ; Khan & Khan, 2022) have highlighted the potential of ICT to enhance student engagement and motivation, particularly in vocational education. When used effectively, ICT can provide students with opportunities for hands-on learning, collaboration, and problem-solving, which are essential skills for success in vocational fields.

According to a number of studies (Sánchez & Alemán, 2011; Sosin, Blecha, Agarwal, Bartlett, & Daniel, 2004), the effective use of ICT can improve the educational standards in higher education institutions. The use of ICT has some beneficial effects on student performance. Learning-wise, Slimani (2022) argued that technology has eased access to information and knowledge and has substantially lessened the learners' dependence on the teacher as the prime contributor to the educational undertaking. Moreover, Sanchez and Aleman (2011) asserted the fact that ICT may help turn a classroom into a learner-centered environment in a higher education setting and the attitudes of both instructors and learners will be a major factor in how well ICT is adopted in both teaching and learning processes.

Additionally, other studies (Moyo & Mbewe, 2022. O'Dwyer & O'Dwyer, 2021) have shown that ICT can be particularly beneficial for students from marginalized groups, who may have limited access to educational resources and opportunities. By providing students with access to online learning materials and tools, ICT can help bridge the digital divide and ensure that all students have equal opportunity to succeed.

The Technology Acceptance Model (TAM) is one of the models most frequently used when researching user's adoption and usage of information technology and information systems. The Technology Acceptance Model (TAM), developed by Davis, Bagozzi, and Warshaw in 1989, tries to clarify how users perceive and utilize technology by defining the connections between perceived utility, perceived ease of use, and attitude towards computer usage. As specified below, the TAM constructs encompass Perceived usefulness is the extent to which a user thinks using technology will improve his or her job performance; perceived ease of use is the extent to which a user thinks using technology requires no effort; and attitude towards computer use is the degree of enjoyment a user gets from using the computer (Davis et al., 1989, p. 320).

In the same line of thought, Venkatesh and Bala (2008) advocate the fact that the TAM model has been instrumental in educational research, demonstrating that students' attitudes towards ICT are significantly influenced by their perceptions of its utility and ease of use. Similarly, Aydin and Yelken (2014) found that positive attitudes towards ICT are linked to higher engagement and academic performance in vocational education settings, reinforcing the relevance of TAM in educational contexts.

2.4 Constructivist Theory

According to constructivist theory, which was developed by Jean Piaget (1973) and Lev Vygotsky (1978), knowledge is actively constructed by students through their interactions with the outside world as opposed to being passively absorbed by it. Piaget's theory stresses the fact that cognitive development through processes of assimilation and accommodation, where learners adapt their learning schemas in response to their new experiences (Piaget, 1973). By emphasizing the value of social interaction and scaffolding in cognitive development, Vygotsky (1978) expands this idea with the introduction of the Zone of Proximal Development (ZPD) concept. In this regard, ICT tools may create dynamic, interactive learning environments that support both Vygotskian and Piagetian theories when they are incorporated in line with these constructivist principles. For instance, Jonassen affirms that interactive software and simulations can support active learning and problem-solving, reflecting the socially participatory and exploratory processes at the heart of constructivist philosophy.

For the sake of improving the learning experiences, ICT in education must be deliberately matched with learners' needs and educational objectives. According to Dooly (2008), ICT tools may greatly help constructivist learning objectives when they are utilized to build immersive, interactive environments that promote exploration and cooperation. To illustrate, students' cognitive processes within their ZPD can be scaffolded by technologies that offer instant feedback and adaptive learning routes, fostering a deeper comprehension and application of information (Hmelo-Silver et al., 2007). Therefore, when ICT is carefully incorporated into educational methods that promote active engagement and collaborative learning, its potential to support learning is maximized.

3. Objective of the Study

This study seeks :

1. To probe students' attitudes towards the use of ICT tools in the context of tourism instruction.
2. To examine the impact of ICT tools utilization on students' engagement, motivation, and learning experiences.
3. To identify factors influencing students' attitudes towards the use of ICT tools in learning.

4. Research Questions

RQ 1: What are the indicators of the students' general attitudes towards ICT?

RQ 2: How can we ease students' ICT-friendliness in the tourism instructional context?

5. Hypotheses

H1: Students' attitudes towards the use of ICT tools are positively influenced by their perceived usefulness and effectiveness of these tools in enhancing their learning experiences.

H2: Students' attitudes towards the use of ICT tools in a tourism instructional setting are influenced by the perceived ease of use and user-friendliness of these tools.

6. Methodology

To fully gain a comprehensive and an in-depth understanding of students' attitudes towards ICT integration in their learning, a mixed-methods is adopted in this study. A survey is administered to a broad sample of students from various disciplines. The survey encompasses Likert-scale and open-ended questions to gauge students' overall views and impressions of the impact of ICT on their learning.

7. Participants

The present study is based on a questionnaire administered to a sample of 238 students who are enrolled in the Specialized Institute of Applied Hotel Technology and Tourism in Ouarzazate, Morocco. The total number of respondents who sent back the Google form is 64 (65.9 % of them male and 34.1% female). 63.6% are under 25 years of age, 34.1% are under 35 years of age, while 2.3% are under 45 years of age. It's worth mentioning that the students under study come from different educational backgrounds and have different degrees (Baccalaurate, BA, and MA)

8. Instrument

The current study relies primarily on a questionnaire that was sent via both email addresses and WhatsApp groups to the director of the institute who forwarded it to all delegates of the classes who also shared it with their classmates. The questionnaire encompassed 16 questions and was developed on Google Form. It was equally divided into four sections, each of which included four questions. The four sections were titled as follows : Demographics, Perceived ease of use of ICT, Perceived usefulness of ICT, and Students' attitudes towards the use of ICT. Putting the research requirements in mind, the questions were both of close and open ended types. Such strategy permitted the researcher to decrypt and analyse the respondents' responses both quantitatively and qualitatively and gain a deep understanding of the study.

9. Procedure

A meeting was held with the participants from different classes who filled out the questionnaire. I briefed them on the study and its ultimate goal. All participants were informed that their participation in the study is voluntary and their anonymity is strictly warranted. The participants were also informed that they have the right to not take part in or withdraw their responses from the study at any time if they have any reservation. The questionnaire was examined and approved by my supervisor and co-supervisor before it was administered to the participants. The respondents were informed that the questionnaire should be filled out online and would take less than fifteen minutes to complete.

10. Findings

The present study utilizes a questionnaire administered to a sample of 238 students enrolled at the Institute of Hospitality and Tourism in Ouarzazate, Morocco. Regarding the demographic data collected through the first two questions related to age and gender, it is found that responses were received from 64 participants via Google Forms. Among these respondents, 73.4% are male and 26.6% are female. In terms of age distribution, 79.7% are under 25 years old, 17.2% are under 30, 9.4% are under 35, and none are under 45.

Table 1 : Gender

Male	73,4%
Female	26,6%

Table 2 : Age

Age	Percentage
18-25	79,7%
25-30	17,7%
30-35	9,4%
35-40	0%

As for questions three and four, which pertain to the students' level of education and their year of training, 61.9% of the total respondents obtained their Baccalaureate degrees, while 27% get Bachelor's degrees. Furthermore, 7.9% achieve their DEUG, a two-year university degree, and 1.6% complete their Master's degrees. The remaining 1.6% reach the Baccalaureate level without advancing further.

Table 3: Level of Education

Level of Education	Percentage
Baccalaureate level	1,6%
Baccalaureate holder	61,9%
DEUG holder	7,9%
BA holder	27%
Master's degree holder	1,6%

Table 4: Year of Education

Year of education	Percentage
First year	23,8%
Second year	76,2%

Table 5 shows the distribution of respondents according to their vocational specialties. It illustrates the specialties of students who react to the questionnaire. The results suggest that the largest segment that responds, making up 34.4 % of the students, specializes in "Gestion et Contrôle de l'exploitation" (Management and control of operations). This is followed by, 26.6% of the students specializing in "Guide des espaces naturels" (Natural Space Guide), and 25% in 'Concepteur Accompagnateur de Projets Eco-touristiques' (CAPE) (Eco-tourism Project Designer and Accompanist). Only 12.5% of respondents are in "Gestion de l'Ingenierie de Restauration" (Restaurant Engineering Management), and 1.6% are in "Promotion et Commercialisation des Produits Touristiques" (Promotion and Marketing of Tourist Products). As for the students of "E-Tourisme et E-Réputation (ETER)" (E-

Tourism and E-Reputation), "Cuisine Marocaine Traditionnelle" (Traditional Moroccan Cuisine), "Cuisine" (Cooking), and "Service au Restaurant" (Restaurant Service) do not react to the survey.

Table 5: Major

Major	Percentage
"Gestion et Contrôle de l'exploitation	34.4 %
Guide des espaces naturels	26.6%
Concepteur Accompagnateur de Projets Eco-touristiques'	25%
Gestion de l'Ingenierie de Restauration	12.5%
Promotion et Commercialisation des Produits Touristiques	1.6%
E-Tourisme et E-Réputation	0%
Cuisine Marocaine Traditionnelle	0%
Cuisine	0%
Service au Restaurant	0%

Section I: The Perceived Ease of Use of ICT

To measure the perceived ease of use of technology tools among the participants, three questions are posed. In response to the first question, "How often do you use ICT in learning? ", the data reveals that 47.7% of participants report using technology "always," 38.6% admit they use it "often," and 13.6% state "sometimes." Remarkably, no participant reports not using ICT at all. The data indicates a high level of ICT integration among students. Almost nine out of ten respondents state using technology "always" or "often" in their learning, suggesting a pervasive presence of ICT in the educational environment. On top of that, no respondent reports never using ICT, implying a lack of a digital divide within the participant group.

Table 6: How often do you use ICT in learning?

Frequency	Percentage
Always	47.7%
Often	38.6%
Sometimes	13.6%
Rarely	0%
Never	0%

Regarding the second question, "How do you find the use of ICT in learning? ", which seeks to assess the ease of ICT-use in learning, students' responses unveil a largely favorable perception. A majority of 62.9% find it "very easy," while 19.4% rated it as "easy." Meanwhile, 11.3% consider it as "moderately difficult," 4.8% as "difficult," and only 1.6% assess it as "very difficult." The results showcase that most respondents perceive ICT as easy to use in their learning, with a significant majority expressing positive experiences. However, a small minority finds it somehow challenging, highlighting the need for targeted support and resources to address the obstacles faced by these respondents. Ensuring that all learners have equitable access to effective ICT training and support is crucial to maximizing the benefits of technology in education and fostering a more inclusive learning environment.

Table 7 : Ease of ICT-use

Frequency of ease	Percentage
Very easy	62.9%
Easy	19.4%
Moderately difficult	11.3%
Difficult	4.8%
Very difficult	1.6%

The last question in this section, "How would you rate your competencies in using ICT tools? ", aims to figure out students' self-assessment of their ICT skills. The participants' responses reflect a predominantly positive perception. 48.4% rate their skills as "good" and 37.5% as "average." Additionally, 7.8% describe their competencies as "very good, while 4.7% assess theirs as "below average", and 1.6% as "poor." The results disclose the fact that while most respondents have a solid foundation in technology use, along with a group showcasing highly advanced technological skills, there is a small group that needs additional training or support to improve their ICT proficiency.

Table 8 : students' self-assessment of their ICT skills

Rate	Percentage
Very good	7.8%
Good	48.4%
Average	37.5%
Below average	4.7%
Poor	1.6%

Section II : Usefulness of ICT in Learning

To measure the perceived usefulness of ICT in learning, four questions are included. The first one inquires the extent to which respondents agree with the statement, " ICT improves my learning outcomes." The survey findings demonstrate a strong consensus, with 28.1% of respondents selecting "strongly agree", while 62.5% indicating "agree." However, 9.4% of respondents are "Neutral, " whereas none show disagreement. The data collected figures a strong positive perception of ICT's effectiveness in enhancing learning outcomes, with a combined 90.6% of respondents declaring their consensus, either strongly agree or agree. The 9.4% who are neutral indicate that they might be indifferent or have varying experiences with ICT. Importantly, having no respondents expressing their disagreement implies the fact that there is a general acceptance of the role of ICT in improving learning. In brief, while most students recognize the benefits of ICT, a small portion may not yet fully experience or understand its advantages.

Table 9 : ICT improves students' learning outcomes.

Frequency	Percentage
Strongly agree	28.1%
Agree	62.5%
Neutral	9.4%
Disagree	0%
Strongly Disagree	0%

The second question is meant to gauge the students' perceived usefulness of ICT in their learning practices. In this respect, the survey outcomes display a strong endorsement of its value. A substantial majority of respondents rate ICT as "very useful" (35.9%), and 57.8% as "useful". Concurrently, 6.3% describe ICT to be "somehow useful," with no respondents rating it as "less useful" or "not useful at all." The received results report that respondents generally perceive ICT as highly beneficial for their learning. A vast majority (92.2%) perceive ICT as either very useful or useful tool, highlighting its positive impact on their educational experiences. The small portion (6.3%) who deem it as "somehow useful" suggests that while they acknowledge some benefits, they may not realize some hidden ICT's potential. Additionally, the absence of respondents rating ICT as "less useful" or "not useful at all" indicates strong overall support for its value in learning expressed by the aforementioned majority.

Table 10: Perceived Usefulness of ICT in Learning Practices

Level of usefulness	Percentage
Very useful	35,9%
Useful	57,8%
Somehow useful	6,3%
Less useful	0%
Not useful at all	0%

In reference to the fourth question, "in which activity do you use ICT ? ", the chief goal is to identify the activities in which students most frequently utilize ICT. Given that the respondents' responses are qualitative, I have categorized them into four major themes, as outlined below.

Table 11: Areas of ICT Incorporation

Theme	Activities
1. Education and Learning	<ul style="list-style-type: none"> - Education - Learning New Skills - Learning Languages - Learning English - Extracurricular Activities - Video Lessons - Using ICT for Learning English
2. Research and Information Gathering	<ul style="list-style-type: none"> - Scientific Research - Academic Research or Informatics - Research and Searching for New Information - Research - Research and Auto Learning - Searching for New Information - Information - Gathering Information - Research
3. Technology and Tools	<ul style="list-style-type: none"> - ICT (Information and Communication Technology) - Microsoft Office - Platforms - Creation of Content - Design - Offers
4. Communication and Media	<ul style="list-style-type: none"> - Social Media and AI - Instagram

	<ul style="list-style-type: none"> - Social Media - Communication - Presentations
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The qualitative responses attained reveal that respondents incorporate ICT across four major areas. To begin with, Education and Learning are key theme in which they employ ICT for general education, acquiring new skills, learning languages (especially English), engaging in extracurricular activities, and accessing video lessons. Then, Research and Information Gathering is another significant area where students utilize ICT for academic research, searching for new information, and self-learning. The next theme is technology and tools. This latter highlights the use of ICT for diversified technological applications such as working with Microsoft office, using online platforms, creating content and engaging in design-related tasks. Last but not least, Communication and Media is a prominent theme where students use ICT for communication through social media platforms like Instagram, AI tools, and creating presentations. These themes underscore the multifaceted role of ICT in respondents' academic and personal activities.

Regarding the third question, it is worth noting that the respondents are allowed to single out more than one obstacle. Therefore, it is not surprising if the aggregate percentage of responses exceeds 100%. As shown in figure 10. The survey results spotlight several significant obstacles that hinder effective technology usage in learning. The most frequently cited obstacle, noted by 74.2% of respondents, is internet connectivity, followed by hardware issues at 33.9% and technical issues at 32.3 %. Furthermore, 16.1% report challenges related to ICT competency, while 3.8% of respondents claim other obstacles, which suggests that there are additional and less common factors that also impact technology usage in learning.

Table 12 : Obstacles to effective technology usage in learning

Obstacle	Percentage
Internet connectivity	74.2%
Hardware issues	33.9%
Technical issues	32.3 %
ICT competency	16.1%
Other	3.8%

Section III : Students' attitudes towards the use of ICT.

To gauge students' attitudes towards the use of ICT, four questions are encompassed. Figure 11. Presents the data related to the first question, "Do you enjoy using ICT tools ? " According to the data, a majority of respondents, 47.6%, indicate that they always enjoy using ICT tools. This is proceeded by 34.9% who often enjoy using them. 14.3% confess that they sometimes enjoy using ICT tools, while 2.4% rarely enjoy them. Moreover, only 0.8% of respondents state that they never enjoy the use of ICT tools. Simply put, the majority of respondents express their positive attitude towards the use of ICT tools.

Table 13: Do you enjoy using ICT tools ?

Frequency	Percentage
Always	47.6%
Often	34.9%
Sometimes	14.3%
Rarely	2.4%
Never	0.8%

As depicted in the table below, the qualitative results can be sorted out into four main themes : Knowledge Acquisition, Ease of Access to Information, Creativity and Innovation, and Communication and Connection. With respect to this, many participants recognize the significant role of ICT tools in enhancing their learning experience by offering new technologies and innovative platforms such as Kemdraw, which contribute to their academic growth and development. They value the educational benefits of ICT, including learning programming languages and exploring fields like Artificial Intelligence. Furthermore, ICT tools facilitate quick and efficient access to information, making research and task performance more manageable and less time-consuming. This efficiency is critical for their academic productivity. Repliers also appreciate the

creative potential of ICT tools, using them to design, create, and innovate, which fosters their creativity and allows for self-expression. Additionally, ICT tools play a vital role in communication and connection, enabling students to interact with people from various cultures, establish relationships, and engage in online discussions. This social and cultural engagement highlights the multifaceted benefits of ICT in their educational and personal lives.

Tbale 14 : Scopes of enjoyment of ICT tools.

Themes	Responses
1. Learning and Knowledge Acquisition	<ul style="list-style-type: none"> - I enjoy learning how to deal with new tools, exchanging information with my classmates, and gaining more ICT knowledge. - The thing I like most about technology is that I learn new things. - Learning more about new things. - I enjoy accessing the Kemdraw platform. - Research, programming, and Photoshop. - Learning new things and using Canvas. - Learning about Artificial Intelligence, Google, and scientific research. - Research. - During reading about new things. - I enjoy the fact that ICT tools provide a wide sphere of innovation. - For my work and also learning.
2. Ease of Access to information	<ul style="list-style-type: none"> - ICT tools contribute to innovation by providing platforms for research, development, and creative expression. - Access a wealth of knowledge and perform tasks more easily. - It makes searches easy. - Easiness to get the information. - When I conduct research, I find the information needed. - Getting the information quickly and immediately. - Quick response.

	<ul style="list-style-type: none"> - It easily helps you to look up information. - Benefit in the information. - Accuracy of obtaining the desired information. - Searching for information. - Accessibility. - Easy to get the information. - Benefit in the information. - Accuracy of obtaining the desired information. - Searching for information. - Accessibility. - Easy to get the information.
3. Creativity and innovation	<ul style="list-style-type: none"> - Design. - Search information on the web and design something in PowerPoint or any software. - Provide access to vast information and facilitate innovation and creativity. - I enjoy browsing different sites around the world. - I'm enjoying browsing different sites around the world.
4. Communication and connection	<ul style="list-style-type: none"> - Getting connected with different people from different cultures. - Communication. - Setting up relationships with other people all over the world. - Chatting with friends. - Watching documentaries and listening to podcasts. - Broadcasts, documentaries, and films.

As far as what respondents dislike about ICT is concerned, the survey results showcase several concerns related to ICT tools, categorized into Health and Well-being Issues, Technical and Functional Concerns, and Content and Quality Problems. Health and well-being issues incorporate concerns about digital addiction, which can negatively impact mental health by increasing anxiety and reducing attention spans, and issues linked to the physical strain on eyes, which may lead to a preference for critical thinking over-reliance on ICT. Some respondents also express general dissatisfaction with the health side effects of ICT

tools. In regard to technical and functional concerns, issues with Wi-Fi and connectivity are pointed out, including technical problems and slow connection. There are significant worries about security as well, such as fears of hackers and the potential misuse of personal information. Regarding content and quality problems, they encompass dissatisfaction with trivial content, excessive and irrelevant ads, and an overwhelming amount of information, which can cause confusion. Concerns about the validity of the information and limited freedom on ICT platforms, along with a perceived reduction in the use of traditional methods like books, are also noted. In short, these results display a range of issues from health impacts and technical difficulties to content relevance and platform limitations.

Table 15 : Concerns related to ICT-Use

Category	Specific issues
Health and well-being issues	
Mental health and addiction	Digital addiction, negative impacts on mental health, anxiety, reduced attention spans.
	It can be a source of addiction and bullying
	Hate being obliged to use them due to eyes problems, addiction to ICT over critical thinking.
	Don't like side effects on health.
Physical Health	Negative effect on eyes
Critical Thinking	Actually nothing
Technical and Functional Concerns	
Technical issues	Wi-Fi problems, technical and connection issues, slow connection
Security	Fear of hackers, security risks, misuse of personal information
Content and Quality Problems	
Content Relevance	Trivial content, ads that are not important, excessive ads, abundance of information causing confusion
Validity	Concerns about the validity of information.
Freedom and Control	Limited freedom on platforms, dissatisfaction with the diminished use of traditional methods

As to the final question in this section, "what do you think about incorporating ICT into classroom as a teaching tool ? ", The findings impart that a majority of respondents hold a positive view of incorporating ICT into the classroom, with 46.8% strongly agreeing and 41.9% agreeing with its use as a teaching tool. A smaller portion, 9.7%, remains neutral, while only 1.6% disagree and none strongly disagree. This indicates a strong buy-in of participants for the use of ICT in their learning process and instructional environment.

Table 16: Do you enjoy using ICT tools ?

Frequency	Percentage
Strongly Agree	46.8%
Agree	41.9%
Neutral	9.7%
Disagree	1.6%
Strongly Disagree	0%

11. Discussion

The results of the study highlight a high level of ICT use among students, with nearly half of the participants reporting that they "always" use it in their studies. This strong frequency suggests that ICT has been successfully integrated into the learning environment to a meaningful extent. Additionally, most repliers (62.9%) perceive ICT as "very easy" to use, reflecting a positive user experience in terms of usability. However, a small group finds ICT "moderately difficult" or "difficult," implying that the perceived ease of use is not universal. This variance in user experience hints that while ICT is generally well-received, certain students may face barriers to effectively using these tools. To create a more inclusive learning environment, the institute under

study could consider offering additional training for participants who struggle with ICT, ensuring that all students can benefit equally from its integration.

Respondents' positive perception of ICT's usefulness is another notable finding, with 90.6% of them agreeing or strongly agreeing that ICT improves their learning outcomes. This visible support highlights widespread acceptance of ICT's role in enhancing the learning experience. The high endorsement aligns well with the Technology Acceptance Model (TAM), which posits that perceived usefulness is a critical driver of technology adoption. These consistent answers indicate that participants not only accept ICT but also recognize and appreciate its practical benefits. However, the 9.4% neutrality suggests that few respondents may not fully experience these benefits, perhaps due to varying levels of exposure or engagement with ICT in their specific studies. These respondents may benefit from additional guidance or resources to better understand ICT's potential impact on their learning outcomes.

The study also unveils that students apply ICT across a diverse range of activities, from academic research and skill development to social media engagement. This broad use reflects ICT's versatility and potential to support both educational and personal growth. However, while ICT's wide application is promising, a more targeted analysis could provide valuable insights into how specific activities contribute to academic performance versus general skill acquisition. Understanding which activities most directly impact learning outcomes could help educators focus ICT integration on the areas that most benefit students' vocational success.

Despite these positive perceptions, obstacles to effective ICT usage remain significant. Internet connectivity, cited by 74.2% of respondents, emerges as a major barrier, along with hardware and technical issues. These challenges underscore the importance of consistent internet access and quality hardware in supporting effective ICT integration. Since only 16.1% of participants state difficulties with ICT competency, the data suggests that most barriers are external rather than skill-based. Addressing these logistical and infrastructural issues could substantially improve students' ICT experience and, in turn, enhance learning outcomes.

Interestingly, the survey also reflects positive attitudes towards ICT use in learning, with nearly 83% of students expressing enjoyment in using ICT tools. This high satisfaction correlates with students' perceptions of ease of use and usefulness, reinforcing the connection between positive user experience and favorable attitudes towards technology. Yet, (0.8%) of respondents do not enjoy using ICT, likely due to technical issues or discomfort with digital tools. This finding suggests the need for a support system that could help students who face these barriers, ensuring that everyone can benefit fully from ICT in their studies.

Additionally, respondents voiced concerns about the potential negative health effects of ICT, such as eye strain, anxiety, and digital addiction. This feedback highlights an important, often overlooked, aspect of ICT use in learning: the need for balance and well-being. Students' awareness of these health impacts suggests that institutions should offer guidance on responsible technology use, including promoting regular breaks and ergonomic practices to mitigate physical strain. By encouraging healthy ICT habits, educational institutions can support students in maintaining a balanced approach to technology.

Finally, the majority of students expressed strong support for the integration of ICT into classroom settings, with only a small percentage showing neutrality or disagreement. This favorable view suggests that students see ICT as a valuable complement to traditional teaching methods and underscores their appreciation of ICT's role in enhancing the learning experience. This finding reinforces the general trend that students find ICT to be beneficial and aligns with their reported positive perceptions of its ease and usefulness.

12. Study Limitations

The present study has brought valuable insights on ICT adoption in a vocational context based on TAM model (Davis, 1989). However, As in any research, this study has got some limitations that impact its scope and generalizability. To begin with, the small sample size of 64 respondents out of 238 targeted participants reduces the level of representativeness of the findings and increases the likelihood of bias, making it hard to draw conclusions applicable to the broader population. Furthermore, the uneven participation across majors, with some fields like "Cuisine", and "E-Tourism and E-Reputation" entirely absent, skews the results and fails to reflect the diverse perspectives within the institution. Technical and logistical challenges, such as poor internet connectivity, outdated hardware, and limited technical support, further hinder participants engagement and may have influenced

the quality and comprehensiveness of responses. Additionally, the study's focus on a single institution- The Specialized Institute of Applied Hotel Technology and Tourism in Ouarzazate, Morocco- confines its findings to a specific context shaped by localized resources, curriculum, and socio-economic conditions, limiting their applicability to other institutions or regions. These limitations call for broader, more balanced, and technically supported research studies to come out with findings that are both robust and generalizable.

13. Conclusion

The end-goal of this study is to investigate the Students' Attitudes Towards the Use of ICT in Learning at the Specialized Institute of Applied Hotel Technology and Tourism in Ouarzazate, Morocco. To attain this objective, a mixed methods approach is espoused to gain an in-depth understanding of the research. Interestingly, this study concludes that respondents possess a predominantly favourable perception of ICT-use, characterised by extensive usage, perceived user-friendliness, and a robust conviction regarding its educational usefulness. While most students are adept at using ICT tools in their learning, there remains a small portion that requires additional support.

The study underscores a strong endorsement of ICT, corroborated by the Technology Acceptance Model (TAM), as students generally regard ICT as both beneficial and user-friendly. This acceptance emphasizes ICT's potential as a transformative educational tool in vocational field.

Additionally, despite the positive attitudes respondents hold towards the adoption of ICT tools, numerous challenges still hinder its effective use in an instructional setting. These encompass unreliable internet, outdated hardware, and insufficient technical support. Therefore, to ensure equitable access, institutions must invest in robust ICT-bound projects. These latter should prioritize training especially in this era where artificial intelligence and digital literacy in general have become inevitable.

The study also highlights the importance of addressing the potential negative impact of ICT on students' health, such as digital addiction and eye strain. Institutions should implement digital wellness programs and promote ergonomic practices.

To conclude, while students are eager to use ICT in the classroom, a more structured approach is needed. Educators ought to integrate ICT into the curriculum through blended learning models to create a flexible and student-centred learning environment. As far as vocational education is concerned, comprehensive reforms, increased funding, and targeted support programs are essential. By addressing these challenges, institutions can bridge the digital divide and create a more equitable learning environment for all students.

14. Recommendation and future perspectives

Future research should critically address specific barriers to ICT adoption, particularly the technical and logistical identified in this study, such as unreliable internet connectivity and outdated hardware. These issues significantly hinder the effective integration of ICT into instructional settings, especially in vocational contexts. To tackle these obstacles, future studies should explore solutions, including increased institutional investments in infrastructure and strategic partnerships with technology providers to ensure consistent and modern tools. Furthermore, the role of emerging technologies, such as artificial intelligence, virtual reality, and augmented reality, warrants further exploration. These technologies hold immense potential to revolutionize vocational education by providing immersive, hands-on learning experiences that closely simulate industry environments. Moreover, the perspectives of faculty and administrators- key stakeholders in the successful integration of ICT- should be examined. Their attitudes, preparedness, and strategies play a pivotal role in overcoming challenges and fostering an environment conducive to effective technology use. Understanding their perspectives could reveal institutional gaps and provide actionable recommendations for policy and practice improvements. This holistic approach to addressing barriers, exploring new technologies, and engaging institutional stakeholders is essential for realizing the full potential of ICT in transforming education.

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