

# Teleworking model in university education: Strategies to strengthen its implementation at the Catholic University of Cuenca, Ecuador \*

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## ABSTRACT

### KEYWORDS

Higher education; SWOT; virtual modality; telework; university professor; remote work

Teleworking has become a service delivery model that necessarily requires technological tools. This way of developing activities has expanded in the educational sector. Since the COVID-19 pandemic, it has been implemented with greater boom in the university field, facing great challenges and difficulties. The objective was to analyze the strengths, opportunities, weaknesses, and threats of teleworking implemented in the context of university education during the years 2020-2021 at the Catholic University of Cuenca, La Troncal Campus, Ecuador. The methodology applied the qualitative descriptive approach, the SWOT analysis, the bibliographic review technique, and the interpretation and description through focus groups. The results clearly show that teachers require specific capacities and competencies to develop teleworking activities. The implementation of teleworking in university education presents significant opportunities and challenges, which must be addressed with effective strategies and a solid legal framework to ensure its successful implementation, prevent the violation of fundamental rights, and the emergence of occupational diseases linked to this form of work organization.

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# Modelo de teletrabajo en la educación universitaria: Estrategias para fortalecer su implementación en la Universidad Católica de Cuenca, Ecuador

## R E S U M E N

### PALABRAS CLAVE

Educación superior;  
FODA; modalidad virtual;  
teletrabajo; docente  
universitario; trabajo remoto

El teletrabajo se ha constituido como modelo de prestación de servicios que requiere necesariamente el uso de herramientas tecnológicas. Esta forma de desarrollar las actividades se ha expandido en el sector educativo. Desde la época de la pandemia por covid-19 se implementó con un mayor auge en el campo universitario enfrentando grandes retos y dificultades. El objetivo fue analizar las fortalezas, oportunidades, debilidades y amenazas del teletrabajo implementado en el contexto de la educación universitaria, durante los años 2020-2021 en la Universidad Católica de Cuenca, Campus La Troncal, Ecuador. En la metodología se aplicó el enfoque cualitativo de tipo descriptivo, el análisis FODA, la técnica de revisión bibliográfica, así como la interpretación y descripción a través de los grupos focales. De los resultados se desprende que, los docentes requieren capacidades y competencias específicas para desarrollar las actividades en teletrabajo. La implementación del teletrabajo en la educación universitaria presenta oportunidades significativas, pero también desafíos, que deben ser abordados con estrategias efectivas y un marco jurídico sólido para garantizar su aplicación exitosa, prevenir la vulneración derechos fundamentales y la aparición de enfermedades ocupacionales que se vinculan con esta forma de organización laboral.

# Modelo de teletrabalho na educação universitária: Estratégias para fortalecer sua implementação na Universidade Católica de Cuenca, Equador

## R E S U M O

### PALAVRAS-CHAVE

Ensino superior; SWOT;  
Modalidade virtual;  
Teletrabalho; Professor  
universitário; Trabalho  
remoto

O teletrabalho estabeleceu-se como um modelo de prestação de serviços que requer necessariamente a utilização de ferramentas tecnológicas. Esta forma de realizar actividades expandiu-se no sector educativo. Desde a época da pandemia de covid-19, tem sido implementado com maior intensidade no âmbito universitário, enfrentando grandes desafios e dificuldades. O objetivo foi analisar os pontos fortes, oportunidades, fraquezas e ameaças do teletrabalho implementado no contexto do ensino universitário, durante os anos 2020-2021 na Universidade Católica de Cuenca, Campus La Troncal, Equador. A metodologia aplicada foi uma abordagem qualitativa descritiva, análise SWOT, técnica de revisão da literatura, bem como interpretação e descrição através de grupos focais. Os resultados mostram claramente que os professores necessitam de aptidões e competências específicas para desenvolver actividades de teletrabalho. A implementação do teletrabalho no ensino universitário apresenta oportunidades significativas, mas também desafios, que devem ser abordados com estratégias eficazes e um quadro jurídico sólido para garantir a sua implementação bem sucedida, evitar a violação dos direitos fundamentais e o aparecimento de doenças profissionais que estão ligadas a esta forma de organização do trabalho.

## I. Introduction

Teleworking has emerged as a work practice of increasing relevance in the current context, bringing significant changes in the operations of people who perform their roles through digital means. During the pandemic caused by the coronavirus, it was implemented immediately and unexpectedly, being the main tool to face the health emergency ([Ramírez, Tapia, Vega and Villagómez, 2021](#)). Some States, such as Ecuador, Peru, Argentina, Chile, Paraguay, and Bolivia, reformed their legislation and established executive actions to adapt it to the health emergency. In contrast, others began applying this form of employment without any preparation or training for their workers and without having legislation that regulated the guidelines for its execution, as was the case in Venezuela and Uruguay.

In Ecuador, teleworking is regulated for the first time for the private sector by a ministerial agreement, and defines it as: “A form of non-face-to-face service provision during regular and special work days through which the worker carries out his/her activities outside the employer’s institutions” ([Ministerial Agreement No. MDT 2016-190](#)), adjusted to the nature of said activities and with the exclusive use of technologies, both for the execution of tasks and for the supervision process. And in 2018, by [Ministerial Agreement No. MDT-2018-002A](#), teleworking was established for the public sector. Later, on the occasion of the pandemic in 2020, the [Ministerial Agreement for emerging teleworking MDT-2020-076](#) was issued, stating that it is the employer’s responsibility to create clear guidelines, supervise and monitor the tasks performed by the employee who works from home during the emergency; and finally, this legal figure is elevated to legal status and incorporated into an unnumbered article in the Labor Code ([Ecuador-National Assembly and the Organic Law on Humanitarian Support, 2020](#)).

Other countries, such as Peru, have regulated teleworking in Law No. 30,036 since 2013, stating that this figure is characterized by “the subordinate performance of tasks without the physical presence of the worker, known as “teleworker,” in the company with which he or she maintains an employment relationship, through computer, telecommunications and similar means” ([Peru, Congress of the Republic, Article 2](#)). It emphasizes, like Ecuadorian legislation, that these digital tools are also implemented to supervise and control work. Likewise, on the occasion of the health crisis, the Ministry of Labor and Employment Promotion approved the “Guide for the Prevention of Coronavirus in the Workplace” through resolution 055-20-TH, indicating the guidelines for the application of teleworking during the pandemic ([Peru, Ministry of Labor and Employment Promotion, 2020](#)). In Colombia, it is provided for in Law 1221, which defines teleworking in the following terms:

It is a form of work organization that consists of the performance of paid activities or the provision of services to third parties using information and communication technologies - ICT as support for contact between the worker and the company, without requiring the physical presence of the worker at a specific work site ([Congress of Colombia, 2008, Article 2](#)).

In Brazil, teleworking was regulated in 2017 by Law No. 13,467, which provides that: “Teleworking is considered the provision of services predominantly outside the employer’s premises, with the use of information and communication technologies that, by their nature, do not constitute external work” ([Brazil, Presidency of the Republic, 2017, Article 75-B](#)). In other States, the cause of the incorporation of teleworking into domestic legislation was the Covid-19 health emergency. Thus, in Chile, the Labor Code is modified by Law 21,220 to add Chapter IX, which provides “Remote Work and Teleworking,” stating that “Teleworking will be called if the services are provided through the use of technological, computer or telecommunications means or if such services must be reported through these means” ([Chile, National Congress, 2020, Article 152 quarter G](#)).

For its part, in Argentina, the Senate and the Chamber of Deputies presented a Bill for the regulation of teleworking, sanctioned by the National Congress on July 30, 2020, Law 27,555 and its Regulations “Legal Regime of the Teleworking Contract” approved on January 20, 2021, indicating that the existence of the teleworking contract is considered when the acts, works or services are carried out totally or partially at the home of the worker or in another place, different from the establishment of the company, with the use of technologies ([Argentina, Senate and Chamber of Deputies, 2020, Chapter VI - Article 102](#)).

In Bolivia and Venezuela, this service provision is regulated by Presidential Decree during the COVID-19 pandemic to carry out activities in a non-face-to-face manner due to mobility restrictions and social isolation measures. In the case of Bolivia, Decree No. 4,118 establishes all the regulations for the implementation of teleworking ([Bolivia, Presidency of the Republic, 2020](#)). In Venezuela, the President of the Republic declared a state of alarm, suspending face-to-face academic activities and indicating that it was possible to suspend activities in certain areas of the country, including in the workplace when their execution was not possible from the worker’s home ([Venezuela, Presidency of the Republic, 2020](#)).

Thus, this modality, enhanced by technological advances and globalization, has transcended borders and sectors, also reaching the educational field. The reality of the health crisis led society towards a new educational model that, for some, occurred suddenly, representing a significant challenge for teachers, students, and authorities ([Cóndor, 2020](#)). In the university context, the integration of teleworking has been accelerated, especially in the context of virtual education, experiencing exponential growth, facilitating access to higher education, and offering new training opportunities to a diverse and geographically dispersed audience.

Given this specific situation, teachers have faced a considerable challenge. The pandemic forced universities to implement virtuality, with challenges for students and teachers due to the lack of technological skills, the emotional impact of virtual classes, and the need for effective teaching-learning strategies ([Sánchez, Sánchez, Palomino, & Verges, 2021](#)).

Therefore, university professors chose to develop new teaching strategies based on virtual resources and other means that were more accessible to both them and their students ([López-Alegría & Fraile, 2023](#)). As such, it is necessary to recognize that many educators suddenly found themselves in a situation that required a complete rethinking of their teaching methods due to the need to move learning to the virtual environment. This transition required technical skills to use digital tools and a deep reevaluation of the previously used pedagogical strategies. This fact prompted a deeper reflection on integrating digital tools in education and the need to train educators to deal with similar situations in the future.

The health crisis revealed the deficiencies and disparities in the accessibility to digital media and the training of teachers and students to adapt to remote teaching ([Alcántara, 2020](#)). As for teachers, the deficiencies can be reduced or controlled through guidelines and strategies that allow them to guide their good performance in academic activities implemented in teleworking.

This study explores the approach to teleworking from the perspective of university education. The research is developed in compliance with the objective of the project "Guidelines for teleworking of the teaching staff of the Catholic University of Cuenca in the face of COVID-19", followed by the Law degree of the La Troncal University campus, which proposed to analyze the strengths, opportunities, weaknesses, and threats of teleworking in the context of university education. Thus, the role of the university teacher is described from the scientific literature, as well as the risks to which he is exposed in the context of virtual education. On the other hand, the SWOT methodology was applied to identify the current situation of teachers who implemented teleworking during the health emergency to analyze the strengths, weaknesses, opportunities, and threats of this legal figure. Moreover, after analyzing the data and contracting with other studies, the strategies to strengthen the implementation of teleworking in higher education are presented.

## **2. Theoretical framework**

Virtual education in the university context has made significant progress in recent years, driven by the need for flexibility and accessibility in learning ([Ramírez, Quinde, Alarcón, and Vega, 2022](#)). Teleworking, for its part, has gained ground as a work modality that allows professionals to work from any place with an internet connection, facilitating its implementation in the virtual environment of the teaching-learning process. Therefore, the convergence of these two trends has given rise to teleworking in virtual education, a phenomenon that externalizes opportunities and challenges.

Teleworking as a new global economic trend is a modality born from technology and the information society, and by liberalizing the precepts that tied the worker to a time and place, it transforms how one lives and works ([Castells, 2004](#)). Ending face-to-face work days in certain work activities, since, with this form of service provision, work can be carried out outside the work establishment.

Suppose this concept is applied to the educational field. In that case, it can be seen that this way of working and, therefore, of education allows us to reach everywhere and improve the quality of education, but this requires a deep effort in planning, implementation, and evaluation, in addition to the competencies, skills and new teaching methods with the use of technological tools.

Completing these ideas, [Cabero-Almenara and Palacios-Rodríguez \(2021\)](#) emphasize that virtual education must be flexible to interact and collaborate between teachers and students constantly. Therefore, this leads us to think about schedules for submitting assignments and participation through virtual forums to overcome difficulties such as the student's location or personal situation since telematic learning must combine with elements of traditional education. What has been expressed leads to the personalization of education and curricular adaptation; an educational process requires fundamental principles such as adaptation, especially for people with disabilities, and personalization carried out through academic reinforcement tutoring in the face of learning difficulties.

Another important issue that concerns university managers is how to exercise the power of control and direction since, in a virtual environment, the teacher has greater autonomy since he combines and manages the execution of his activities

with domestic demands. It is necessary to take measures and protocols to respect personal privacy, the inviolability of their home, and their correspondence ([Muy, 2021](#)). It is necessary to understand that the teacher's teleworking and virtual education represent only a first-order change, that is, one that improves efficiency and effectiveness without modifying the fundamental characteristics of the Institution ([Torres and Serrano, 2007](#)). Thus, second-order changes bring new objectives and structures; in these cases, we would face a change in the curriculum, which would respond to new career problems and a different graduate profile.

Thus, without a doubt, the presence of teleworking in the educational field was accompanied by new tools and, in turn, by new challenges. The teacher had to train in using educational technologies and improve their digital communication skills, among which the use of virtual classrooms or video conferences stands out ([Acevedo-Duque, Arguello, Pineda and Urcios, 2020](#)). The new facilities provided by the didactic-pedagogical options for their optimal use require an inclusive virtual environment that awakens adequate motivation and interaction.

It is also essential to provide support and access to all users. In this sense, virtual platforms with greater simplicity and accessibility should be chosen ([Crisol, 2020](#)). This effort by the teacher also allowed students to develop new capabilities, which [Torres, Badillo, Valentín and Ramírez \(2014\)](#) highlight: a) Better performance in social life in different areas, b) Tolerance for diversity, preparing them for better integration in the development of solidarity, c) Development of values and a better attitude in the progress of knowledge, know-how and knowing how to be, d) Better preparation for new production processes and work organization, in the performance of their profession.

The best thing in this regard is for the student to abandon the role of being the recipient of knowledge provided by the teacher and move on to develop an understanding of the topics, assuming a self-taught role, awakening their curiosity and their desire to delve deeper into the content, beyond the academic schedule, assignments and grades ([Nieto, 2021](#)). However, only some things are well, and achievements and institutional effort are necessary to invest in this change since success lies in having access to a video conferencing platform. Also, technological support, institutional material such as access to scientific databases, training in ICTs, and implementing a new form of evaluation based on quality standards ([Briceño, 2020](#)) can only be achieved with the investment of economic resources by universities.

Thus, to measure the effectiveness of teleworking in the teaching-learning process, all the factors already mentioned are necessary. However, it is important to know, in addition to the perception of the teacher and the Institution, the result of the curricular objectives in front of the students and their acceptance of the new model ([Ramírez et al., 2021](#)).

### **2.1. Role of the University Professor**

The growing demand for virtual education has transformed the role of the university professor; as mentioned, he or she becomes a guide who accompanies the student in his or her training process through digital platforms. Teleworking, for its part, has modified how university professors carry out their tasks, requiring new skills and competencies for time management, work organization, and virtual communication. Thus, university professors must apply strategies to adapt to this system and teleworking, seeking to offer quality in higher education.

For this reason, under the virtual scenario, the teleworking teacher, according to [Zambrano \(2010\)](#), must assume the role of facilitator of autonomous learning techniques and advisor to the student in order to guide him or her appropriately or with pertinent support material, better socializing his or her knowledge and experience, seeking to increase his or her creative qualities and the use of new tools.

In this regard, [Villafuerte, Pantaleón, and Bermello \(2020\)](#) complete other values and attitudes of the teacher, such as due support in the management of feelings and emotions of the student, fostering resilience, and showing empathy towards the students' difficulties. [Acevedo-Duque et al. \(2020\)](#) also focus their attention on the emotional situations of the students, due care for the affective, intercultural communication, constant evaluation of behaviors, and interaction. For their part, [Jara-Vaca, Chávez-Guevara, Villa-Escudero, and Novillo-Novillo \(2021\)](#) conceive that the role of the teacher revolves around the way of transmitting knowledge, a more humanistic role and their greater predisposition to design innovative and creative pedagogical measures, in addition to new skills in the use of technological devices and applications. It requires converting face-to-face material into digital content, adapting to a new work platform, and achieving adequate management of new communication tools.

The role described by the teacher brings a necessary counterpart in the student, who is the main subject in the learning process and without whose participation nothing would have any effect. Therefore, the student must also be active and highly self-disciplined, especially in his attendance and attention to classes, because only with this will he be able to analyze the topics, reflect on what he has learned, and participate with his peers in collaborative learning ([Rodríguez, 2020](#)). Thus, in the role assumed by teachers who migrated from traditional education to the online modality, it was necessary to implement new teaching methods and tools, which allow interaction between teachers and students, as well as the exchange of bibliographic material for reading, videos, assignment of tasks, participation in forums, online evaluations, among others.

As [Chong-Baque and Marcillo-García \(2020\)](#) point out, these virtual platforms “provide the technological tools for developing the selected pedagogical approach. Among the most sought-after for their functionality currently are Moodle, Teams, Chamilo, Edmodo, Evolcampus, Canvas LMS, E-doceo, and many other learning management systems” (p.64). All of this led to the urgent need for training to generate competencies in using technologies by university teachers.

## **2.2. Risks for university teachers**

University teachers who provide virtual education while remote working face several risks, including social isolation, eye fatigue, stress, and lack of ergonomics.

The many hours teachers spend teleworking in front of their computer screens have repercussions on risks associated with vision and bone and muscle ailments due to inadequate ergonomics. However, this leads to new problems in this type of study, one of the most worrying being the effects on the quality of life of teachers when their right to disconnect is not respected. If they have a harassing manager, they can easily fall into stress, anxiety, or depression ([Sierra, 2011](#)).

Of all those above, the most affected is depression, since a teleworker will always miss the emotional contact with their fellow teachers, those spaces of leisure, jokes, and mutual support, which, added to the fact of the decrease in personal contact with students, creates suitable conditions for depression to develop. The lack of permanent delimitation of the working day leads to long working days, which need more time to enjoy rest, as well as for recreation and socialization with the environment. The reduction of these factors can generate a loss of the teleworker's sense of identity in the workgroup ([Tomasina and Pisani, 2022](#)).

For this reason, authors such as [Mascarenhas \(2024\)](#) have been concerned about the psychological detachment of university teachers as a kind of defense and space to recover emotionally from violations of the boundaries that must exist between work and family. It is suffered especially by the female gender, who bear a greater burden in caring for the home, so it is recommended better to manage their time in their personal and family responsibilities, establish priorities and avoid procrastination, establish limits with students, colleagues, and superiors regarding their availability schedules.

To this end, to mitigate the risks of university teachers who work in virtual education through teleworking, measures and strategies must be taken that allow them to stay socially connected, take regular breaks, manage stress, and ensure that their workspace is ergonomic. Thus, teachers in this context must seek psychological support and set limits during the workday.

## **3. Methodology**

### **3.1. Type of Research**

The methodology developed was based on a non-experimental design and projective research to solve the practical problems that began in the context of the health emergency in 2020. This approach involves the creation of a proposal, which serves as a response to a problem or practical requirement, whether of a community, an institution, or a geographical region, in a specific field of knowledge, based on a detailed analysis of current needs ([Hurtado, 1998](#)).

The scope of the study was descriptive and cross-sectional under the qualitative paradigm. In this, a descriptive interpretative analysis of the written sources related to the strengths, weaknesses, threats, and opportunities of teleworking and its

impact on virtual university education was developed. The search was carried out using scientific databases, such as SCOPUS, Redalyc, Dialnet, Scielo, DOAJ, JSTOR, and SAGE, using as descriptors: teleworking, COVID-19, online education, and distance work in order to form solid theoretical bases on the problem investigated. This search began with the first execution of the research project during the last quarter of 2020 and 2021. For the final execution, consolidation of the theoretical foundations, and dissemination of the results, the scientific literature was updated during the second half of 2022 and 2023. The relevant filters were used, and a total of 40 articles directly related to the research problem were reviewed and analyzed, namely two articles published in 2007, one article from 2010, one article from 2012, one article from 2014, two articles published in 2017, two articles from 2018, two articles from 2019, eighteen articles published in 2020, eight articles published in 2021, two articles from 2023, and one article from 2024 that was added to the search.

### 3.2. Participants and techniques for collecting information

This research allowed us to describe the object of study from reality through the realization of two workshops, which were held at the end of the second semester of 2022, with the participation of 32 teachers from the Catholic University of Cuenca, La Troncal Extension. The focus group technique was applied, the population consisted of all full-time and part-time university teachers, and the sample was selected at convenience. The teachers who voluntarily decided to participate, once they were informed of the objective of the research, formed four groups of 8 teachers each. In general, the groups comprised 18 men and 14 women. The participants were between 30 and 60 years old, working in the following academic units: Social Sciences, Computer Science, Communication Sciences, Technological Innovation, Health and Well-being, Agricultural Sciences, and the Administration Unit.

The central theme addressed in the focus group was the strengths, weaknesses, threats, and opportunities of teleworking versus virtual education to collect data on the perceptions and experiences of the participants. The SWOT analysis aims to evaluate the organization's weak and strong factors (internal) and external conditions (threats and opportunities) that comprehensively allow a diagnosis to be made and to know its current situation (Ponce, 2007; Lara, 2023).

The data were collected, and open questions were posed as a discussion guide to stimulate conversation and explore the topic in depth with the participants, as described in Table 1.

Table 1.  
SWOT Analysis Question Guide

Flexible hours and autonomy	Expansion of the educational offer	Difficulties in disconnecting	Inequalities in working conditions
How do teachers value the flexible hours offered by teleworking? Does the autonomy offered by teleworking allow for better and greater work productivity? Do flexible hours allow you to carry out other activities?	Does teleworking facilitate the participation of teachers from different geographic locations, expanding the academic offer? Does teleworking allow for greater labor inclusion? Does teleworking allow for new ways of working through technology?	Does the digitalization of employment affect the right to work within the limits established for the workday? Does teleworking allow you to set a limit for executing tasks, family, and social life? Does teleworking limit the interaction between teachers and students?	Do you consider that access, speed, and stability of the Internet were the main difficulties in developing your activities as a teacher? Does the incursion of technology in the labor market destroy traditional jobs, generating greater unemployment?
Saving time and costs	Innovation in teaching	Need for training in teleworking.	Refusal to change in teleworking
Does teleworking allow you to enjoy more time with your family and manage your social life? Does teleworking allow you to reduce personal costs?	Does teleworking allow you to obtain new capacities and skills? Did the virtualization of activities allow you to improve your methodology and teaching methods in the teaching process?	Does teleworking require special training for the performance of your activities? Did you have more distracting elements when carrying out your work through teleworking?	What factors influence resistance to change towards teleworking? What strategies could be implemented to facilitate adaptation to teleworking?

Source: Own elaboration

#### 4. Results and discussion

The study applied the SWOT methodology as a strategic analysis tool to identify the current situation of university teachers who worked remotely during the health emergency at the Catholic University of Cuenca, La Troncal Extension, to analyze this legal figure's strengths, weaknesses, opportunities, and threats. Likewise, it focused on understanding the impact of teleworking on university education, exploring both the advantages and challenges that this work model presents for teachers, and addressing aspects such as work flexibility, productivity, educational innovation, inclusion, adaptation, and the challenges of digitalization. A guide of questions was implemented to generate discussion in the focus groups. The results of this analysis are summarized and described below in [Table 2](#).

Table 2.  
SWOT analysis for teleworking in higher education

Internal Factors	STRENGTHS	WEAKNESSES
Flexibility and Autonomy	Positive assessment of flexible hours.	Difficulty disconnecting from the work day.
	Increased productivity due to autonomy.	Risk of overwork due to lack of limits.
	Opportunity to carry out other activities.	
Expansion of educational offerings	Facilitates the participation of teachers from different geographical areas.	Digital divide and unequal access to the internet among teachers.
	Promotes labor inclusion.	
	Fosters new forms of labor relations through technology.	
Savings in time and costs	More quality time for family and social life.	There is an excellent line between the personal and the professional.
	Reduction of personal costs (transport, clothing, footwear, and meals).	
Innovation in teaching	Development of new digital skills and capabilities.	Refusal to change to teleworking.
	Improve methodological strategies.	
External Factors	OPPORTUNITIES	THREATS
Work context	Growth in demand for online education.	Possible job insecurity and loss of rights.
	Possibility of accessing new job opportunities.	
Social aspects	Greater flexibility to reconcile work and personal life.	Social isolation and lack of face-to-face interaction.
Technological development	Access to innovative digital tools for teaching-learning.	Need for constant training in new technologies.
	Possibility of continuous training in educational technologies.	Digital distractions can affect concentration.

Source: Own elaboration

In light of the flexible hours and autonomy to carry out their activities, 78% of teachers stated that teleworking allowed them to organize and carry out more efficiently, which generated greater academic and scientific research productivity.



However, 22% stated that this autonomy sometimes made it difficult to disconnect from work activities, often exceeding working hours.

Another critical aspect of the strengths of teleworking is the expansion of the academic offer. 62% of teachers stated that this way of working allows them to carry out their activities from different geographical areas, as was the case during the pandemic caused by Covid-19, also promoting the labor inclusion of people with specific disabilities and the opportunity for new forms of employment with the use of digital tools. However, 38% consider the inequality in access to the Internet to be a weakness, since due to the geographic areas where they live, in some cantons, teachers need a connection or adequate access to carry out activities with these digital media.

In addition to the above, 81% of teachers consider a strength that teleworking allows the teleworker to enjoy more time for family and social life and that there is also a reduction in personal expenses on transportation, clothing, and footwear. Given this, 19% of teachers stated that when carrying out activities via teleworking, the line between work and family can be crossed, which is a weakness.

Another strength of teleworking, among internal factors, is innovation in teaching. For 94% of professors, teleworking allows the promotion of new skills and capabilities with the use of technological means, improving the teacher's teaching strategies and creating opportunities for professional development. Faced with this, 6% of teachers see the requirement of managing digital media to execute their activities in the teaching-learning process as a weakness since there is resistance to change in traditional methods by some professionals; in these cases, those over 50 years of age are affected.

Within the external factors, when analyzing the SWOT matrix, 94% of teachers express that, in the work context, teleworking is an opportunity for the growth of the demand for online education. In fact, after the coronavirus pandemic, higher education centers undertook new online university courses due to the demand of students who accessed this form of study. Likewise, teachers say that teleworking allows for new job opportunities. Moreover, 6% see the possible precariousness of work and loss of rights, such as the right to rest, the right to disconnect, and the right to certain benefits, such as payment for overtime and extraordinary hours due to overwork, as a threat.

In social aspects and technological development, 78% of teachers see flexibility as an opportunity to reconcile work and personal life, considering it extremely important to establish measures and strategies not to exceed limits. They also consider access to innovative digital tools for teaching-learning and the possibility of continuous training in educational technologies as an opportunity to develop activities in teleworking. On the other hand, 22% consider social isolation and lack of face-to-face interaction between teachers, students, and other colleagues to be a threat, as well as the need for constant training in new technologies to maintain the level of demand for virtual education, and digital distractions that can affect students' concentration. Given the results obtained from the study, it is necessary to take the aspects described below in [Table 3](#) as a strategy.

Given the reality that led to the necessary implementation of teleworking in the health emergency, the sudden transition has required educators and students to quickly adapt their communication, collaboration, and learning methods ([Merchan, Mero and Mero, 2021](#)). This situation has made it essential to develop new skills, both technical and pedagogical, that allow the implementation of diverse educational strategies in the virtual environment.

The effects of the pandemic sharpened the discussion on the disadvantages and advantages of teleworking, even more so in the higher education sector, where it was established as a necessary tool to provide distance education. This way of working poses challenges, such as adapting schedule protocols and workplace conditions and mainly using technological means within the teaching-learning process, which requires well-structured regulation ([Brindusa, Cozzolino, and Aitor, 2020](#)). It is essential to recognize the benefits, as well as the new emerging risks since these contribute to driving changes ([González-Menéndez, López-González, González, García, & Álvarez, 2019](#)).

The disadvantages of teleworking are the tendency to work longer hours, work invading personal life space, and the intensification of the workday ([International Labor Organization, 2020](#)). However, for teachers faced with the flexibility of this way of working, it is an opportunity to reconcile work and personal life, considering measures and strategies to stay within the limits. Promoting an organizational culture that respects work schedules and encourages a balance between professional and personal responsibilities is necessary. It can be achieved through policies and awareness programs on the importance of digital disconnection.

For [Tapasco-Alzate and Giraldo-García \(2020\)](#), resistance to the implementation of teleworking is not only due to obstacles to the acceptance of this model; they are not limited only to the lack of technological or financial resources but also come from the administrative sphere. Factors such as the resistance of managers to modify established practices and the aversion to the unknown represent essential challenges. A new organizational culture must be transmitted to the employee to develop teleworking. It is achieved with the appropriate guidance through institutional guidelines for good practices of this system.

In this regard, [Peralta, Bilous, Flores, and Bombon et al. \(2020\)](#) emphasize that the impact of teleworking can be negative or positive, depending on the various circumstances. An essential factor is that the organization complies with the requirements for its implementation, especially having adequate technology to carry out the activities. It is essential for the teacher's performance, not only because of the technological provision but also because of the orientation on its excellent use. Digital platforms.

This new work modality involves working conditions, social security, information security, and the implementation of technologies ([Buitrago, 2020](#)). These aspects must be addressed and socialized to teachers who implement teleworking.

Among the health problems presented by teleworkers, psychopathic disorders have been identified as a result of working at any time and in any place and the fact of justifying their work based on results, generating unlimited work days. This circumstance has led to feelings of isolation from family and coworkers ([González et al., 2019](#)).

In this sense, to obtain effective results in academic activities under teleworking, it is necessary to develop guidelines that allow guidance from the labor, technological, and social spheres for the adequate development of their activities by the current legal norms that contribute to the achievement of the objectives set, favoring the teacher, the institution and the students.

Table 3.  
Strategies to strengthen the implementation of teleworking in Higher Education

Strategies	Description
Teleworking training	Implement ongoing training programs to improve skills and time management in university teachers on the effective use of technological tools, online teaching methodologies, and strategies for virtual learning.
Promoting and protecting the right to digital disconnection	Establish clear limits for the work day and promote the right to disconnect. Implement time management and work organization systems, including guides and workshops on productivity and delimitation of work hours.
Promoting social interaction	Promote social interaction and collaboration between teachers through virtual activities, online communities, periodic face-to-face meetings, and cooperation spaces.
Internet access	Provide teachers with resources to improve their connectivity, such as internet subsidies, workspaces with good connectivity, and adequate computer equipment.
Adaptability	Implement personalized support programs and mentoring for teachers struggling with online teaching.
Access to innovative digital tools	Invest in cutting-edge educational platforms, specialized software, and interactive digital resources to enrich the teaching-learning experience.

Source: Own elaboration

## 5. Conclusions

The study on the approach to teleworking in virtual university education has revealed the benefits and complexity of this work modality in the academic field. Although teleworking offers advantages such as flexible hours, autonomy, and the possibility of expanding the educational offer, it also presents challenges that require attention.

Although it presented limitations in obtaining the participation of all the Catholic University of Cuenca teachers, the research has shown the need for adequate time management and the delimitation of the workday to avoid overwork and the difficulty in disconnecting. In addition, the lack of adaptation to the new changes on the part of certain teachers was highlighted, generally linked to age and seniority in the university institution, highlighting the importance of training and support in adapting to new technologies and teaching methodologies. In the external context, it is essential to evaluate the growth in demand for online education and the threats that arise with the extension of work days, such as job insecurity.

Thus, to ensure the success of teleworking in virtual university education, it is essential to implement comprehensive strategies that address the weaknesses and threats identified in the study, focusing on three fundamental aspects: the development of skills, workplace well-being, and technological innovation.

In addition, promoting social interaction is necessary to mitigate the isolation and lack of face-to-face contact that teaching staff may experience in teleworking. These interactions strengthen social ties and encourage the exchange of knowledge and experiences among teachers.

Finally, access to innovative digital tools is required to enrich the teaching-learning experience in virtual environments. It implies investment in cutting-edge educational platforms and interactive digital resources that allow teachers to explore new methodologies for quality education.

## Conflict of interest

The authors declare that they have no conflicts of interest

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