



Qualitative analysis of the socio-organisational factors of ICT acceptance and use in the educational context of Agadir

Analyse qualitative des facteurs socio-organisationnels de l'acceptation et de l'utilisation des TIC dans le contexte éducatif d'Agadir

Aziz ABOULAHSEN

Docteur en sciences économiques et gestion
Équipe de Recherche Pluridisciplinaire en Gestion
Faculté des Sciences Juridiques, Économiques et Sociales d'Agadir
Université IBN ZOHR, Maroc

Soufiane BOUHADI

Docteur en sciences économiques et gestion
Équipe de Recherche Pluridisciplinaire en Gestion
Faculté des Sciences Juridiques, Économiques et Sociales d'Agadir
Université IBN ZOHR, Maroc

El-Mustapha BAH

Doctorant à la FSJES d'Agadir
Équipe de Recherche Pluridisciplinaire en Gestion
Université IBN ZOHR, Maroc

Salem GOUMARI

Docteur en sciences économiques et gestion
Équipe de Recherche Pluridisciplinaire en Gestion
Faculté des Sciences Juridiques, Économiques et Sociales d'Agadir
Université IBN ZOHR, Maroc

Abdelhay BELAFQUIH

Doctorant à la FSJES d'Agadir
Équipe de recherche Pluridisciplinaire en Gestion
Université IBN ZOHR, Maroc

Ouissam EL ALAOU

Docteur de l'ENCG de Settat
Laboratoire de recherche en finance audit et gouvernance des organisations (LARFAGO),
Université Hassan 1^{er}, Maroc

Lhassane JAOUHARI

Professeur à la Faculté des Sciences Juridiques, Économiques et Sociales d'Agadir
Chef de l'Équipe de Recherche Pluridisciplinaire en Gestion
Université IBN ZOHR, Maroc

Abstract

This article presents the findings of an exploratory qualitative study, grounded in a contextualization approach, conducted with teachers and expert practitioners of information and communication technologies (ICT) in Agadir. The study aims to adapt a theoretical model of socio-organizational factors explaining ICT acceptance to the educational context of Agadir.

To collect the data, we conducted semi-structured interviews, guided by an interview protocol organized around four thematic areas, with twelve teachers contacted through various communication channels.

The analysis of the collected data was carried out using NVivo 12 software. We conducted two levels of analysis following a literal approach: first, a lexical frequency analysis, followed by a thematic content analysis.

This study shows that managerial support, the fit between technology and work, infrastructure complexity, and social influence are the factors most frequently mentioned by respondents. Moreover, technology–work fit and infrastructure complexity were raised by all participants as crucial for EICT acceptance, whereas only six interviewees mentioned social influence. As for managerial support, it was presented as a moderating factor between the acceptance and the use of EICT.

This study also examined how age and experience may moderate the effect of meta-personal factors on EICT acceptance in the educational context of Agadir.

Overall, the findings highlight the decisive role of two socio-organisational factors in ICT adoption within an educational setting increasingly shaped by artificial intelligence. These exploratory results should nonetheless be interpreted with caution. They open avenues for further research aimed at validating and generalizing this model, as well as exploring other groups of factors that explain ICT acceptance.

Keywords: Acceptance, educational context, socio-organizational factor, EICT, ICT, use.

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Introduction

The rapid rise of information and communication technologies (ICT), especially since the advent of generative artificial intelligence models, marks a major technological turning point that is reshaping the contours of our society. This massive diffusion and unprecedented democratization are no longer confined to technical spheres; they now extend across the entire social and professional fabric. Faced with this omnipresence, educational institutions stand at a crossroads. EICT can no longer be seen as a mere external technological variable, but as an indispensable endogenous component of the educational ecosystem.(Floridi, 2023)(Mcafee, 2023)(UNESCO, 2024)

Moreover, EICT are gradually becoming part of people's everyday activities—whether searching for information, communicating, producing content, or making decisions. Learners now encounter these tools long before they enter the labor market. Faced with this reality, schools cannot remain on the sidelines of this technological transformation. They are called upon not only to help students understand the opportunities and limits of ICT, but also to support teachers in making pedagogical use of these new tools.(UNESCO, 2024)

This evolution is fully aligned with Morocco's strategic priorities. Through the “Maroc Numérique 2030” strategy, public authorities aim to make digital technology a major lever of economic and social transformation, giving a central place to the development of digital skills, pedagogical innovation, and the modernization of educational institutions. The success of this transition, however, depends on the effective appropriation of emerging technologies by the key actors of the education system—first and foremost, teachers.(MTNRA, 2030)

Indeed, while the potential of EICT is now widely recognized, their integration into teaching practices remains closely tied to teachers' acceptance and actual use of these technologies. Teachers play a decisive role in the success or failure of pedagogical innovations, since their willingness to adopt EICT directly shapes whether these tools find their way into teaching and learning situations. (Luckin, 2024)

The literature on technology acceptance offers several theoretical models, such as the Technology Acceptance Model (TAM), the Unified Theory of Acceptance and Use of Technology (UTAUT), and their later developments. These models have helped identify various individual, technological, and organizational factors that influence the adoption of digital innovations. More recently, these frameworks have been used in numerous studies to examine the adoption of information and communication technologies (ICT) and educational ICT (EICT) across different educational settings. (Venkatesh, 2022)

Despite considerable advances in technology acceptance models, several limitations remain. Most studies analyze EICT acceptance and use as a quasi-linear process, implicitly assuming that strong acceptance naturally leads to effective use. This assumption remains little discussed in research on educational contexts, and even less so in emerging countries such as Morocco. In addition, meta-individual determinants—particularly organizational factors—are still insufficiently explored, even though they may help explain the shift from intention to practice. (Holmes et al., 2022)

These observations highlight the need for a contextualized understanding of the determinants of EICT acceptance and use within the Moroccan education system. It is within this perspective that the present research is situated.

The conceptual model used in this research comes from a previous literature review. It serves as the theoretical reference framework for the present study, whose aim is to assess its relevance in the Moroccan educational context of EICT and to enrich it through a qualitative analysis conducted with twelve participants of diverse profiles in the Agadir region. The data collected were analyzed using NVivo 12 software, which made it possible to identify the most significant determinants and to propose a revised conceptual model better suited to the specificities of the context under study. (Aboulahecn & Jaouhari, 2022)

This research therefore pursues a dual objective. On the one hand, it seeks to identify the socio-organizational factors influencing ICT acceptance and use in the Moroccan educational context. On the other hand, it aims to contextualize and enrich existing theoretical models by highlighting the role of organizational factors and individual characteristics in the mechanisms of EICT adoption.

In this context, the following research questions will be addressed:

What socio-organizational factors influence ICT acceptance and use in the Moroccan educational context?

Are there variables that may moderate the influence of socio-organizational factors on EICT acceptance and use?

Do EICT acceptance and use constitute two conceptually distinct constructs in the educational context?

The central contribution of this study is a contextualized conceptual model that clearly distinguishes EICT acceptance from EICT use. It also takes into account the moderating role of managerial support, as well as that of age and professional experience. This model allows for a more precise understanding of the mechanisms through which ICT are integrated into teaching practices, and offers both theoretical and managerial implications to help decision-makers support the digital transition of educational institutions.

1 Literature review: the conceptual model subject to contextualization

Building on our earlier research on the determinants of ICT acceptance in educational environments, the conceptual model used in this study draws mainly on a technology acceptance model that we developed in a collective volume. (Aboulahecn & Jaouhari, 2022)

In the framework of this study, the part corresponding to socio-organizational factors in the sense of Boubillier-Chaumon and M. Dubois is contextualized within the Moroccan educational setting of EICT and subjected to a qualitative empirical exploration in order to examine its relevance and enrich its variables and hypotheses.

The main socio-organizational factors of technology acceptance retained in this study are: task–technology fit, infrastructure complexity, social influences, and managerial support. (Vendramin et al., 2021)(Venkatesh et al., 2003)

In the model they proposed, A. Aboulahcen and H. Jaouhari formulated as a central hypothesis that socio-organizational factors influence technology acceptance (H1). This hypothesis was broken down into four sub-hypotheses:

- ☒ Task–technology fit fosters technology acceptance and use (H1.1)
- ☒ Infrastructure complexity negatively influences technology acceptance and use (H1.2),
- ☒ Social influences have a positive impact on technology acceptance and use. (H1.3)
- ☒ Managerial support fosters technology acceptance and use (H1.4).

Thus, the conceptual model that will be the focus of our qualitative study is as follows:

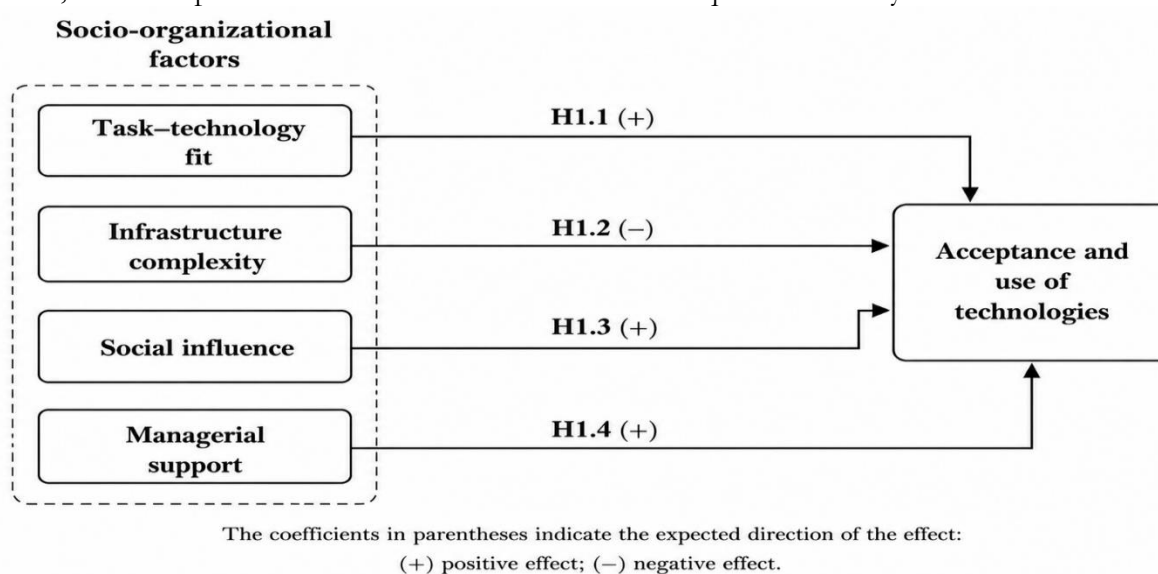


Figure 1: Initial conceptual model

Source: Prepared by the authors

2 Methodology of the empirical study

2.1 Data collection method

The collection of qualitative data relies on a comprehensive approach aimed at exploring in depth the perceptions and intentions of educational actors regarding ICT. The semi-structured interview was chosen as the main method, as it makes it possible to gather detailed and nuanced information on individual experiences; the literature also notes that interviews and observation are among the most common qualitative data collection techniques. The objective is to obtain rich qualitative data in order to contextualize and refine our hypothetical model. This approach also meets methodological requirements that require qualitative analysis to be systematic and rigorous. (Beaud & Weber, 2010)(Kohn & Christiaens, 2014)

Preparing the interview guide required several iterations. An initial pilot version that was too general showed that some questions were poorly understood by interviewees, while a second version that was too narrowly framed restricted participants' freedom of expression. These two preliminary tests made it possible to adjust the guide. After successive revisions, the final version

was validated to match the study objectives precisely while still giving interviewees the space they needed to express their views. (Kohn & Christiaens, 2014)

The final interview guide is organized into four thematic sections. The first section consists of descriptive questions about each participant's background. The second section examines their intentions and attitudes towards EICT acceptance and usage in schools, differentiating between acceptance and actual implementation. The third section investigates broad individual factors influencing EICT acceptance and use, including related measurement items and moderating variables. The fourth section concludes with a question about the measurement items for the explanatory factors identified in the literature review. These sections were crafted to align with our research goals and existing scholarly work.

The interviewees were twelve experts in ICT in education. They included associate teachers¹ of computer science, university professors in computer science, and practising teachers who had supported the transition to EICT. The semi-structured interviews were conducted from December 2024 to January 2025 using several modalities: telephone calls, voice exchanges via WhatsApp, and face-to-face meetings. The average duration of each interview was one hour (ranging from 30 minutes to 2 hours).

Each interview was recorded and then fully transcribed, which ensures the richness of the data collected.

The transcripts were then thematically analyzed using NVivo 12 software. This rigorous coding made it possible to identify the main socio-organizational factors of EICT acceptance and use in the context under study. (Kohn & Christiaens, 2014)

2.2 Data analysis method

Several approaches to qualitative analysis are described in the literature. These include, in particular: a literal approach, focused on the precise analysis of language; an interpretive approach, seeking to understand the meaning of experiences; and finally a reflexive approach, emphasizing the researcher's contribution to the analysis. J. MASON (2002)

Our choice fell on the literal approach. This choice is explained by the technical nature of the subject (EICT) and by the profile of the interviewees (experts and practitioners in computer science). Indeed, literal analysis makes it possible to stay as close as possible to participants' raw discourse, without excessive interpretation.

Coding the corpus consisted of breaking the transcripts down into units of meaning. Although delicate, this process is facilitated by NVivo 12 software, which enabled us to assign thematic codes systematically. (Laurence Bardin, 2013)

The qualitative study drew on twelve semi-structured interviews conducted in the Souss-Massa region. This diversified protocol made it possible to reach a satisfactory level of semantic saturation, rendering additional interviews unnecessary. Sampling targeted ICT specialists (teacher-researchers and practitioners) in order to gather expert perspectives useful for contextualizing the model under study. (Guest et al., 2006)

Each interview used a semi-structured guide centered on relevant themes. This guide directed participants toward the main research questions while allowing them ample freedom to express themselves.

The thematic analysis of the interviews, conducted using NVivo 12, enabled identification of the main meta-individual factors influencing EICT acceptance and use.

3 Results of the empirical study and discussion

¹ Professeur agrégé in French

3.1 Descriptive analysis of the exploratory study sample

This analysis focuses on the sociodemographic characteristics of the interviewees. We present the distribution of the sample by gender, age group, function, level of education, and, finally, interview method.

3.1.1 Sociodemographic and professional characteristics of the participants

3.1.1.1 Distribution of respondents by gender

respondents by gender

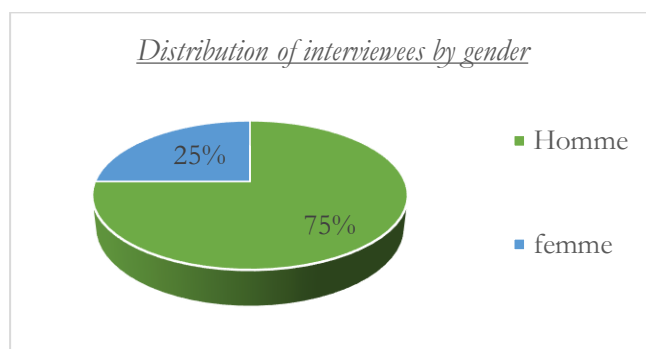


Figure 2: Distribution of respondents by gender.

Tableau 1: Distribution of

	Headcount	Percentage
Male	9	75%
Female	3	25%
Total	12	100.00%

Source: Prepared by the authors

The sample is overwhelmingly male (3 women for 9 men, a ratio of 1 to 3). This reflects a significant gender bias that must be taken into account when interpreting the results, especially since the topic under study concerns EICT acceptance.

3.1.1.2 Distribution of respondents by age group

Tableau 2: Distribution by age group

Age group	Headcount	Percentage
20–29 years	1	8.33%
30–39 years	5	41.67%
40–49 years	6	50.00%
Total	12	100%

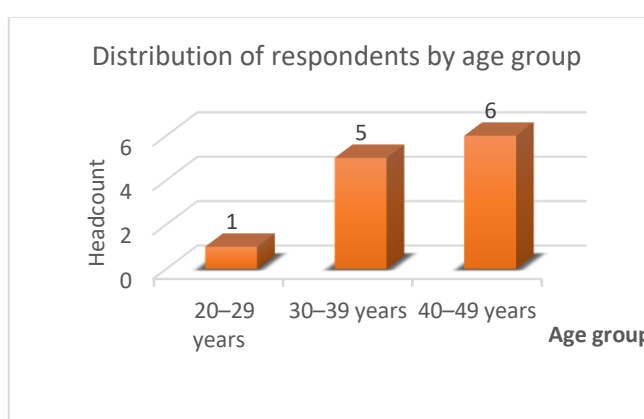


Figure 3: Distribution of participants by age group

Source: Prepared by the authors

The sample is mainly composed of people in their forties (50% are between 40 and 49 years old). Those in their thirties also represent a substantial share (41.67%). The only person in their twenties (In10, 29 years old) is a marginal case. No interviewee is under 29 or over 50, which points to a relatively mature and experienced sample.

3.1.1.1 Distribution of respondents by level of education

Tableau 3: Respondents by level of education

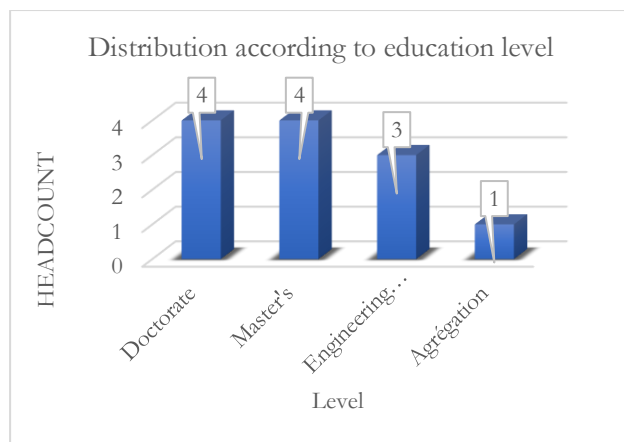


Figure 4: Respondents by level of education

Level of education	Headcount	Percentage
Doctorate (Ph.D)	4	33%
Master's	4	33%
Engineering degree	3	25%
Agrégation	1	8%
Total	12	100%

Source: Prepared by the authors

The sample displays a very high level of academic qualification, as all participants hold postgraduate degrees. Specifically, 33% possess a doctoral degree (PhD), while the remaining 67% hold either a Master's degree, an Engineering degree, or the Moroccan Agrégation diploma.

The participants also represent a broad range of academic disciplines, including electrical engineering, mechanical engineering, computer science, French literature, management, and mathematics. This multidisciplinary composition enhances the credibility of the qualitative findings by incorporating complementary perspectives from different educational and professional backgrounds.

3.1.1.2 Distribution of respondents by data collection method

Tableau 4: Distribution by data collection method

Method used	Headcount	Percentage
WhatsApp	5	42%
Telephone call	3	25%
WhatsApp call (audio)	2	17%
Face to face	2	17%
Total	12	100%

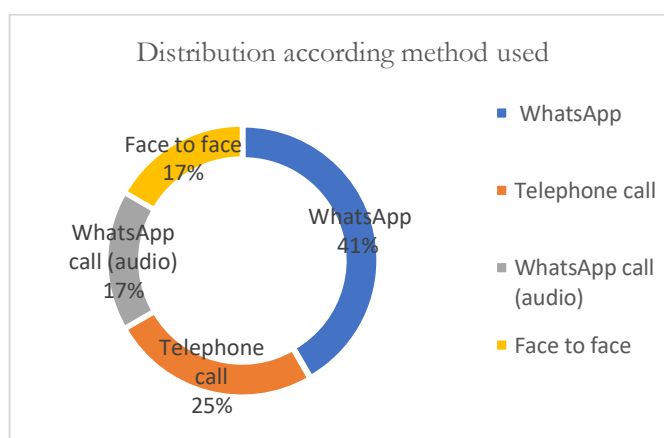


Figure 5: Respondents by data collection method

Source: Prepared by the authors

Digital and asynchronous communication methods were widely preferred during data collection. WhatsApp-based interviews (voice messages and voice calls combined) accounted for 58.34% of

all interviews (seven out of twelve participants). Face-to-face interviews, although more comprehensive and considerably longer (ranging from 90 to 130 minutes), represented only 16.67% of the sample.

Traditional telephone interviews accounted for 25% of the interviews and were mainly used to ensure better recording quality or to accommodate participants' personal preferences. These multiple interview modes enabled the researchers to collect rich qualitative data while offering participants the flexibility to choose the communication channel that best suited their availability.

3.1.1.3 Summary table of interviewee attributes

The table below presents the characteristics of the interviewees. It summarizes the coding of study participants according to their age, function, education, and the method used to conduct the interview.

Tableau 5: Interviewee attributes

Interviewees	Age	Function	Education	Method used	Duration in minutes
In1	45 years	CPGE engineering sciences teacher	Doctorate in electrical engineering	Face-to-face	90
In2	35 years	Secondary school French teacher	Master's in French literature	Recorded telephone call	80
In3	45 years	CPGE engineering sciences teacher.	Doctorate in mechanical engineering	WhatsApp audio	40
In4	40 years	Secondary school mathematics teacher	Master's in Applied Mathematics	WhatsApp audio	35
In5	41 years	CPGE computer science teacher.	Agrégation in computer science	WhatsApp audio	30
In6	35 years	Secondary school management sciences teacher	Master's in management control and information systems	WhatsApp audio	55
In7	42 years	OFPPT trainer	Computer science engineer	Face to face	130
In8	46 years	IT manager in a school group	Computer science engineer	WhatsApp call	56
In9	36 years	OFPPT trainer	Master's in automation	WhatsApp call	65
In10	29 years	Assistant professor	Information systems engineer	WhatsApp audios	60
In11	47 years	PES	Doctorate in computer science	Recorded telephone call	50
In12	37 years	Accredited professor	Doctorate in computer science	Recorded telephone call	30

Source: Author

3.2 Content analysis of the qualitative study and discussion of the results

Using the qualitative data analysis software NVivo 12, we carried out a computerized processing of the data collected from the participants in the semi-structured interviews we conducted with twelve actors from the education sector, the majority of whom were teachers at different levels.

3.2.1 Presentation and discussion of the textual analysis results

3.2.1.1 Methodological Framework for Lexical Analysis.

The lexical frequency analysis (Table 6, Figure 6) provides a descriptive view of the dominant vocabulary in the corpus. It does not constitute proof of theoretical validity: several terms correspond to formulations in the interview guide and may, in part, reflect the interviewer's prompting. Consequently, the revision of the model relies primarily on thematic analysis of semantic units, illustrated by contextualized extracts and by taking into account divergent positions. The high occurrences of the model's terms (technology-work fit, infrastructure complexity, managerial support, social influence, etc.) are therefore interpreted as indicators of discursive recurrence, and not as evidence of causal effects.

3.2.1.2 Lexical frequency analysis

Lexical frequency analysis is a text analysis method that consists in counting the number of occurrences of a word or expression in a corpus.

Without taking into account the links and logical connectors between the components of our study corpus, the frequency of the words expressed by the 12 interviewees in our sample, ranked in descending order of frequency, is as follows:

Tableau 6: Word importance by density

Rank	Word	Length	Count	Weighted percentage (%)
1	TICE	4	593	4,32
2	TIC	3	409	2,98
3	Acceptance	11	221	1,61
4	Use	11	210	1,53
5	IA	2	188	1,37
6	Teacher	10	128	0,93
7	Task–work fit	24	102	0,74
8	Managerial support	20	97	0,71
9	Social influence	18	82	0,60
10	Pedagogical technologies	24	77	0,56
11	Training	9	73	0,53
12	Infrastructure	14	72	0,52
13	Learning	13	70	0,51
14	Skills	11	68	0,50
15	Innovation	10	68	0,50
....				

Source: NVivo 12



Figure 6: Word cloud

Source: NVivo 12

The lexical analysis carried out using NVivo 12 software offers a useful lens for grasping the mental representations and implicit priorities of the educational actors interviewed. It consists in examining the frequency of word occurrence in a set of textual data in order to identify the main themes or ideas. It also brings to light the key concepts mobilized by participants regarding EICT acceptance and use in the Moroccan educational context. The results show a strong concentration of occurrences around the study's central concepts, which attests to their importance in respondents' representations and discourse. (M.Plard et A.Martineau, 2019)

Indeed, the term EICT appears as the most frequently cited word, with 593 occurrences, or 4.32%. This predominance confirms that it naturally constitutes the core of the exchanges and the main object of the concerns expressed by participants. Next come the terms ICT (409 occurrences; 2.98%) and acceptance (221 occurrences; 1.61%), illustrating the anchoring of EICT in a digital environment already structured by information and communication technologies applied to education.

The terms 'use' (210 occurrences; 1.53%) and 'IA' (188 occurrences; 1.37%) are also among the most common. Their prominence underscores the importance of the theoretical framework used and indicates that the interviews primarily focused on the mechanisms that promote teachers' effective use of EICT and IA.

Moreover, several organizational, social, and technological factors recur in the discourse. This underscores the stability of these themes. Theme stability means that these themes reappear more than once across the corpus. It should be noted, however, that within these themes some of the aforementioned keywords (managerial support, acceptance, and so on) were also expressed through alternative terms. (Steyvers & Griffiths, 2010)

The term "teacher" (128 occurrences) recalls that respondents place teachers' practices and perceptions at the heart of the EICT integration process. The expressions task-work fit (102 occurrences), managerial support (97 occurrences), and social influence (82 occurrences) correspond precisely to the explanatory factors identified by our research model. Their relatively high frequency suggests that these dimensions are perceived as major determinants of EICT acceptance and use in the Moroccan educational context.

The tree map provides complementary information by revealing proximity relationships among the main concepts. It shows that participants' discourse does not merely refer to EICT as technology; rather, it conditions their acceptance and use through meta-individual factors such as managerial support, social influence, the fit between pedagogical tasks and EICT tools, as well as

training and digital skills. These associations reflect a systemic view of EICT integration in teaching, in which technological factors interact closely with human and organizational ones. Taken together, these results support the contextualization approach pursued in this research. They show that the socio-organizational factors initially identified in the general literature find a significant echo in the Moroccan educational context. The qualitative analysis suggests, however, that their influence unfolds in a specific environment marked by the importance of educational technologies, teachers' digital skills, and institutional support. Thus, the results obtained strengthen the validity of the proposed conceptual model and justify its subsequent empirical assessment through a quantitative study.

3.2.1.3 Thematic content analysis and discussion

NVivo 12–assisted thematic analysis is a powerful method for exploring and understanding qualitative data. By following a systematic approach and leveraging NVivo 12's advanced features, researchers can uncover meaningful themes and gain deep, nuanced insights from the data. (M.Plard et A.Martineau, 2019)

The figures below provide a visual representation of the complex relationships among interviewees' responses, highlighting the main themes and ideas without being obscured by linguistic connectors. These paths and aggregations reveal factors that are similar in nature, weight, and category, offering a deeper understanding of the qualitative data collected. This approach enables researchers to discern meaningful patterns and trends, thereby facilitating the interpretation and use of the study's findings.

3.2.1.3.1 Results of the process of coding and thematically categorizing participants' discourse

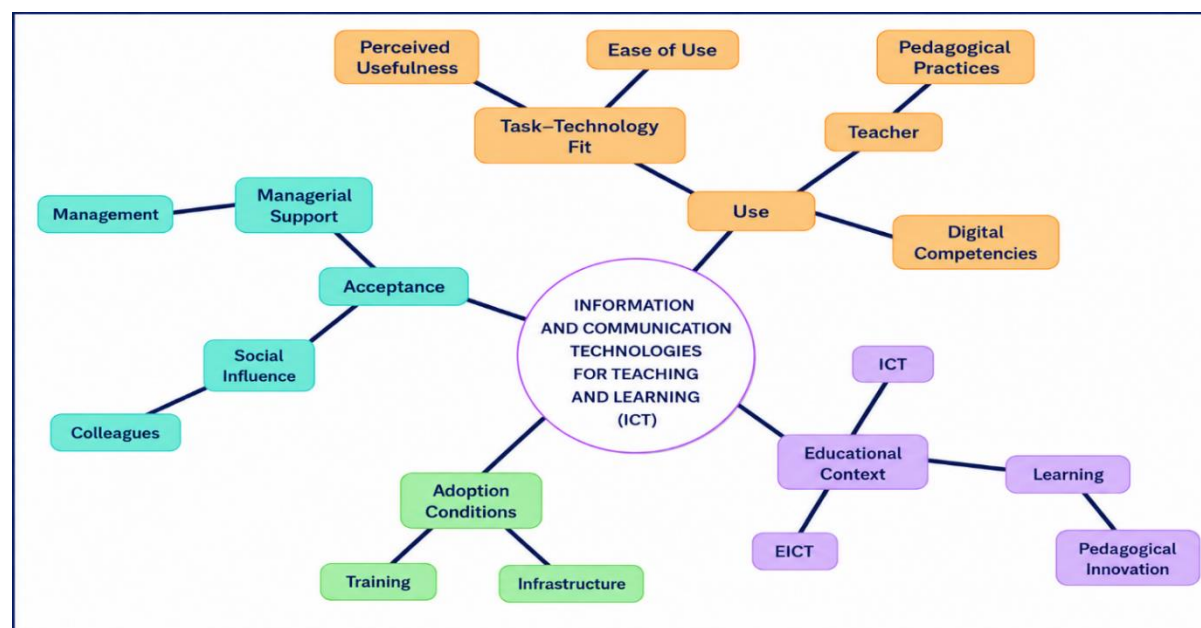


Figure 7: Thematic tree of factors associated with the acceptance and use of ICT

Source: Nvivo12

Thematic analysis of the interviews, conducted in NVivo 12, reveals two main themes: acceptance and use of ICT. The coding results indicate that acceptance depends primarily on three meta-individual factors: task-technology fit, infrastructure complexity, and social influence. EICT use appears to be strongly influenced by managerial support, which encompasses digital skills training, motivation, teaching practices, infrastructure, and other organisational conditions.

To further explore these findings, the following analysis examines the identified categories and subcategories, drawing on participants' comments and highlighting their significance within the chosen conceptual framework.

3.2.1.3.2 Technology–work fit

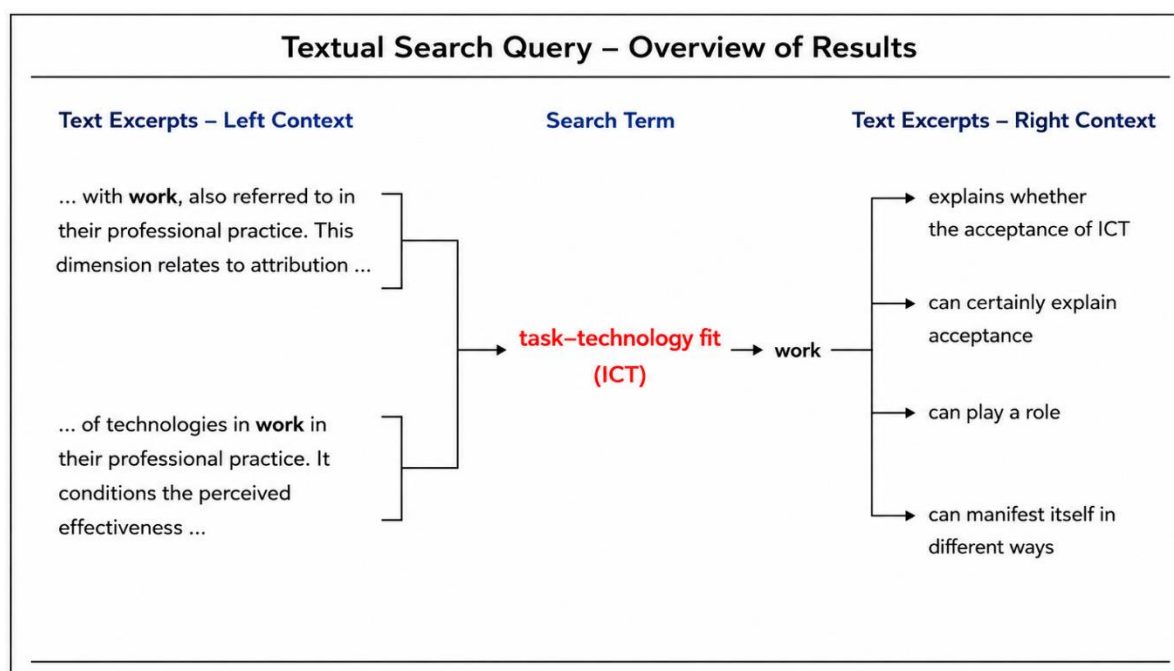


Figure 8: Text search query related to "Technology–Work Fit"

Source: NVivo 12

The mind map below highlights the decisive role of the fit between technology and work in EICT adoption in Morocco. Indeed, the majority of respondents consider the fit between technology and the work to be carried out as a first-order condition for teachers to accept and use ICT. *For example, respondent no. 7 states that: "technology–task fit is a determining factor in teachers' acceptance and use of ICT in Moroccan schools..."*

This finding is corroborated by theories and field studies. Indeed, the Task–Technology Fit (TTF) theory, proposed by Goodhue and Thompson in 1995, posits that technologies are more likely to be used and to improve performance if they are well suited to the tasks they are meant to support. (D.L. Goodhue et R. L. Thompson, 1995)

Venkatesh et al. in 2008 considered "compatibility" to be one of the key determinants of the UTAUT model. (Venkatesh & Bala, 2008)

In other words, the fit between technology and specific tasks is crucial for the effective adoption and use of EICT. In the Moroccan educational context, this fit may take the form of technologies that facilitate teaching, learning, and school management.

A study by Boulaksil and El Kadiri in 2020 showed that technology–work fit is a determining factor in teachers' adoption of EICT in Moroccan schools. Teachers are more inclined to adopt technologies they perceive as directly beneficial to their everyday professional practice. (Tahri & Kadiri, 2020)

In conclusion, the analysis of the results highlights that technology–work fit is a determining factor of EICT acceptance in the Moroccan context.

3.2.1.3.3 Technological infrastructure

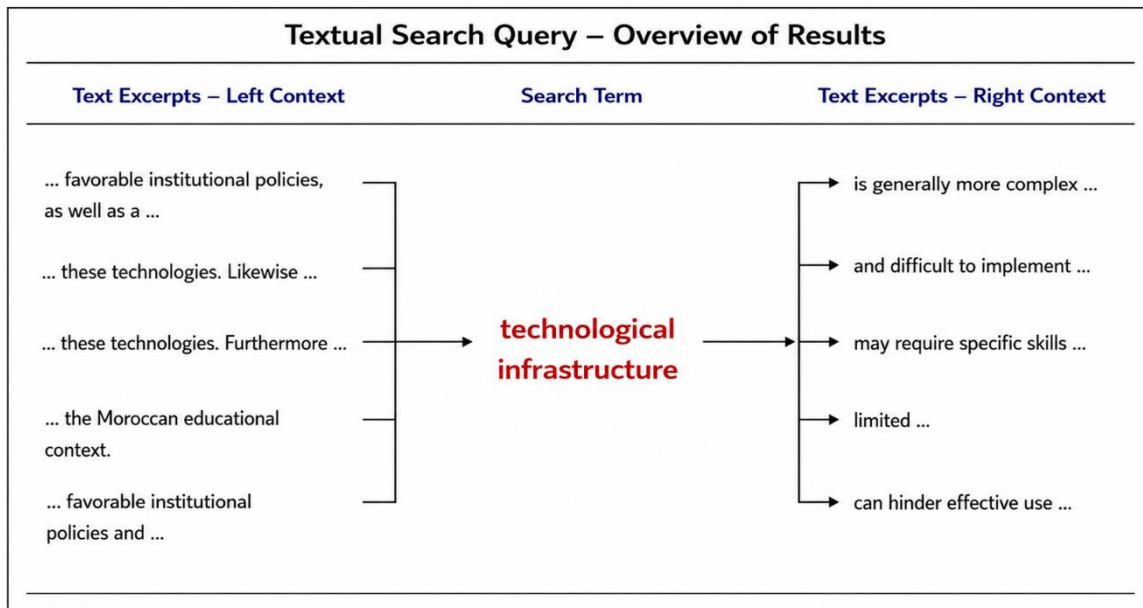


Figure 9: Text search query related to "Technological infrastructure"

Source: NVivo 12

The mind map above illustrates the importance of technological infrastructure in the Moroccan educational context. It highlights the fact that the complexity of technological infrastructure can make EICT acceptance difficult, and that it is generally more prone to challenges and may prove hard to put in place. This may require specialized skills in the management and maintenance of technological systems. Indeed, the majority of participants in this study confirmed that the more complex the technological infrastructure, the lower the acceptance of EICT. *For example, the fourth respondent states that: "The complexity of technological infrastructure can negatively influence technology acceptance in Moroccan education.*

A complex infrastructure makes technological resources less accessible to schools and teachers, thereby limiting their adoption..."

These conclusions are supported by Davis's well-known TAM model (1989), which states that a reliable technological infrastructure, well backed by favorable institutional policies, can improve the perceived usefulness and perceived ease of use of technologies—two major factors that shape EICT acceptance.(Davis, 1989)

Empirically, several recent studies confirm these theories. For example, a study by Venkatesh, Thong, and Xu in 2016 showed that well-developed and intuitive technological infrastructures foster EICT acceptance and use. Conversely, a complex infrastructure that is difficult to navigate can create frustration and anxiety among users, which reduces their willingness to adopt these technologies.(Venkatesh et al., 2016)

A study by Tarhini et al. (2017) demonstrated that the reliability of technological infrastructure is an important predictor of EICT adoption. Teachers and students are more inclined to use technologies they trust and that work reliably.(El-Masri & Tarhini, 2017)

To conclude, the complexity of technological infrastructure constitutes a significant barrier to EICT acceptance—a finding supported by established theories such as TAM and UTAUT, as well as by recent empirical studies. To improve EICT acceptance, it is essential to simplify technological infrastructures and strengthen facilitating conditions.

3.2.1.3.4 Social influence

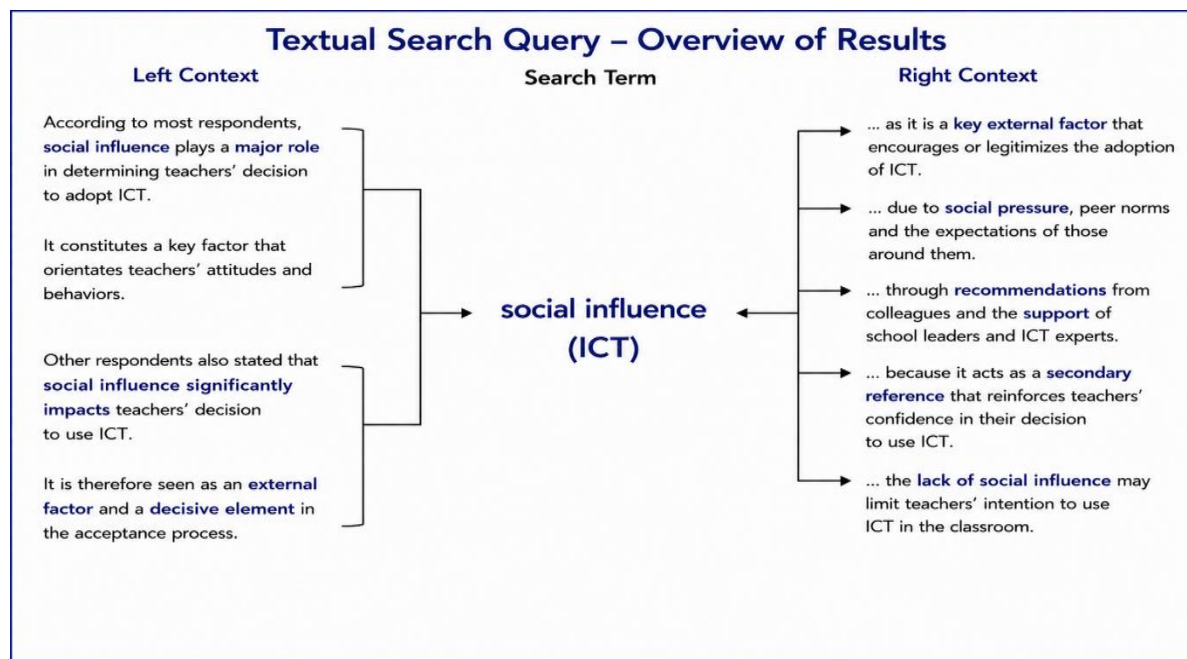


Figure 10: Text search query related to "social influence"

Source: NVivo 12

In our exploratory study, social influence is identified as a determinant of EICT acceptance by some respondents, but as a minor factor by others. Several theories and recent studies can help explain this variability in perceptions. Indeed, E. Rogers emphasizes that experienced users and innovators rely more on their own judgment than on social norms. In the field of artificial intelligence, Chatterjee and Bhattacharjee (2020) also show that, in educational environments, experienced teachers often prioritize perceived pedagogical usefulness and the fit between technology and their professional practices, thereby relegating social influence to a more limited role. These findings suggest that the effect of social influence depends strongly on the organizational context, users' level of digital maturity, and their individual characteristics, which explains the divergent perceptions observed in our study. (Everett M. Rogers, 1983) (Chatterjee & Bhattacharjee, 2020)

The eighth interviewee notes that: "At an individual level, EICT acceptance can be influenced by perceived social pressure. For example, an individual may feel obliged to adopt a new technology because friends or colleagues use it and speak favorably about it. This social pressure can alter their attitudes and intentions toward technology use." Meanwhile, *the third respondent states that: "social influence is not a direct determinant of technology acceptance."* Davis's technology acceptance theory (TAM, 1989) and its extensions (TAM2 and TAM3) include social influence implicitly in the concept of "subjective norms." Although the original TAM model focuses mainly on perceived ease of use and perceived usefulness, the extensions of the model integrate social influence as an important factor. TAM2, for example, adds subjective norms to explain technology acceptance in organizational contexts, where the perceptions and expectations of colleagues and hierarchical superiors may influence technology adoption. Thus, for some respondents, social influence may be significant because it shapes their perceptions of the usefulness and acceptability of EICT through others' expectations.

Moreover, a study by Kim et al. (2023) on passive resistance to the implementation of health information technologies (the case of an electronic medication management system) found that social influence has a significant effect on initial adoption, but that this effect diminishes as users gain familiarity and competence with the technology. This is consistent with another recent study by Dwivedi et al. (2021), which showed that social influence is particularly strong in the early phases of adoption but tends to decline as user experience increases and the technology becomes more integrated into daily routines. (Kim et al., 2023) (Dwivedi et al., 2021)

In sum, the variability of perceptions regarding social influence in EICT acceptance can be explained by individual, cultural, and contextual differences, as well as by the evolution of attitudes over time. These conclusions underscore the importance of adopting a nuanced and contextual approach when studying EICT acceptance. We therefore decided to retain this variable in the revised model and to subject it to a confirmatory study.

3.2.1.3.5 Managerial support:

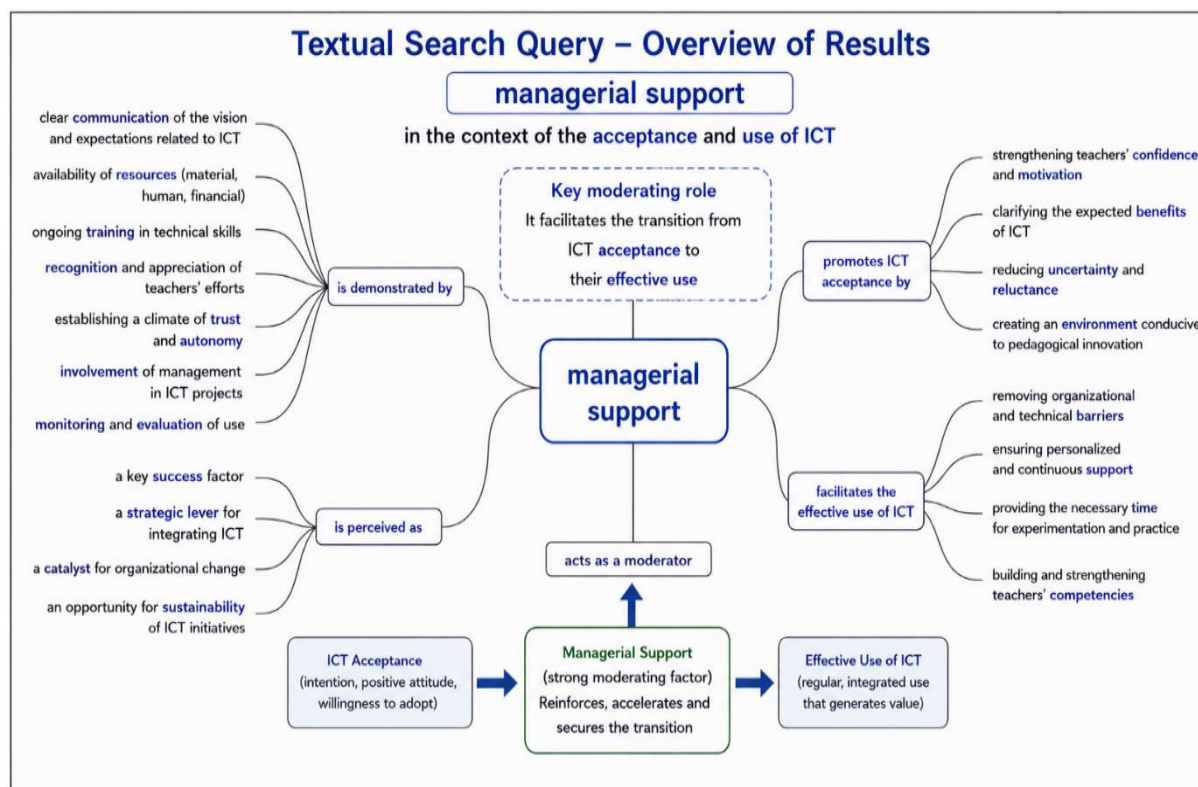


Figure 11: Text search query related to "managerial support"

Source: NVivo 12

In our qualitative study, it clearly emerges that managerial support, in its various forms, constitutes a determining factor of the effective use of ICT, thus moving from passive acceptance to actual use. For example, *the ninth respondent states that "Managerial support can play an essential role in the real use of ICT, whereas the initial acceptance of ICT may be influenced by various factors such as teachers' attitudes; managers can allocate financial and technical resources for the acquisition and maintenance of computer equipment, as well as for the continuous training of teachers in the use of ICT."*

This observation fits within a rich theoretical and empirical framework that underscores the importance of organizational support for technology adoption.

Theoretical models such as the Technology Acceptance Model (TAM) and the Unified Theory of Acceptance and Use of Technology (UTAUT) emphasize the crucial role of managerial support in the technology acceptance process. Likewise, research by Venkatesh and Bala (2012) highlighted that managerial interventions, such as training and technical support, increase not only acceptance but also the actual use of technologies. (ABOULAHCEEN & JAOUHARI, 2022)

Recent empirical studies corroborate these theories by showing that managerial support takes the form of concrete actions such as the provision of resources, the establishment of continuous training, and visible leadership commitment to promoting ICT. For example, a study by Ifinedo (2018), examining the factors influencing students' intention to continue using blogs for learning in undergraduate courses, was conducted with 108 university students at a Canadian university. It showed, among other things, that perceived support for strengthening social ties through blogs has significant effects on the positive impact of learning with these tools. (Ifinedo, 2018)

In conclusion, our qualitative study underscores that managerial support, in its various forms, is an essential catalyst for transforming the passive acceptance of EICT into real and effective use.

3.3 Synthesis of the empirical findings and revision of the conceptual model

3.3.1 Synthesis of the main empirical findings

The initial theoretical model used in this research jointly understood the acceptance and use of technologies, without establishing an explicit conceptual distinction between these two dimensions. However, the qualitative contextualization of the model in the Moroccan educational context of AI made it possible to bring out a distinction between the acceptance of AI and its effective use. The speeches collected in fact suggest that acceptance constitutes a prior disposition which does not necessarily translate, on its own, into effective use of AI. This distinction resulting from the qualitative analysis thus leads to reconfiguring the initial model: technology-work adequacy, complexity of infrastructure and social influence are now proposed as explanatory factors of acceptance, while use is considered as a distinct stage of the adoption process.

Tableau 7: Socio-organizational factors explaining acceptance and use to be retained in the revised model.

Factor	Qualification	Citation frequency	Decision
Technology–work fit	Explanatory factor of EICT acceptance	12/12	To be retained
Infrastructure complexity	Explanatory factor of EICT acceptance.	12/12	To be retained
Managerial support:	Organizational lever for moving from acceptance to use of EICT	10/12	To be retained as a moderating factor fostering the shift from EICT acceptance to use.
Social influence:	Explanatory factor of EICT acceptance	6/12	To be retained as an acceptance factor in the revised model
Age and experience	Moderating variables	7/12	To be integrated into the model as a moderating variable

Source: Authors

Tableau 8: Summary of the outputs of the qualitative analysis by explanatory factor

Variable	Items
Fit with work:	✓ EICT provide the functionalities I need to accomplish my tasks. ✓ EICT contribute to a better organization of my pedagogical and administrative activities in my institution. ✓ "I am convinced that EICT improve communication and coordination among teachers, students, and the school administration." ✓ The use of EICT is compatible with all aspects of my work.
Infrastructure complexity	✓ Integrating EICT into my work is difficult. ✓ I find it hard to remember EICT functionalities. ✓ The complexity of my institution's EICT infrastructure influences my willingness to integrate it into my teaching." ✓ I find that the complexity of the available EICT tools complicates their integration into my teaching methods."

Variable	Items
Managerial support:	✓ Does my institution's management actively encourage the integration of EICT into training programs? ✓ Continuous training programs are put in place to strengthen teachers' EICT skills. ✓ Are budgets allocated for the acquisition and updating of the equipment and software needed to use EICT? ✓ Initiatives aimed at promoting the use of EICT are supported and valued within my institution.
Social influence:	✓ My colleagues actively use EICT in their teaching and research. ✓ Informal peer exchanges bring to light the advantages and challenges of using EICT in the university context. ✓ Are interdisciplinary and international collaborations facilitated by the shared use of EICT platforms? ✓ Successes and good practices in the use of EICT are shared and valued within our community.

Source: Authors

Tableau 9: Summary of the hypotheses to be retained in the revised model.

Factors	Dimension	Hypothesis
Socio-organizational	Fit technology with work: (H1)	H1: Task–technology fit fosters teachers' acceptance of EICT.
	Infrastructure complexity: (H2)	H2: Infrastructure complexity negatively influences teachers' acceptance of EICT.
	Social influence (H3)	H3: Social influences positively impact teachers' acceptance of EICT.
Moderating factors	Hypothesis related to teacher age: (H4.1)	Hypothesis H4.1: Teacher age has a significant moderating influence on the relationships in the research model.(to be tested)
	Teacher experience (H4.2)	Hypothesis H4.2: Teachers' experience in using technologies has a significant moderating influence on the relationships in the research model.(to be tested)
Moderation proposal (to be tested)	Managerial support (H5/P5)	H5/P5: Managerial support is likely to moderate the shift from acceptance of EITC to its use (exploratory proposition).

Source: Authors

3.3.2 Revision of the conceptual model

Taking into account the results above, here is our revised version of the model. The relationships presented are theoretical propositions derived from qualitative analysis, and not empirically proven effects.

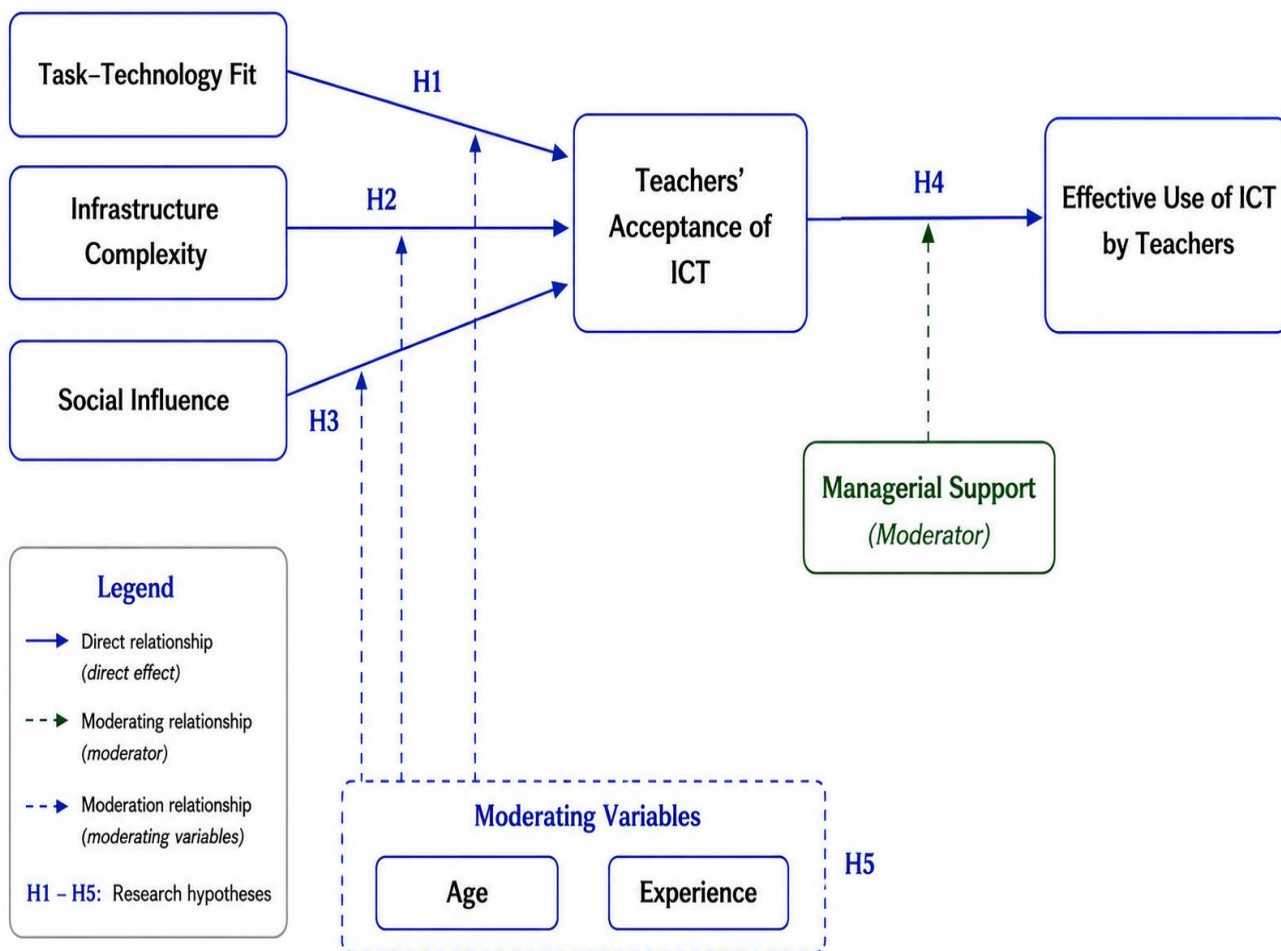


Figure 12:Modèle conceptuel révisé

Source: Authors

Conclusion

This study aimed to contextualize a theoretical model of the explanatory factors of information and communication technology (ICT) acceptance and use within the framework of EICT applied to teaching in Morocco. On the basis of a literature review, an initial conceptual model was developed around four socio-organizational factors: technology–work fit, infrastructure complexity, social influence, and managerial support.

To assess the relevance of this model in the Moroccan educational context, an exploratory qualitative study was conducted with twelve participants of varied profiles. Thematic analysis, carried out with NVivo 12 software, made it possible to contextualize and enrich the initial model. The results show that EICT acceptance and use are two distinct concepts. While acceptance is an essential step, it is not enough to ensure the concrete use of EICT. The study also underscores the importance of managerial support as an organizational moderator factor that facilitates the transition from passive acceptance to active and sustained technology use. In addition, the qualitative analysis led to the integration of age and professional experience as moderating variables, thereby strengthening the explanatory power of the revised model.

This study makes a dual contribution. On the theoretical level, it enriches the literature on technology acceptance by developing a contextualized model that goes beyond traditional approaches by explicitly separating the phases of acceptance and use. It also highlights the importance of managerial support in the transition from intention to action, which helps to better understand how EICT are adopted in schools. On the practical level, the findings indicate that EICT deployment strategies should not be limited to the technical training of teachers. They should also rely on a supportive organizational environment, with committed leadership, support mechanisms, continuous training, and appropriate infrastructures, in order to ensure an effective and lasting integration of EICT into teaching practices.

This study has certain limitations. First, the exploratory nature of the qualitative method and the limited size of the sample prevent the findings from being generalized to all teachers in Morocco. Second, focusing on a single context restricts the possibility of applying the conclusions to other educational environments. Finally, the qualitative nature of the study does not make it possible to statistically verify the relationships proposed by the revised conceptual model.

These limitations open up rich and promising avenues for research. The first would be to conduct a confirmatory quantitative study, with a representative sample, in order to validate the revised model empirically and assess the stability of the relationships identified. The use of structural equation models (such as PLS-SEM) would make it possible to analyze direct, indirect, and mediated effects, notably the role of managerial support between EICT acceptance and use. Future research could also examine moderating effects linked to institutional or disciplinary characteristics, compare different levels of education or several countries, and track the evolution of the determinants of EICT acceptance and use through longitudinal studies. Such work would strengthen the external validity of the proposed model and deepen our understanding of EICT integration in education systems.

Beyond situating the model in context, this study shows that the success of EICT in teaching rests not only on teachers' personal acceptance, but also on organizational mechanisms that transform that acceptance into concrete pedagogical activities. This theoretical insight can enrich future models of EICT adoption in educational settings.

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