



THE IMPLEMENTATION OF ELECTRONIC GOVERNMENT IN HIGHER EDUCATION DURING THE COVID19 PANDEMIC: A SYSTEMATIC REVIEW

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Article History: Received: 12.04.2023

Revised: 28.05.2023

Accepted: 01.07.2023

Abstract

The objective of this research is Identify and analyze the best scientific evidence on ICTs, especially in higher education. The methodology was based on a systematic review design of scientific articles published in journals indexed in the Scopus databases, in the last three years. Once the inclusion criteria were applied, 25 articles remained from which the contents of the investigation were extracted. The results indicate that the important aspects in the quality of service in organizations should be the variables: perception, expectation and customer satisfaction. As a conclusion it is established. That organizations must handle ICTs, the use of digital tools as a means to acquire knowledge and improve the automation of business processes.

Keywords: Tics; higher education; digital tools; process automation.

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DOI: 10.31838/ecb/2023.12.s3.577

1. Introduction

The COVID-19 pandemic has forced higher education institutions to rapidly adopt e-government practices to ensure the continuity of education. The use of electronic platforms for distance learning has become a necessity for universities worldwide. A systematic review conducted by Area-Moreira in 2021 found that digital tools such as WhatsApp, Google Meet, and Zoom were among the most widely used platforms for remote learning during the pandemic. The implementation of electronic government in higher education has allowed the continuity of academic programs with the pedagogical strategy of distance education. This shift towards e-government in higher education has become a new normal in the face of the pandemic.

Despite the opportunities that e-government presents in higher education, there are also challenges. A systematic review carried out by Calua Torres in 2022 identified success factors in the implementation of e-learning in virtual educational programs in higher education, including the need for adequate technological infrastructure and training for teachers and students. The challenges of higher education during the COVID-19 pandemic in Latin America and the Caribbean were documented in a report by the UNESCO International Institute for Higher Education in Latin America and the Caribbean. However, distance tutoring has been positioned as a solution to the educational problems derived from the massive closure of schools. The digital transformation of higher education is an ongoing process that requires continuous adaptation to new technologies and practices.

The effectiveness of e-government in higher education during the pandemic has

been the subject of numerous studies. A 2021 pilot study by Moreno Candil found that higher education students experienced high levels of stress and anxiety during the pandemic, but also reported positive experiences with remote learning. Mendoza's 2020 essay reflected on the implications of an e-government strategy for the management of higher education institutions. A research study by Álava in (2022) highlighted the importance of technology in education as a result of COVID-19, particularly in rural areas of Ecuador. The effects of the COVID-19 pandemic on university higher education were identified in a research study from the University of Seville in 2021.

Information and communication technologies are important in the development of different areas. In this sense, it can be concluded that, as in other contexts, Hellenic teachers demand key training for the use of ICTs in the inclusive environments in which they work (Díaz et al., 2020). In addition, it is still necessary to an in-depth debate on the epistemological foundations implicit in the use of new digital tools; about whether ICTs are an adequate teaching tool, according to current educational models, in terms of time-cost for a better performance and academic success of the student body (Flores-Tena et al., 2020). However, it must be taken into account that the importance that educational policies have had in directing the course of the use of ICTs in basic education in Mexico is recognized, but also the gaps and deficiencies that have arisen in each six-year period (López de la Madrid et al., 2021) Therefore, the objective of this study is to present scientific evidence on Tics that allows knowing the importance of this variable.

In this sense, a series of general vision appears that positively qualifies the use of gamification in education, because students

learn and are evaluated in an almost imperceptible way for them, without concern for the final evaluations (DS Fernández, 2022).) In addition, the development and diffusion of Information and Communication Technologies (ICTs) has generated what is called digital society, in which most of the population establishes social, administrative, labor, consumer, political relationships, etc. . through digital devices and platforms (Ruiz-Rodríguez et al., 2020) On the other hand, the results obtained provide valuable information on the demographic, geographical, evaluative and attitudinal characteristics of the teaching staff specialized in Therapeutic Pedagogy, contributing to an improvement in the design of training activities as well as a more efficient training planning that guarantees an effective use of ICTs in the classroom as instruments for the inclusion of students with special educational needs (Medina et al., 2022).

The use of ICTs is vital in educational centers, the training of students in the use of ICT devices and tools must be improved and expanded, especially that of students with educational needs, and that we need to improve the accessibility of technological applications and devices with the purpose of adapting to the characteristics of students with educational needs (Izabella Miranda Pereira & González Alba, nd .) In addition, it is concluded that a pedagogical proposal supported by an adequate use of technological platforms allowed a satisfactory trajectory of the virtual process. of teaching (Trigueros et al., 2021) It should be noted that the results show that the majority of consumers find digital media attractive through cell phones, motivating the user to learn more significantly about the product (Sandoval Pillajo et al. , 2021). In addition, the importance of the use of Tics applied to new teaching methodologies in Physical Education classes. It is concluded that technologies can be combined in the pedagogical practice of the

Physical Education teacher as long as there is a pedagogical intervention in their use (Farias and Impolcetto, 2021).

Therefore, it is necessary to think that, for teaching/learning models, the use of ICTs is necessary in order to stimulate cognitive development, strengthening training processes and assertively influencing the academic performance of students (García et al., 2020) The purpose is to know the self-perceived management of ICTs that higher education teachers have to carry out their teaching, research and management tasks, as well as their attitude towards them for work performance. (Casillas-Martín et al., 2020). The use of virtual environments is positively and significantly related to the attitudes towards ICTs in the university professors in the sample; that is, the greater the positive attitude towards ICTs, the greater the use of virtual environments (Ruiz-Aquino et al., 2021) Analyze this type of will, as well as the application of new information and communication technologies taking into account the situation of the subject and the circumstances in which it can be found, in addition to the legal problems that may arise (FR Fernández, 2020) In addition, a positive impact of accompaniment to the tasks of librarians is demonstrated, as well as the need for training in promotion of reading using ICTs (Rendón-Galvis & Jarvio -Fernández, 2020).

Regarding these investigations, it was found that there are significant differences in the management of ICTs in the analyzed population, since students have limitations in print and digital reading (Robles-Francia et al., 2020). Therefore, the results indicate the existence of a complex link between ICT skills, ICT use and learning approaches. The relationship between pedagogical and ethical competencies, non-school academic use and the deep approach should be highlighted, as well as the relationship between the superficial

approach and academic use of ICTs in the classroom. For this reason, the need to train students in the pedagogical and ethical competencies of ICTs is suggested, since if it were done, deep learning would be promoted (Díaz-García et al., 2020). In addition, the normalization of the use of Tics warned in recent studies, along with various negative effects. Given this double trend, it is convenient to continue empowering adolescents to use ICTs responsibly, so that the request for help is also normalized, especially by those most negatively affected (de la Hoz, 2021).

Tics are still predominantly used as auxiliary tools in classes considered traditional, due to various factors, such as the lack of continuous training and time to accompany the constant technological innovations (da Silva-Bueno et al., 2021). In addition, the participating teachers make use of digital tools as a means to acquire knowledge rather than to promote cultural interaction. Among the main conclusions, it is worth highlighting the importance of improving permanent training, more in line with participatory, creative and digital strategies in university classrooms (Leiva et al., 2022). Therefore, as long as history continues to be taught with a factual and rote vision, it is difficult to train critical citizens, with skills when it comes to building their own learning. Even if students are digital natives, it will be difficult for them to use digital resources to acquire skills or values, since the passive transmission of closed discourses continues to be prioritized (Monteagudo-Fernández et al., 2020).

The Subnational Governments, following the state standards of Electronic Government, offer numerous and modern services through their web portals; however, these are underutilized by citizens (Franciskovic et al., 2020) In addition, the most important findings of this research was that students have a very good

command of ICTs to handle the technological tools used during the COVID-19 health contingency. 19 (Aguilar et al., 2020) Also, it was concluded that two factors are necessary to improve the reading comprehension performance of these students: the explicit teaching of reading comprehension strategies and the integration of ICT for learning. It is recommended that these two factors be focused as a priority in teacher training plans and materialize in schools, as well as in undergraduate degree programs at universities (Pérez Benítez & Ricardo Barreto, 2022).

In addition, the degree of technological innovation is favored by the intensity of cooperative integration, the ICT training of employees, the commercial importance of the foreign sector, the offer of ecological products within the range of cooperative products and the degree of cooperative commitment regarding Corporate Social Responsibility actions (Mozas et al., 2020) In addition, the normalization of the use of ICTs noticed in recent studies, along with various negative effects. Given this double trend, it is convenient to continue empowering adolescents to use ICTs responsibly, so that the request for help is also normalized, especially by those most negatively affected (de la Hoz, 2021) Also, the great influence of the environment close to young women, lack of role models and self-perception that affect the decision to participate in these areas of great global demand that can be minimized with the active participation and visualization of female professionals (role models) in communities and groups of study (Rosales Rodríguez, 2020).

In general, e-government in higher education has been instrumental in ensuring the continuity of education during the pandemic, but it also presents challenges that require constant attention and adaptation.

2. General objective

Analyze from a bibliometric approach, the characteristics in the volume of scientific production related to the Implementation of electronic government in higher education during the covid19 pandemic, registered in Scopus during the period 2020-2023 by Latin American institutions.

3. Methodology

For the search of the articles, the following procedure was carried out: in Scopus, the name of our subject "Electronic Government" was placed in the search descriptors, leaving a total of 457 articles; Filtering was carried out indicating the options: open access articles from the last 3 years, Social Sciences subject area, resulting in 49 documents, the same procedure was carried out with the Scielo database, resulting in 23 articles. In total, the study had a database of 61 consultation articles. Next, the inclusion criteria were applied. In this sense, articles that handle the dimensions: expectation, perception, satisfaction and education, typical of the subject, were considered. In addition, they have a quantitative approach, in language, Spanish and English, leaving the balance of 25 articles that met the inclusion criteria. In this way, it was sought to guarantee the general objective of the investigation, following the descriptive-analytic thread, with a deductive vision, starting from the generality of the content of the article and reaching the specific to be taken into account in the investigation. The study will present its results and conclusions to the academic community.

4. Methodological design

Figure 1. Methodological design -
Source: Own elaboration

4.1. Phase 1: Data collection

REFEID (2-s2.0-85119885635 OR 2-s2.0-85119830330 OR 2-s2.0-85138694954 OR 2-s2.0-85161429112 OR 2-s2.0-85161381285 OR 2-s2.0-85085 545205 OR 2-s2.0-85122513980 OR 2-s2.0-85138710086 OR 2-s2.0-85138706497 OR 2-s2.0-85138705825 OR 2-s2.0-85138705501 OR 2-s2.0-851206400 43 OR 2- s2.0-85161421661 OR 2-s2.0-85161381403 OR 2-s2.0-85161369803 OR 2-s2.0-85152445711 OR 2-s2.0-85151965849 OR 2-s2.0-85119879255 OR 2-s2. 0-85093511566 OR 2-s2.0-85138729910 OR 2-s2.0-85138681111 OR 2-s2.0-85135461342 OR 2-s2.0-85134842183 OR 2-s2.0-85153108660 OR 2-s2.0- 85153094602 OR 2-s2.0-85151917236 OR 2-s2.0-85103242804 OR 2-s2.0-85076210998 OR 2-s2.0-85068419851 OR 2-s2.0-85075695891 OR 2- s2.0-85075645071 OR 2-s2.0-85119884571 OR 2-s2.0-85074366740 OR 2-s2.0-85074322049 OR 2-s2.0-85138754290 OR 2-s2.0-85138752851 OR 2-s2.0-851387357 18 OR 2- s2.0-85138733513 OR 2-s2.0-85138733177 OR 2-s2.0-85138721110 OR 2-s2.0-85138708160 OR 2-s2.0-85133531388 OR 2-s2.0-85068417031 OR 2-s2. 0-85068381802 OR 2-s2.0-85086440632 OR 2-s2.0-85105441078 OR 2-s2.0-85103722324 OR 2-s2.0-85150690310 OR 2-s2.0-85100883135 OR 2-s2.0-85100874518 OR 2-s2.0-85099496585 OR 2-s2.0-85075886766 OR 2-s2.0-85095993527 OR 2-s2.0-85140370648 OR 2-s2.0-85089342145 OR 2- s2.0-85088701554 OR 2-s2.0-85152085931 OR 2-s2.0-85079067458 OR 2-s2.0-85068426496 OR 2-s2.0-85120645423 OR 2-s2.0-85089339384





- Published documents whose study variables are related to the study of the Implementation of electronic government in higher education during the covid19 pandemic.
- Works published in journals indexed in Scopus during the period 2020-2023.
- Limited to Latin American countries.
- Without distinction in areas of knowledge.
- No distinction of type of publication.

4.2. Phase 2: Construction of analysis material

The information collected in Scopus during the previous phase is organized to later be classified using graphs, figures and tables as follows:

- Word co-occurrence.
- Year of publication.
- Country of origin of the publication.
- Knowledge area.
- Post type.

4.3. Phase 3: Drafting of the conclusions and final document.

In this phase, we proceed with the analysis of the results obtained previously, resulting in the determination of conclusions and, consequently, obtaining the final document.

5. Development and discussion

Table 1 shows the distribution of the overall search results. Which indicates that, of the 25 articles, 20 of them develop the expectation variable this equals 80%. The perception variable is developed by 22 articles, this is equivalent to a 88% The satisfaction variable is developed by 20 articles, this is equivalent to 80% of the total of articles. Additionally, HE indicates that of the 25 articles twenty of them corresponds to education, this is equivalent to 80% of the total. Finally, 100% of the articles are from approach quantitative. Of the data percentage presented, HE deduces that the variable the most elaborated is perception and the percentage of articles in the area of education does not result have a great significance.

Board 1 Research included in the revision systematic.

Las Tics en educación superior						Metodología	
N ^o	Autores/ Año/ Título	expectati va	percepci ón	satisfacci ón	Educaci ón superio	Tipo de	Instrumen to, técnico o

	o/ Publi ca.				r	estud io	método
1.	(Trigueros et al., 2021) Education Virtual with Students of First Year of Engineering in Time of Social Isolation Mandatory. Magazine: Magazine Iberoamerican of Technology in Education and Education in Technology	xx	x	x		Quantitative	Questionnaire
2.	(Sandoval pillage et to the., 2021). ICT in education and diffusion of a product tourist in Ibarra . Magazine: Magazine Conrad	xx	x	x		Quantitative	Questionnaire
3.	(Farias & Impolcetto , 2021) Use of TICs in the classes of Education school physics in units didactics Of athletics and dance Magazine: Brazilian magazine of Science and sport.	x	x	x		Quantitative	Questionnaire
4.	(Garcia et to the., 2020) Use of the TIC in Architecture Magazine: MODULE ARCHITECTURE CUC	x	x	x		Quantitative	Questionnaire
5.	(Casillas-Martin et to the., 2020) the teaching staff academic in the society of knowledge: driving and attitude toward the tick .	xx	x	x		Quantitative	Questionnaire

	Magazine: pedagogical.						
6.	(Ruiz-Aquino et to the., 2021) attitudes towards ICT and the use of the virtual environment in university teachers in time of pandemic of the covid -19 Magazine: Faculty of Education and Humanities of the Campus of Melilla	x	x	x	Quantitative	Questionnaire	
7.	(F. R. Fernandez, 2020) The coronavirus, the testament in situation of epidemic and he use of the ticks in he right Spanish. Magazine: University externship of Colombia	xx	x		Quantitative	Questionnaire	
8.	(Rendón-Galvis & Jarvio - Fernandez, 2020) He use of the TIC for promote the reading in public libraries with intervention of the librarians. Magazine: Center of Studies of the Culture and the communication from University veracruzana	xx	x	x	Quantitative	Questionnaire	
9.	(Robles-Francia et al ., 2020) He use of the TIC and the reading in the education public superior mexican	xx		x	Quantitative	Questionnaire	

10	(Díaz-García et al., 2020) The relationship between the skills TIC, the use of the TIC and the approaches of learning in student body academic education		x	x	x	Quantitative	Questionnaire
11	(Díaz-García et al., 2020) Evolution of the use of the TIC by part of the adolescents in the last years: lights and shades. Magazine: Magazine of Psychology		xx			Quantitative	Questionnaire
12	(gives Silva-Bueno et al., 2021) Teachers that form teachers and their perceptions versus use of ICT in classes math. Magazine: Iberoamerican of Education superior.		x	x	x	Quantitative	Questionnaire
13	(Leiva et al., 2022) promotion of skills intercultural and Use of the TIC. Magazine: Iberoamericana about Quality, Effectiveness and Change in Education		xx	x		Quantitative	Questionnaire
14	(Monteagudo-Fernandez et al., 2020) Perceptions of the students of Education Secondary about the history teaching, through of the use of the ICT and resources digital Magazine: Electronics interuniversity of		xx		x	Quantitative	Questionnaire

	training of the faculty						
15	(Franciskovic et al., 2020) The tick , a chance of stake citizen in the governments subnationals. Magazine: republican		x	x			Quantitative Questionnaire
16	(Toad aguilar et to the.,2020) The Education superior during the health contingency COVID-19. Magazine: America 's Communication social.		xx	x		x	Quantitative Questionnaire
17	(Perez Benitez & RichardBarreto, 2022).		xx			x	Quantitative Questionnaire

Through the various articles considered in this study, we can confirm the importance of ICTs in educational institutions and organizations. In addition, it is necessary to think that, for teaching/learning models, the use of ICT is necessary in order to stimulate cognitive development, strengthening training processes and assertively influencing the academic performance of students (García et al. , 2020) In his study, quantitative where he adapts instruments such as the Questionnaire, likewise, In addition, a deep debate on the epistemological foundations implicit in the use of new digital tools is still necessary; about whether ICTs are an adequate teaching tool, according to current educational models, in time-cost terms for better performance and academic success of the student body (Flores-Tena et al., 2020) who applies the data analysis have used quantitative cutting techniques, as we indicated previously. Taking into account the descriptive nature of our study, we have

focused on the analysis of the results through means, frequencies and standard deviations of the data. In addition, the data collected in the questionnaires were analyzed using the statistical package Statistical Package for the Social Sciences.

In this research, the integration of ICTs in the classroom has been a process that has required literacy for all teachers over the years. For this reason, it considers that the research has fulfilled the stated objectives, the use of ICT in the classroom, developing innovative and flexible learning. It must be taken into account that the importance that educational policies have had in directing the course of the use of ICTs in education is recognized (López de la Madrid et al., 2021). It is important to massively incorporate ICTs in education, given that it is the most expeditious, economical and universal method of reducing the digital divide between and within countries. If social inclusion depends more and more on

access to knowledge, participation in networks, and the use of information and communication technologies, the formal education system is the key to spreading this access, since it allows mass connectivity and use of electronic networks. The introduction of ICTs in the school system is a slow process whose rhythm is associated more with the long term inherent to cultural change than with periods of elected governments; that is why it should be a policy of the state, not of a government.

Likewise, a series of overviews appear that positively qualifies the use of learning techniques in education, because students learn and are evaluated in an almost imperceptible way for them, without worrying about final evaluations (DS Fernández, 2022) raised in his case study the differences between the quantitative results of the Test and Kahoot evaluation tests show a strong significance between the two groups, supported by the position shared by the teacher and the educational innovation group. This refers to the fact that students are used to following the

traditional method in the center, while in other areas they use ICT. The Tics variable is commonly related to the expectations and perception variables. However, it can also be related to the satisfaction variable (Ruiz-Rodríguez et al., 2020) and (Medina et al., 2022). The improvement of speeding up the teaching and learning processes will be carried out by Tics.

It can be related to the satisfaction variables (Izabella Miranda Pereira & González Alba, nd .), and (Izabella Miranda Pereira & González Alba, nd .) and at the same time these investigations are carried out in higher education. It shows a pedagogical proposal supported by an adequate use of technological platforms that enabled a satisfactory trajectory of the virtual teaching process. (Trigueros et al., 2021) Tics impact all areas of human life due to the characteristics that they contribute to society of knowledge, and for all the possibilities that they offer to the development of new ways of organizing, communicating, educating, teaching and learning and with it the transformation and evolution of society itself.

6. word co-occurrence

Figure 2 shows the Co-occurrence of keywords found in the publications identified in the Scopus database.

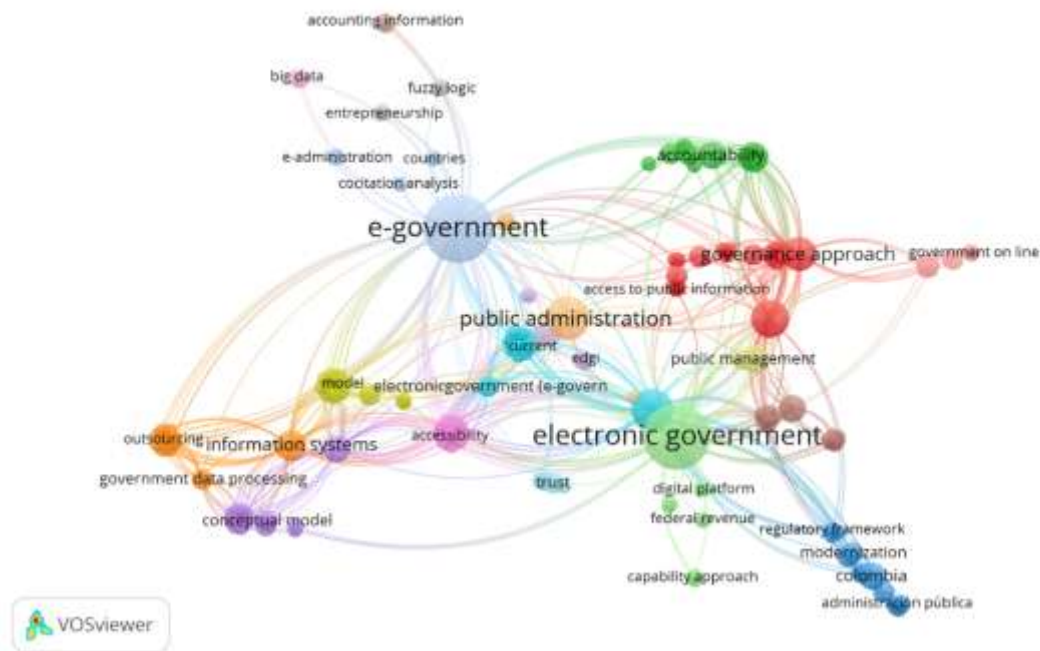


Figure 2. Word co-occurrence

Source: Own elaboration (2023); from data exported from Scopus.

7. Distribution of scientific production by year of publication

Figure 3 shows how the scientific production is distributed according to the year of publication.

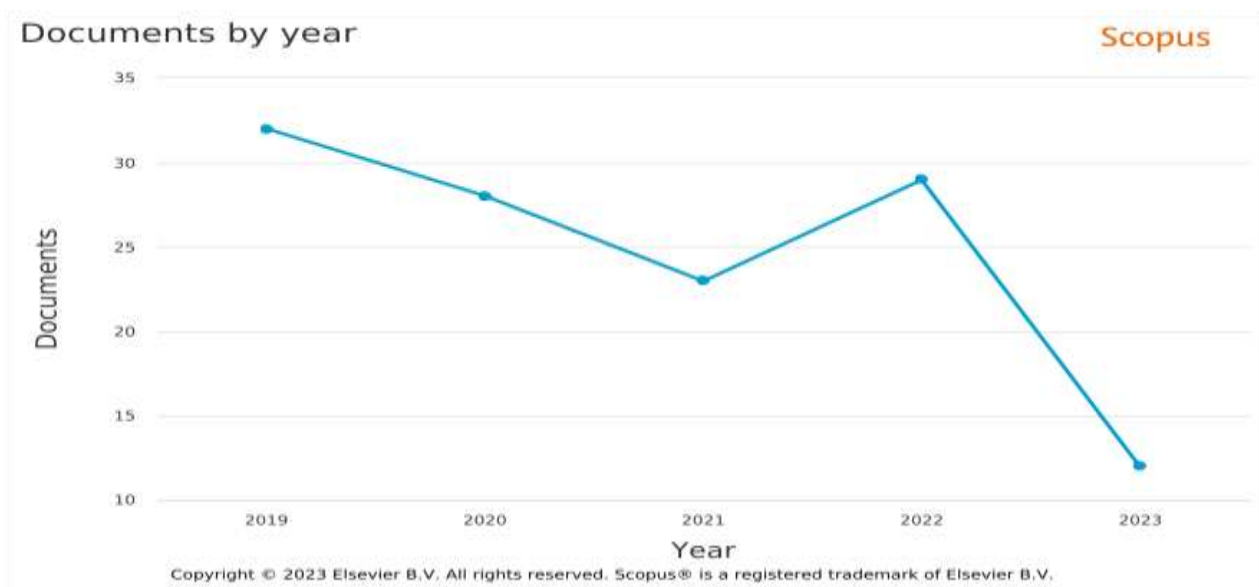


Figure 3. Distribution of scientific production by year of publication

Source: Own elaboration (2023); from data exported from Scopus

8. Distribution of scientific production by country of origin.

Figure 4 shows how the scientific production is distributed according to the nationality of the authors.

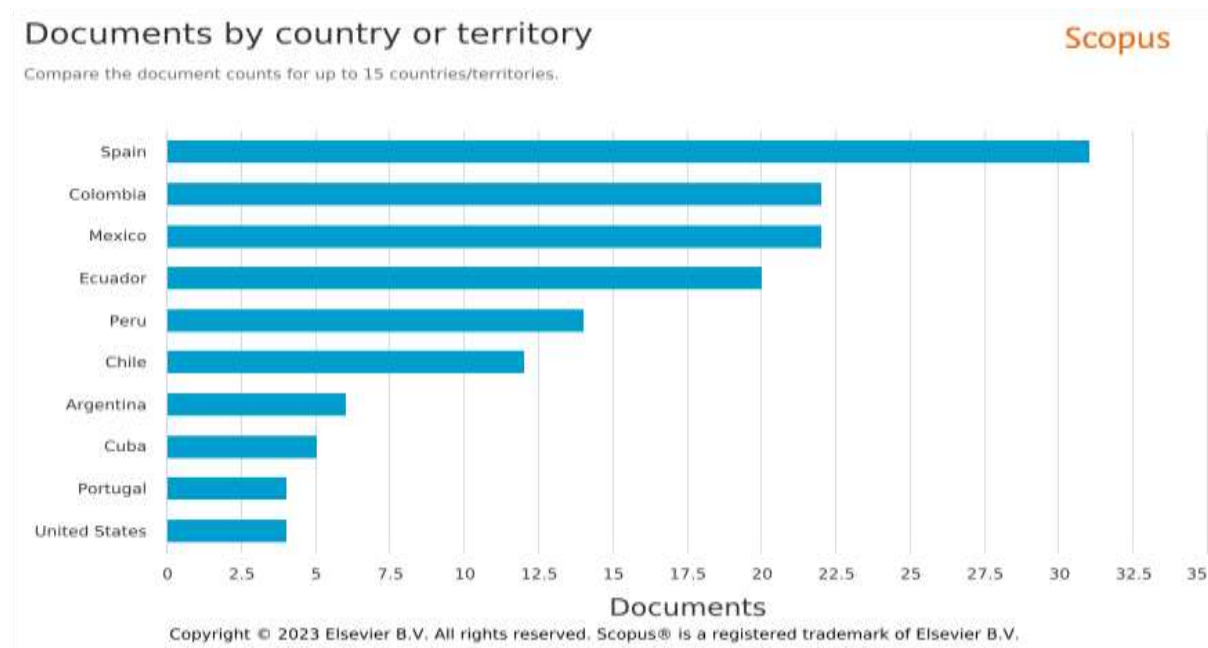


Figure 4. Distribution of scientific production by country of origin.

Source: Own elaboration (2023); based on data provided by Scopus.

9. Post Type

In the following graph, you will see the distribution of the bibliographic findings according to the type of publication made by each of the authors found in Scopus.

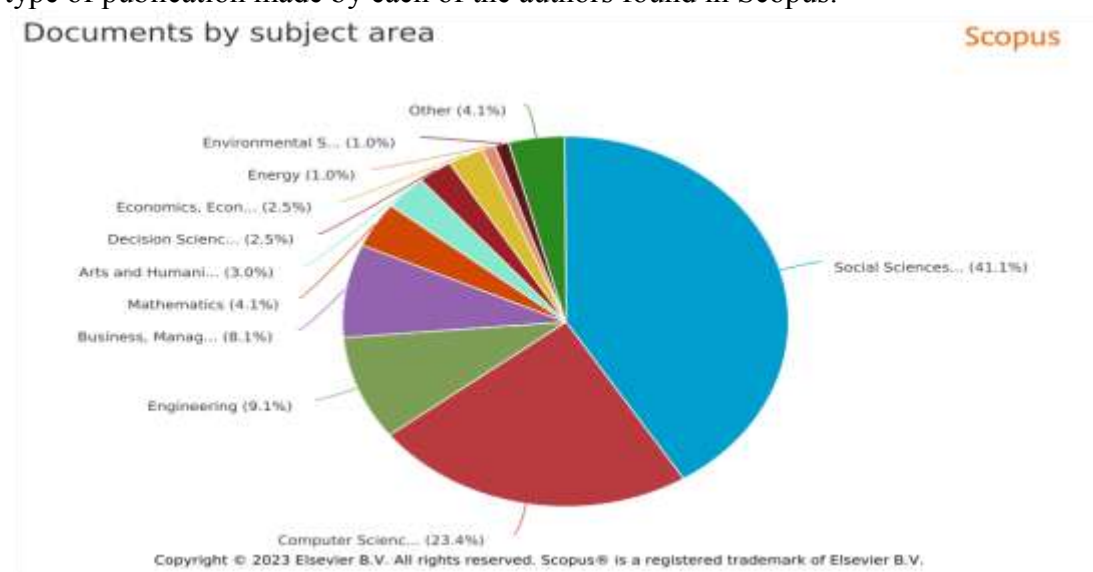


Figure 5. Type of publication

Source: Own elaboration (2023); based on data provided by Scopus

10. Conclusion

According to the review of the articles, Tics, in this electronic government is important for any organization, whether public or private, since they are tools that help us process information and for administrative management, automating processes, it is necessary to think that, for the teaching/learning models, the use of ICTs in this electronic government is necessary in order to stimulate cognitive development, strengthening training processes and assertively influencing the academic performance of students (García et al., 2020).

The implementation of an e-government system has numerous benefits, including increased efficiency and productivity in government services. By using technology to automate processes and streamline workflows, public organizations can reduce the time and resources required to complete tasks, allowing them to better allocate resources to other important initiatives. E-government also facilitates the integration of different systems and processes, allowing information and resources to be shared between departments, further improving efficiency and productivity. As a result, citizens can expect faster and more reliable services from their government.

The use of ICTs in the academic part helps improve and expand student training in the use of information and communication technology devices and tools, the use of virtual environments is positively and significantly related to attitudes towards ICTs in the university professors in the sample; that is, the greater the positive attitude towards ICTs, the greater the use of virtual environments (Ruiz-Aquino et al., 2021) ICTs make it easier for users to access information through this, decision-

making in the community can be supported. organization. The degree of technological innovation is favored by the intensity of cooperative integration, the ICT training of employees, the commercial importance of the foreign sector, the offer of ecological products within the range of cooperative products and the degree of commitment of the cooperative regarding Corporate Social Responsibility actions (Mozas et al., 2020).

E-government systems also improve transparency and accountability in government operations. By providing citizens with access to information and services through digital channels, e-government systems increase transparency and reduce the potential for corruption and embezzlement. Additionally, e-government systems allow citizens to provide feedback and participate in government decision-making processes, promoting accountability and responsiveness. By promoting transparency and accountability, e-government systems can help rebuild public trust in government institutions.

Finally, e-government systems improve accessibility and convenience for citizens. By delivering services through digital channels, e-government systems allow citizens to access government services from anywhere and at any time. This is particularly beneficial for people who may have difficulty accessing government services in person, such as people with disabilities or those who live in remote areas. Furthermore, e-government systems can simplify complex processes, making it easier for citizens to navigate government services. As a result, e-government systems can improve the overall citizen experience and increase satisfaction with government services.

11. Bibliographic references

1. Auks, N., Alarcon, h. H., Venture, CO, Alarcon, m. TO., Sources, J. TO., & Lopez, T. YO. (2019). technostress teacher and perception of the quality of service in a university private of Lime. *Purposes and Representations* , 7 (3), 231. <https://doi.org/10.20511/pyr2019.v7n3.388>
2. Ambrosi , C., & Stern Gelman, L. (2021). Technologies for a real and atomized immobility? Ethical reflections on the potential of the political uses of ICT in the social. *Social Work* , 23(1), 75–94. <https://doi.org/10.15446/ts.v23n1.87707>
3. Balinado , JR, Prasetyo , YT, Young, MN, Persada , SF, Miraja , BA, & Perwira , AAN (2021). The effect of service quality on customer satisfaction in an automotive after-sales service. *Journal of Open Innovation: Technology, Market, and Complexity* , 7(2). <https://doi.org/10.3390/joitmc7020116>
4. Benites, A., Castillo, E., Rosales, C., Salas, R., & Reyes, C. (2021). Factors associated with the quality of service in Peruvian public hospitals Factors associated with the quality of service in Peruvian public . *MediSur* , 236–244.
5. Bustamante, MA, Zerda -Barreno, ER, Obando, F., & Tello-Sánchez, MG (2020).
6. Fundamentals of quality of service, the Servqual model . *Business* , 13(2), 1–15. <https://doi.org/10.23878/empr.v13i2.159>
7. Casillas-Martín, S., Cabezas-González, M., Ibarra-Saiz, MS, & Gómez, GR (2020). University professors in the knowledge society: Management and attitude towards ict . *Bordon. Revista de Pedagogia* , 72(3), 45–63. <https://doi.org/10.13042/Bordon.2020.76746>
8. Castellano, MI, Bittar , O., & Caridad, M. (2021). Strengthening the Quality of Service Oriented to Medical Tourists: A Strategy for The Sustainability of The Hotel Sector in Barraquilla . *IBIMA Business Review* , 2021, 1–15. <https://doi.org/10.5171/2021.422393>
9. Castillo Saavedra, EF, Rosales Márquez, C., & Reyes Alfaro, CE (2020). Perception of Peruvian patients about the quality of hospital pharmaceutical services. *MediSur* , 18(4), 564–570
10. da Silva-Bueno, RW, Coragem-Ballejo , C., & Gea, MM (2021). Teacher trainers and their perceptions on the use of ict in mathematics classes. *Iberoamerican Journal of Higher Education* , 12(35), 169–183. <https://doi.org/10.22201/iissue.20072872e.2021.35.1088>
11. de la Hoz, JP (2021). The evolution of ICT use by adolescents in recent years: Lights and shadows. *Aloma* , 39(1), 39–47. <https://doi.org/10.51698/ALOMA.2021.39.1.39-47>
12. Díaz-García, I., Almerich , G., Suárez-Rodríguez, J., & Orellana, N. (2020). The relationship between ICT competencies, ICT use and learning approaches in university students of education. *Research Magazine _ Educational* , 38(2), 549–566. <https://doi.org/10.6018/RIE.409371>
13. Diaz, VM, Vagena , E., & Garcia, SR (2020). Visions of the use of ict for inclusive education: The case of Greece. *Free Text* , 13(3), 181–199. <https://doi.org/10.35699/1983-3652.2020.25117>
13. Espinoza, P., Prieto, W., Gomez, N., & Ochoa, M. (2020). Assurance of educational quality in the social context of law. *Journal of Chemical*

- Information and Modeling, 43(1), 7728.
14. Farias, AN, & Impolcetto , FM (2021). Use of ict in school Physical Education classes in teaching and teaching dynamic units. *Brazilian Magazine of Sports Sciences* , 43. <https://doi.org/10.1590/rbce.43.e004220>
 15. Fernndez, D.S. (2022). Experience of the use of ICT with digital natives. 12(2), 79–97.
 16. Fernandez, FR (2020). The will for an epidemic in the Spanish civil code and use of icts . *Private Law Review*, 40, 395–435. <https://doi.org/10.18601/01234366.N40.14>
 18. Fernandez, M. (2019). Self-assessment of service quality: A significant experience in Peru. 127–143. <https://doi.org/https://doi.org/10.37960/revista.v24i2.31513>
 19. Flores-Tena, MJ, Ortega-Navas, M. del C., & Sousa-Reis, C. (2020). The use of digital ICT by teachers and their adaptation to current models. *Electronic Magazine Educare*, 25(1), 1–21. <https://doi.org/10.15359/ree.25-1.1>
 20. Fontalvo , OM, Fontalvo , TJ, & Herrera, R. (2020). Monitoring and control of the performance of the quality dimensions of a service attention center in a higher education institution. *Technological Information*, 31(3), 113–120. <https://doi.org/10.4067/s0718-07642020000300113>
 21. Franciskovic, J., Hamann, A., & Miralles, F. (2020). ICT, an opportunity for citizen participation in subnational governments. *Republican Magazine*, 2020(29), 21–46. <https://doi.org/10.21017/rev.repub.2020.v29.a85>
 22. Ganga, F., Alarcón, N., & Pedraja , L. (2019). Measurement of service quality through the SERVQUAL model: the case of the Guarantee Court of the city of Puerto Montt - Chile. *I will engineer. Chilean Magazine of Engineering*, 27(4), 668–681. <https://doi.org/10.4067/s0718-33052019000400668>
 23. Garcia, CM, Escalante, CC, Alvarez, DER, & Mendoza, IN (2020). Use of ICT in Architecture: experience of a technological program at the Universidad del Atlántico. *Architecture Module CUC*, 25, 67–84. <https://doi.org/10.17981/mod.arq.cuc.25.1.2020.03>
 24. Guatzozón , M., Canto, AM, & Pereyra, A. (2020). Service quality in micro-businesses in the wood craft sector in a police station in Mérida, México. *I will engineer. Chilean Journal of Engineering*, 28(1), 120–132. <https://doi.org/10.4067/s0718-33052020000100120>
 25. Hussin , ZI, MOHD, J., PADLEE, SF, SULAIMAN, A., MOHAMED, M., & ZULKIFFLI, SN'ATIKAH. (2021). Student Characteristics and Perceived Service Quality Towards Sustainability of Higher Educational Institutions. *Journal of Sustainability Science and Management*, 16(3), 210–235. <https://doi.org/10.46754/jssm.2021.04.016>
 26. Izabella Miranda Pereira, A., & González Alba, B. (nd). Use of ICT and attention to diversity in the times of COVID. <https://doi.org/10.35699/1983>
 27. Jahmani , A., Bourini , I., & Jawabreh , OA (2020). The relationship between service quality, client satisfaction, perceived value and client loyalty: A case study of fly emirates. *Cuadernos de Turismo*, 45, 219–238. <https://doi.org/10.6018/turismo.42610>

28. Leiva, JJ, del Olmo, MJA, Aguilera, FJG, & Villalba, MJS (2022). Promotion of Intercultural Competencies and Use of ICT: Towards a Digitally Inclusive University. REICE. Iberoamerican Journal on Quality, Efficiency and Change in Education , 20(2), 47–64. <https://doi.org/10.15366/reice2022.2.0.2.003>
29. López de la Madrid, MC, Flores Guerrero, K., & Tejada Mercado, C. (2021). ICT in the design of educational policies. The case of Mexico. Education Policy Analysis Archives, 29. <https://doi.org/10.14507/epaa.29.4408>
30. López, EJ, Cabrera, Y., Díaz, JA, López, E., Gálvez , AM, & Jiménez, G. (2019). Approach to self-assessment of perceived quality in care services for the elderly. Medisur : Cienfuegos Journal of Medical Sciences, 17(3), 393–406.
31. Medina, NS, Lopez, MAA, & Britto, JCC (2022). therapeutic Pedagogy and use of ICT. A segmentation analysis in Castilla-La Mancha. Fuentes Magazine, 24(1), 54–64. <https://doi.org/10.12795/revistafuentes.2022.18417>
32. Monteagudo-Fernández, J., Rodríguez-Pérez, RA, Escribano-Miralles, A., & Rodríguez
33. Garcia, A. M. (2020). Perceptions of secondary education students on the teaching of history, through the use of ICT and digital resources. Interuniversity Electronic Journal of Teacher Training , 23(2), 67–79. <https://doi.org/10.6018/reifop.417611>
34. Mozas, A., Bernal, ME, Uclés, JDF, Viruel , MJM, & Poyatos, RP (2020). Second degree cooperatives and ICT adoption. CIRIEC- Spain Public, Social and Cooperative Economy Magazine , 100, 67–85. <https://doi.org/10.7203/CIRIEC-E.100.17712>
35. Numpaque , A., Bultrago , L., & Pardo, D. (2019). Quality of care in the ambulatory surgery service from the user's perception. Grupo Ángeles Medical Act, 15(2), 92–98. <https://doi.org/10.35366/72339>
36. Obregón, D., Pante, G., Barja, J., & Mera, A. (2021). Satisfaction with the care received in a differentiated service for adolescents in a first-level health care facility TT - Satisfaction desde differentiated health care service for adolescents at a primary health care institution . Horiz . Med. (Print), 21(1), e1369–e1369. <https://doi.org/http://dx.doi.org/10.24265/horizmed.2021.v21n1.04>
37. Okano , M., Langhi , C., & Ribeiro, RB (2021). Measuring the benefits of ICTs in social enterprises: An exploratory study. Brazilian Business Review, 18(3), 317–333. <https://doi.org/10.15728/BBR.2021.18.3.5>
38. Peñaherrera , I., Borja, E., & D'armas , M. (2019). Evaluation of the Quality of Services. to.
39. UNIVERSITY, SCIENCE and TECHNOLOGY, 23(90), 4–13.
40. Pérez Benítez, WE, & Ricardo Barreto, CT (2022). Factors that affect the reading comprehension of basic education students and their relationship with ICT. Íkala , Language and Culture Magazine, 27(2), 332–354. <https://doi.org/10.17533/udea.ikala.v27n2a03>
41. Rendón-Galvis , SC, & Jarvio - Fernández, AO (2020). The use of ICT to promote reading in public libraries with the intervention of librarians. Investigation Librarianship , 34(83), 129–144. <https://doi.org/10.22201/iibi.24488321xe.2020.83.58095>

42. Robles-Francia, VH, De la Cruz-Caballero, AM, & Cordero, AT (2020). The use of ict and the reading in the mexican public higher education. *Investigation Librarianship* , 34(83), 55–69. <https://doi.org/10.22201/iibi.24488321xe.2020.83.58139>
43. Rosales Rodríguez, MA (2020). Relationship between the inclusion and dropout of young women in STEM and ICT careers and areas. *Fides et Ratio - Journal of Cultural and Scientific Diffusion of La Salle University in Bolivia*, 20(20), 141–166. http://www.scielo.org.bo/scielo.php?script=sci_arttext&pid=S2071-081X2020000200009&lang=es%0A http://www.scielo.org.bo/pdf/rfer/v20n20/v20n20_a09.pdf
44. Ruff, C., Ruiz, M., Matheu, A., Juica, P., & Anabalón, G. (2021). Effectiveness of management in universities, from models of perception of quality of students: the model of the Bernardo O'Higgins University. *Journal of Quantitative Methods for the Economy and Business*, 31(31), 259–279. <https://doi.org/10.46661/revmetodoscuateconempresa.4336>
45. Ruiz-Aquino, M., Cantalicio, EB, Alania -Contreras, RD, Ponce, ESG, & Acosta, UZ (2021). University teachers' attitudes towards ICTs and the use of virtual environments during the COVID-19 pandemic. *Publications of the Faculty of Education and Humanities of the Melilla Campus*, 52(3), 121–133. <https://doi.org/10.30827/PUBLICACIONES.V52I3.22270>
46. Ruiz-Rodríguez, F., González-Relaño, R., & Lucendo-Monedero, Á. L. (2020). Spatial behavior of ICT use in households and individuals. A European regional analysis. *Geographical Investigations* , 2020(73), 57–74. <https://doi.org/10.14198/INGEO2020.RRGRLM>
47. Sandoval Pillajo, LL, Enríquez Chugá, JF, & Sandoval Pillajo, AL (2021). The TIC in the education and diffusion of a tourist product in Ibarra. *Consrado Magazine* , 17(78), 291–296. http://scielo.sld.cu/scielo.php?script=sci_arttext&pid=S1990-86442021000100291
48. Sapién Aguilar, AL, Piñón Howlet, LC, Gutiérrez Diez, MDC, & Bordas Beltrán, JL (2020). Higher education during the health contingency covid-19: Use of icts as learning tools. case study: Students of the faculty of accounting and administration. *Latino Journal of Social Communication* , 2020(78), 309–328. <https://doi.org/10.4185/RLCS-2020-1479>
49. Silva, J., Macías, B., Tello, E., & Delgado, J. (2021). The relationship between service quality, customer satisfaction and customer loyalty: a case study of a commercial company in Mexico The relationship between services quality, customer satisfaction, and customer loyalty: A case study of. *UAT Science*, 15(2), 85–101. <https://doi.org/https://doi.org/10.29059/cienciauat.v15i2.1369>
50. Trigueros, A., Compagnoni, MH, & Toro, LV (2021). Virtual Education with First Year Engineering Students in Times of Mandatory Social Isolation. *Ibero-American Magazine of Technology in Education and Education in Technology*, 28, e38. <https://doi.org/10.24215/18509959.28.e38>