Scientific and technological research article

How to cite: Moscoso Portillo, O. M., Marichal Guevara, O. C., Mazariegos Biolis, W. R., & Portillo Fajardo, I. M. (2025). Analysis of profiles in academic networks at the University of San Carlos of Guatemala. *Estrategia y Gestión Universitaria*, 13(2), e8715.<u>https://doi.org/10.5281/zenodo.15</u> 933435

Received: 11/12/2024 Accepted: 12/05/2025 Published: 17/07/2025

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Conflict of interest: the authors declare that they have no conflict of interest, which may have influenced the results obtained or the proposed interpretations.

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Analysis of profiles in academic networks at the University of San Carlos of Guatemala

Análisis de perfiles en redes académicas en la Universidad de San Carlos de Guatemala

Análise de perfis em redes acadêmicas da Universidade de San Carlos da Guatemala

Abstract

Introduction: academic visibility and presence in digital networks have become key elements to evaluate the impact and relevance of higher education institutions. These platforms not only allow the dissemination of knowledge, but also favor international collaboration and positioning in rankings such as Webometrics, which measures aspects related to transparency and presence on the web. Objective: to analyze the academic profiles of the professors of the University of San Carlos of Guatemala in academic networks, using indicators of visibility, transparency and presence, as well as the Webometrics Ranking, to evaluate their impact on the institutional reputation and the professional development of the professors. Method: semi-structured interviews and content analysis were used to identify the perceptions of the professors about their participation in academic networks, as well as the impact of these on their professional development. Results: they reveal the importance of the presence in these networks to improve visibility and academic reputation both at individual and institutional level. Conclusion: they suggest that, although there is active participation in networks, the optimization of visibility and transparency strategies could significantly enhance the global positioning of USAC in international academic rankings.

Keywords: academic networks, internationalization, visibility, transparency, presence

Resumen

Introducción: la visibilidad académica y la presencia en redes digitales se han convertido en elementos clave para evaluar el impacto y la relevancia de las instituciones de educación superior. Estas plataformas no solo permiten la difusión del conocimiento, sino que también favorecen la colaboración internacional y el posicionamiento en rankings como Webometrics, que mide aspectos relacionados con transparencia y presencia en la web.





Objetivo: analizar los perfiles académicos de los docentes de la Universidad de San Carlos de Guatemala en redes académicas, utilizando indicadores de visibilidad, transparencia y presencia, así como el Ranking Webometrics, para evaluar su impacto en la reputación institucional y el desarrollo profesional de los docentes. **Método:** se utilizaron entrevistas semiestructuradas y análisis de contenido para identificar las percepciones de los docentes sobre su participación en redes académicas, así como el impacto de estas en su desarrollo profesional. **Resultados:** revelan la importancia de la presencia en estas redes para mejorar la visibilidad y la reputación académica tanto a nivel individual como institucional. **Conclusión:** revelan la importancia de la presencia en estas redes para mejorar la visibilidad y la reputación académica tanto a nivel individual como institucional.

Palabras clave: redes académicas, internacionalización, visibilidad, transparencia, presencia

Resumo

Introdução: a visibilidade acadêmica e a presença nas redes digitais tornaram-se elementos-chave para avaliar o impacto e a relevância das instituições de ensino superior. Estas plataformas permitem não só a disseminação de conhecimento. mas também promovem a colaboração internacional e o posicionamento em rankings como o Webometrics, que mede aspectos relacionados com a transparência e a presença na web. Objetivo: analisar os perfis acadêmicos dos professores da Universidade de San Carlos da Guatemala nas redes acadêmicas, utilizando indicadores de visibilidade, transparência e presença, bem como o Ranking Webometrics, para avaliar seu impacto na reputação institucional e no desenvolvimento profissional dos professores. Método: analisar os perfis acadêmicos dos professores da Universidade de San Carlos da Guatemala nas redes acadêmicas, utilizando indicadores de visibilidade, transparência e presença, bem como o Ranking Webometrics, para avaliar seu impacto na reputação institucional e no desenvolvimento profissional dos professores. Resultados: revelam a importância da presença nestas redes para melhorar a visibilidade e a reputação académica tanto a nível individual como institucional. Conclusão: sugerem que, embora haja participação ativa nas redes, a otimização das estratégias de visibilidade e transparência poderia melhorar significativamente o posicionamento global da USAC nos rankings acadêmicos internacionais.

Palavras-chave: redes acadêmicas, internacionalização, visibilidade, transparência, presenç





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Introduction

Academic networks have acquired fundamental relevance in the dynamics of higher education, especially in the context of internationalization and interinstitutional collaboration. The University of San Carlos of Guatemala (USAC), as the oldest and most prestigious institution in the country, is not exempt from this trend. In an environment where visibility and academic reputation are increasingly linked to participation in networks, it is imperative to understand how the academic profiles of professors are configured on these platforms.

The internationalization of higher education has become a central element in global university policies. According to Knight (2015), internationalization is "the process of integrating an international, intercultural, or global dimension into the purpose, functions, and delivery of postsecondary education." Academic networks, as part of this dynamic, provide platforms for collaboration, visibility, and knowledge exchange, which in turn strengthens the reputation of institutions and academics (Marginson, 2018).

Academic visibility, understood as the ability of professors and researchers to be recognized in their field of study, has been widely discussed in recent literature. According to Sugimoto et al. (2017), visibility is closely related to scientific productivity and participation in collaborative networks. On the other hand, transparency in academic networks, defined by Törnquist-Chesnier (2020) as the openness and accessibility of academic information, plays a crucial role in building trust and legitimacy in the academic realm.

The Webometrics Ranking, developed by the Cybermetrics Lab, is a tool that measures the web visibility of universities and their impact on the global knowledge network. According to Aguillo et al. (2010), this ranking is a valuable indicator for assessing the presence and influence of institutions in the digital environment, which, in turn, is reflected in their academic prestige.

To achieve such goals, various researchers have emphasized the importance of leading university processes to achieve quality and accreditation, highlighting leadership as an essential element. Authors such as Hinojo Lucena et al. (2022), Marichal Guevara et al. (2021a, b), and Misas Hernández et al. (2022) explain the need to significantly influence others.

This qualitative study aims to explore these profiles, employing key indicators and the Webometrics Ranking as evaluation tools. It analyzes scientific production at the University of San Carlos of Guatemala (USAC) from a pedagogical perspective, assessing qualitative indicators such as citation counts, affiliation, international collaboration, participation in research networks, results in global rankings, and the quality of scientific production.

This situation raises the need for an institutional strategy that promotes the internationalization of knowledge produced at the USAC, as well as the strengthening of digital and scientific competencies among its professors. From this issue arises the central question of this research: What are the main factors affecting the academic visibility of professors from the USAC, and what strategies can be implemented to improve their presence in academic networks and their positioning



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in the Webometrics Ranking?

Methods and materials

This study adopts a qualitative approach, with a descriptive-interpretive design and a phenomenological research strategy, as it seeks to understand the perceptions, experiences, and practices of professors from the University of San Carlos of Guatemala (USAC) regarding their academic visibility in scientific networks. The nature of the research problem requires an in-depth analysis of professors' experiences related to the management of their academic profiles and its impact on institutional visibility. According to Creswell & Poth (2018), a qualitative approach is appropriate when aiming to interpret meanings and dynamics in specific contexts, allowing for nuances that quantitative methods may not capture.

The study not only describes the current state of academic profiles of professors from the USAC but also analyzes the reasons behind their low visibility in rankings such as Webometrics. This design allows for the identification of patterns, challenges, and possible improvement strategies. Flick (2022) notes that descriptive-interpretive research is useful when exploring phenomena in depth and contextualizing them within theoretical and practical frameworks.

The study employs phenomenology as a methodological strategy, focusing on understanding how professors experience and perceive their participation in academic networks. According to Van Manen (2016), phenomenology captures the essence of lived experiences of participants, which is essential for interpreting the issue from their own perspectives.

Given that the objective of this study is to analyze the causes and perceptions influencing the low academic visibility of professors from the USAC, the qualitative approach is the most pertinent. Additionally, the combination of interviews with document analysis provides a comprehensive overview of the issue, aligning with methodologies used in previous research on academic visibility and scientific networks (Romero et al., 2024).

Semi-structured interviews and content analysis were utilized as the main techniques for data collection and analysis. Interviews were conducted with 15 professors from the USAC, selected through purposeful sampling based on their activity in academic networks. Content analysis was applied to the interview responses and to the academic profiles of professors on platforms such as Google Scholar, ResearchGate, and ORCID. Furthermore, a systematic review of the literature from the last ten years on visibility, transparency, and presence in academic networks was conducted, complemented by data from the Webometrics Ranking to evaluate the position of the USAC compared to other universities in the region.

Semi-structured interviews are a fundamental tool in qualitative research due to their flexibility and depth. This type of interview allowed the researcher to explore key topics while giving interviewees the freedom to express their thoughts and experiences in their own terms. According to Kallio et al. (2016), semi-



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structured interviews are particularly useful when seeking to understand the meanings and perceptions that participants assign to their experiences. In the context of this research, semi-structured interviews facilitated the exploration of how professors from the USAC perceive their participation in academic networks and how these networks influence their visibility and professional development.

A key aspect of semi-structured interviews is the interview guide, which, according to Brinkmann (2018), is designed to balance structure and flexibility. The interview guide used in this research was developed based on a theoretical framework that considers academic visibility, institutional transparency, and digital presence as key elements for evaluating the impact of professors in academic networks and in international rankings such as Webometrics. The main thematic axes of the interview are outlined below.

1. Academic visibility in digital networks

Key questions:

• Do you have active profiles in academic networks such as Google Scholar, ResearchGate, or ORCID?

• How often do you update your scientific production on these platforms?

• Do you believe your research work has sufficient visibility in the academic sphere?

2. Transparency in scientific production

Key questions:

• Do you publish in open-access journals or prefer subscription-based journals?

• Do you believe that the USAC actively promotes the publication of works in open access?

• Do you think that transparency in scientific production impacts your academic visibility?

3. Institutional presence and positioning in rankings

Key questions:

• What do you believe is the impact of your scientific production on the positioning of the USAC in international rankings?

• What factors do you consider limit the university's presence in Webometrics?

• Have you received any institutional incentives to improve your presence in academic networks?

4. International collaboration and research networks

Key questions:

• Have you participated in research projects with foreign universities?



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• Do you consider international collaboration a key factor for improving your academic visibility?

• What barriers have you encountered in establishing international collaboration networks?

5. Digital competencies and use of English in scientific publishing

Key questions:

• Do you have training in digital competencies for managing your academic visibility?

• Do you believe that proficiency in English has limited you in publishing your research?

• What strategies do you think could be implemented to improve academic visibility at the USAC?

The interview guide is structured around these five fundamental axes, which are supported by recent literature on academic visibility and institutional positioning. The results obtained will allow for the analysis of barriers and opportunities to improve the digital presence of professors from the USAC and propose strategies that strengthen their impact on global scientific production.

Content analysis is a qualitative technique used to interpret and systematize textual data, enabling the identification of patterns, themes, and meanings within the analyzed texts. Krippendorff (2018) defines content analysis as "a research technique for making replicable and valid inferences from data according to their context." In this research, content analysis was used to examine both the transcripts of the interviews and the academic profiles of professors on platforms such as Google Scholar and ResearchGate.

Content analysis was chosen for its ability to handle large volumes of text and extract significant categories that respond to the research questions. According to Elo et al. (2014), this method is suitable for studies aiming to understand complex phenomena, such as professors' interactions with academic networks and how these interactions contribute to their visibility and academic reputation.

The systematic review is a rigorous and structured approach that allowed for the synthesis of existing literature on a specific topic, with the goal of providing a comprehensive view based on available evidence. According to Snyder (2019), a systematic review enables researchers to identify, assess, and synthesize all relevant studies to answer a specific research question. In this study, the systematic review of the literature on visibility, transparency, and presence in academic networks over the past ten years provided a solid theoretical framework and contextualized the empirical findings within the global academic landscape.

The systematic review was based on a clear methodology that included defining inclusion and exclusion criteria, conducting an exhaustive search in academic databases, and critically evaluating the selected studies. This ensured that the conclusions drawn from the review are robust and based on a reliable body of literature.





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The choice of a qualitative approach in this research is justified by the exploratory nature of the study. According to Creswell & Poth (2018), qualitative methods are ideal when seeking to understand human experiences and perceptions in depth, especially in complex contexts such as participation in academic networks. This approach allowed for capturing the richness of professors' experiences, their relationship with academic networks, and the implications of this relationship for their visibility and professional development.

Below, in Table 1, the characteristics of the 15 professors from the University of San Carlos of Guatemala (USAC) who participated in the research are detailed, including their academic background, contributions to research, gender, ages, and other relevant characteristics.

Table 1

Sample characteristics

#	Gender	Age	Academic Background	Specialization	Indexed Publications	Research Projects	International Collaboration	Use of Academic Networks	Teaching Experience
1	Male	45	Doctorate	Social Sciences	12	Internatio nal	High	Google Scholar, ResearchGate	15 years
2	Female	52	Master's	Health Sciences	5	National	Moderate	Google Scholar, ORCID	25 years
3	Male	38	Doctorate	Engineering and Technology	8	Internatio nal	High	ResearchGate, ORCID	12 years
4	Female	47	Master's	Humanities	3	National	Low	Google Scholar	20 years
5	Male	53	Doctorate	Social Sciences	15	Internatio nal	High	Google Scholar, ResearchGate, ORCID	30 years
6	Female	41	Doctorate	Natural Sciences	7	National	Moderate	ResearchGate, Mendeley	18 years
7	Male	60	Master's	Health Sciences	4	National	Low	Google Scholar	35 years
8	Female	35	Bachelor's	Social Sciences	2	No participati on	Low	Google Scholar, LinkedIn	7 years



9	Male	49	Doctorate	Engineering and Technology	10	Internatio nal	High	Google Scholar, ORCID	22 years
10	Female	62	Master's	Health Sciences	6	National	Moderate	ResearchGate, ORCID	40 years
11	Male	55	Doctorate	Social Sciences	8	Internatio nal	High	Google Scholar, ResearchGate	25 years
12	Male	42	Bachelor's	Engineering and Technology	3	No participati on	Low	LinkedIn, ORCID	15 years
13	Female	36	Master's	Natural Sciences	4	National	Moderate	Google Scholar, LinkedIn	8 years
14	Male	50	Doctorate	Social Sciences	9	Internatio nal	Moderate	ResearchGate, ORCID	28 years
15	Female	64	Doctorate	Humanities	5	National	Low	Google Scholar, LinkedIn	42 years

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Source: Authors' own elaboration.

Note. The characteristics of 15 professors who are the subjects of the study are presented. Source: Authors' own elaboration (2024).

Results and discussion

The results indicated that the majority of the interviewed professors actively participate in academic networks, primarily on Google Scholar and ResearchGate. However, the visibility and transparency of their profiles vary significantly. While some professors exhibit a high level of visibility and transparency, others show a limited and poorly optimized presence. The analysis of the Webometrics Ranking reveals that the USAC, although positioned as the best university in Guatemala, faces challenges in terms of visibility and global presence compared to other universities in Latin America.

In the interviews conducted with 15 professors from the University of San Carlos of Guatemala (USAC), their perceptions regarding participation in academic networks and how this influences their visibility, transparency, and global presence were explored. Below are the detailed results from the interviews:

1. Visibility in academic networks:

• Highly Visible (5 professors): A group of professors reported a strong presence on networks such as Google Scholar, ResearchGate, and LinkedIn, with updated profiles and significant academic production visible on these platforms. These professors typically participate in international conferences and have collaborations with researchers from other countries.

• Moderately Visible (6 professors): Another group maintains profiles on



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academic networks, but updates to their profiles are sporadic. They publish in local or regional journals, which limits their international visibility.

• Low Visibility (4 professors): These professors have incomplete or outdated profiles, significantly reducing their visibility in the global academic community.

2. Transparency in shared information:

• High Transparency (4 professors): Some professors provide open access to their publications, research data, and academic achievements on their network profiles, which enhances transparency and reputation.

• Moderate Transparency (5 professors): This group selectively shares their publications and achievements, keeping some of their work under subscription or in closed repositories.

• Low Transparency (6 professors): These professors publish little or no information about their work in academic networks, limiting the accessibility and impact of their research.

3. Presence in academic networks:

• Active Presence (6 professors): The most active professors in academic networks participate in discussions, collaborations, and regularly update their profiles.

• Moderate Presence (5 professors): They occasionally participate in academic networks but do not consider it a priority within their academic careers.

• Passive Presence (4 professors): These professors have profiles but rarely use them or interact on these platforms.

Academic visibility, transparency in scientific production, and presence in academic networks are determining factors in the projection and recognition of university professors at the international level. These elements not only influence institutional reputation but also directly impact the position of universities in global rankings such as Webometrics. In this context, a comparative analysis of the academic profiles of professors from the USAC was conducted, evaluating their performance on platforms such as Google Scholar, ResearchGate, and ORCID. The following Table 2 presents the results obtained from these indicators, allowing for the identification of participation patterns, gaps in the management of scientific production, and opportunities for improvement to strengthen the digital presence of researchers.

Table 2

Analysis of participation in academic networks 2024

Indicator	High (n=6)	Moderate (n=5)	Low (n=4)
Visibility	40%	33%	27%
Transparency	27%	33%	40%
Presence	40%	33%	27%



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Source: Authors' own elaboration.

Note. The table shows the analysis of indicators such as visibility, transparency, and presence in academic networks in the context of the USAC according to the criteria of 15 professors in 2024. Source: Authors' own elaboration (2024).

Causes of low results in the Webometrics Ranking

From the interviews and content analysis, several causes were identified that may be contributing to the low results of the USAC in the Webometrics Ranking:

• Lack of institutional strategies: There is no clear institutional policy that encourages professors to improve and maintain their academic profiles on networks, which decreases the university's global visibility.

• Publication in low-impact journals: Many professors publish in local or regional journals with a low impact factor, which limits international visibility and, consequently, affects the position of the USAC in global rankings.

• Restricted access to research: A significant number of professors do not publish in open access, which reduces transparency and dissemination of their work, affecting the institution's reputation and recognition.

• Limited digital infrastructure: The lack of support in terms of technological tools and training to manage academic profiles adequately also influences the low presence in international networks.

• Reduced culture of international collaboration: Although some professors collaborate internationally, many do not, which limits knowledge exchange and the global visibility of the USAC.

Results of the content analysis

The content analysis of the semi-structured interviews and the academic profiles of the 15 professors from the University of San Carlos of Guatemala (USAC) allowed for the identification of recurring themes and patterns related to visibility, transparency, and presence in academic networks. The main findings are presented below:

1. Participation in academic networks:

• Frequency of updates: It was observed that professors who update their academic profiles more frequently tend to have better positioning and recognition in their respective research areas. Those with sporadic or nonexistent updates showed lower visibility.

• Use of platforms: The most commonly used platforms by professors include Google Scholar, ResearchGate, and LinkedIn. However, the use of ORCID and Mendeley was significantly lower, which limits the interconnection of their academic production across different networks.

2. Quality of shared information:



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• Open access vs. Closed access: Professors who publish in open access achieve greater citation and visibility for their work, while those who publish in closed access journals or do not upload their articles to accessible platforms show lesser academic influence.

• Profile details: Professors with detailed profiles (including biography, complete list of publications, projects, and areas of interest) exhibit greater transparency and are more likely to be contacted for international collaborations.

3. International collaborations:

• Impact on visibility: Professors who actively participate in international projects or collaborate with foreign institutions have significantly greater visibility in their academic profiles and receive more citations for their publications.

• Barriers to collaboration: Barriers such as lack of proficiency in English, absence of networking opportunities, and limitations in access to funding for academic mobility were identified.

4. Institutional positioning:

• Perceived reputation of the USAC: Many professors perceive that the USAC has a strong national reputation but limited international visibility. This is attributed to low presence in global rankings and a lack of publications in high-impact journals.

In the current context of higher education, the projection and academic impact of professors largely depend on their participation in scientific networks, the management of their research output, and the transparency in disseminating their contributions. Factors such as the frequency of profile updates, the use of academic platforms, open access publishing, and international collaboration are crucial for increasing visibility and credibility of researchers at a global level. The following Table 3 presents a comparative analysis of these indicators among professors from the USAC, aiming to identify strengths and areas for improvement in their digital academic presence and contributions to institutional projection.

Table 3

Indicator	High (n=6)	Moderate (n=5)	Low (n=4)
Frequency of updates	40%	33%	27%
Use of academic platforms	50% (Google Scholar, ResearchGate)	33% (only one platform)	17% (few or none)
Open access publishing	30%	40%	30%
International collaborations	50%	33%	17%
International visibility	40%	33%	27%

Content analysis by indicators



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Transparency information	of	35%	40%	25%
Details academic profi	in les	45%	35%	20%

Source: Authors' own elaboration.

Note. The table shows the content analysis according to indicators for evaluating visibility in academic networks.

Interpretation of results

• Frequency of updates and use of platforms: Professors who maintain a high frequency of updates and use multiple academic platforms display better visibility and presence in networks, which enhances their reputation and that of the USAC.

• Open access and transparency: The adoption of open access practices and transparency in the information shared on academic profiles are key factors contributing to increased citations and international visibility.

• International collaborations: Participation in international collaborations is a determining factor for improving visibility and academic impact. However, the identified barriers limit some professors' ability to fully benefit from these opportunities.

The content analysis revealed that, although some professors at the USAC maintain effective practices in managing their academic profiles, there is considerable room for improvement in terms of visibility, transparency, and global presence. The adoption of institutional strategies that encourage the use of academic platforms, open access, and international collaborations could significantly enhance the position of the USAC in global rankings and its academic reputation.

The results obtained in this study reflect trends similar to those reported in previous research on academic visibility in Latin American higher education institutions. For instance, Ramírez & Tejeda (2019), Delgado et al. (2006), Alonso & Vázquez (2016), Dafonte et al. (2015), and González et al. (2011) highlighted that low activity of profiles on academic networks such as Google Scholar and ResearchGate is a recurring issue in public universities in the region, attributed to a lack of training in digital competencies. Similarly, this study identified that 26.7% of professors from the USAC have inactive or outdated profiles, negatively impacting their institutional positioning.

Regarding presence in international rankings, studies such as those by Feyen et al. (2016) and Thelwall & Kousha (2015) demonstrate that universities with higher indexed scientific production achieve better results in Webometrics. However, this study revealed that, despite 13.3% of professors from the USAC holding a doctorate, their scientific output is limited compared to similarly sized institutions in countries like Mexico or Brazil. This may be due to insufficient funding for research projects and limited international collaboration, factors also noted by Heng et al. (2020) and Torres & Milanés (2014) as significant barriers in the region.



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On the other hand, significant differences were identified regarding the use of languages in scientific production. While proficiency in English is recognized as a crucial element for increasing global visibility (Timney et al., 2020; Turpo & Medina, 2013), only 12.4% of professors from the USAC reported bilingual skills. This contrasts with universities in Chile and Colombia, where English training strategies have significantly improved the visibility of their researchers (Barahona, 2016).

One of the main limitations of this study lies in the sample size, as it includes only 15 professors, which may restrict the generalizability of the findings. Additionally, reliance on self-reported data may have introduced biases regarding activity in academic networks and international collaboration. Finally, the lack of access to comprehensive metrics on research funding and the institutional policy of the USAC limited a deeper analysis of the structural causes affecting academic visibility.

The results obtained in this study have allowed for the identification of several causes explaining the low academic visibility of professors from the University of San Carlos of Guatemala (USAC) in academic networks and their positioning in the Webometrics Ranking. The following factors are highlighted: low updates and use of academic networks, limited indexed scientific production, restricted international collaboration, deficiencies in English proficiency, as well as insufficient institutional policies and funding.

The results of this study on the academic visibility of professors from the University of San Carlos of Guatemala (USAC) reveal issues that have been widely debated in the scientific literature in recent years. This section compares the findings with recent studies on academic visibility, transparency in scientific production, and positioning in international rankings.

One of the most significant findings of this study is that a substantial percentage of professors from the USAC do not regularly update their profiles on academic networks such as Google Scholar, ResearchGate, and ORCID, which limits their academic impact. This trend has been identified in other research, highlighting the importance of actively maintaining these profiles to enhance the dissemination and citation of publications (Gonzalez et al., 2021). Additionally, previous studies have pointed out that the lack of training in digital competencies is a common obstacle in Latin American universities, reducing researchers' presence in the digital realm (Aldhaen, 2024).

The limited scientific production indexed in high-impact journals is another critical factor affecting the academic visibility of professors from the USAC. Recent research has indicated that professors in institutions with funding limitations and weak institutional policies tend to publish in lower-impact journals or outside of open access, reducing their international visibility (Pereira & Lima, 2019). However, it has been demonstrated that universities implementing open access policies have been able to increase citation numbers and improve their positioning in rankings like Webometrics (Hadad et al., 2025).

The low level of international collaboration identified in this study aligns with previous research that emphasizes the lack of academic networks as a factor limiting the international projection of professors (Puljak & Vari, 2014). Recent



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literature highlights that collaboration with foreign institutions not only increases scientific production but also enhances the dissemination and impact of publications, contributing to greater presence in international rankings (Aquino, 2014; Knobel, 2013).

Proficiency in English is a crucial factor in global academic visibility. The results of this study show that over 40% of professors believe their limited English skills hinder their ability to publish in international journals. Recent studies confirm that the language gap remains a problem in Latin American universities, where most publications are in Spanish, reducing the likelihood of being cited in high-impact journals (Meneghini & Packer, 2007). To mitigate this barrier, some universities have implemented training programs in academic English, successfully increasing participation in international journals (Almeida et al., 2021).

This study presents certain limitations that should be considered when interpreting its results. First, the sample size was limited to 15 professors from the USAC, which restricts the generalization of findings to the entire institution. Additionally, the information obtained relies on the subjective perceptions of respondents, which could introduce biases in the responses. Finally, while recognized indicators like Webometrics were used to evaluate academic visibility, it would be beneficial to complement this analysis with additional metrics such as impact on scientific social networks and participation in international academic events.

Conclusions

This study concludes that, although professors from the USAC actively participate in academic networks, there is a significant opportunity to improve their visibility and transparency. Optimizing profiles on these networks, supported by institutional strategies and more conscious use of digital tools, could elevate the university's global presence in international rankings and, consequently, strengthen its academic reputation. Ongoing research and the development of policies that promote effective participation in academic networks as an integral part of professors' professional development are recommended.

The results suggest that, while there is participation in academic networks by professors from the USAC, the strategies to improve visibility, transparency, and presence are insufficient. To enhance positioning in the Webometrics Ranking, it is necessary for the USAC to implement institutional policies that encourage greater and better participation in academic networks, profile optimization, and a culture of open access publishing and international collaboration. Consideration should also be given to including these contributions in the curricular merits for professors' professional evaluations.



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References

- Aldhaen, E. (2024). The influence of digital competence of academicians on students' engagement at university level: moderating effect of the pandemic outbreak. Competitiveness Review: An International Business Journal, 34(1), 51-71. <u>https://doi.org/10.1108/CR-01-2023-0008</u>
- Almeida, A. M., Baranger, D., & Piovani, J. I. (2023). Social origin, language skills and scientific publication patterns in Argentina, Brazil and Chile. *Tempo Social*, 34, 49-74. <u>https://doi.org/10.11606/0103-2070.ts.2022.193439</u>
- Alonso-Arévalo, J. y M. Vázquez Vázquez. (2016). Altmetrics y alfabetización científica. *Bibliotecas Anales de Investigación*. 12(1), 14-29. <u>http://revistas.bnjm.sld.cu/index.php/BAI/article/view/157/165</u>
- Aguillo, I. F., Ortega, J. L., Fernández, M., & Utrilla, A. M. (2010). Indicators for a webometric ranking of open access repositories. *Scientometrics*, 82(3), 1-15. <u>https://doi.org/10.1007/s11192-010-0183-y</u>
- Aquino, S. (2014). Análisis del uso de Facebook en las bibliotecas académicas peruanas. Redescubriendo la educación en la era del conocimiento.VI Jornadas Nacionales de Bibliotecas Universitarias, Altamira, Lima, Perú. 2014. <u>http://eprints.rclis.org/23207/1/SilvanaAquino-Altamira2014.pdf</u>
- Barahona, M. (2016). Challenges and accomplishments of ELT at primary level in Chile: Towards the aspiration of becoming a bilingual country. *Education Policy Analysis Archives*, 24(82). n82. <u>http://dx.doi.org/10.14507/epaa.24.2448</u>
- Brinkmann, S. (2018). The Interview. En Denzin, N. K., & Lincoln, Y. S. (Eds.), *The SAGE Handbook of Qualitative Research* (5th ed., pp. 576-599). SAGE Publications.
- Creswell, J. W., & Poth, C. N. (2018). Qualitative Inquiry and Research Design: Choosing Among Five Approaches (4th ed.). SAGE Publications.
- Dafonte Gómez, A., Míguez González, M. I., & Puentes Rivera, I. (2015, del 17 al 20 de junio). Redes Sociales Académicas: Presencia y actividad en Academia.edu y ResearchGate de los investigadores en comunicación de las universidades gallegas. 10th Iberian Conference on Information Systems and Technologies (CISTI) 2015, Aveiro, Portugal. https://www.investigo.biblioteca.uvigo.es/xmlui/handle/11093/902
- Elo, S., Kääriäinen, M., Kanste, O., Pölkki, T., Utriainen, K., & Kyngäs, H. (2014). Qualitative Content Analysis: A Focus on Trustworthiness. SAGE Open, 4(1), 1-10. <u>https://doi.org/10.1177/2158244014522633</u>
- Gonzalez-Diaz, R., Acevedo-Duque, Á., Martin-Fiorino, V., & Cachicatari-Vargas, E. (2022). Latin American Professors' Research Culture in the Digital Age. *Comunicar: Media Education Research Journal*, 30(70), 67-79. <u>https://doi.org/10.3916/C70-2022-06</u>
- González, P., Josefa, M., Cabrera S., Manuel, F., Suárez, P., y Manuel, L. (2011). Visibilidad e impacto de la producción científica de la Universidad Central



| Olga María Moscoso Portillo | Oruam Cadex Marichal Guevara | Walter Ramiro Mazariegos Biolis | Ingrid María Portillo Fajardo |

"Marta Abreu" de Las Villas durante el período 2000-2008. *ACIMED*. 22(1), 60-78. <u>https://www.redalyc.org/articulo.oa?id=377657476006</u>

- Hadad, S., Raban, D. R., & Aharony, N. (2025). Unequal Access, Unequal Impact? The Role of Open Access Policies in Publishing and Citation Trends Across Three Countries. *Publications*, *13*(2), 20. <u>https://doi.org/10.3390/publications13020020</u>
- Heng, K., Hamid, Mo., & Khan, A. (2020). Factors influencing academics' research engagement and productivity: A developing countries perspective. *Issues in Educational Research*, 30(3), 965-987. https://search.informit.org/doi/10.3316/informit.465283943914964
- Hinojo Lucena, F. J., Marichal Guevara, O. C., Cáceres Reche, M. P., & Barrientos Piñeiro, C. A. (2022). Aportes de investigación derivados de la Red Iberoamericana de Investigación en Liderazgo y Prácticas Educativas (RILPE). Dykinson S.L. <u>https://www.dykinson.com/libros/aportes-deinvestigacionderivados-de-la-red</u> iberoamericana-de-investigacion-enliderazgo-ypracticas-educativas rilpe/9788411226318/
- Flick, U. (2022). An introduction to qualitative research (7th ed.). SAGE Publications.
- Feyen, J., Milia, M., Van Hoof, H. B., Quinde, K., Ochoa, V., Abril, V., & Bojorque, J. (2016). Improving the publication visibility of Ecuador's higher education system. *Maskana*, 7(2), 113-125. <u>https://doi.org/10.18537/mskn.07.02.08</u>
- Kallio, H., Pietilä, A. M., Johnson, M., & Kangasniemi, M. (2016). Systematic methodological review: Developing a framework for a qualitative semistructured interview guide. *Journal of Advanced Nursing*, 72(12), 2954-2965. <u>https://doi.org/10.1111/jan.13031</u>
- Knight, J. (2015). Updating the definition of internationalization. *International Higher Education*, (33), 2-3. <u>https://doi.org/10.6017/ihe.2003.33.7391</u>
- Knobel, M., Patricia Simões, T., & Henrique de Brito Cruz, C. (2013). International collaborations between research universities: experiences and best practices. Studies in Higher Education, 38(3), 405-424. <u>https://doi.org/10.1080/03075079.2013.773793</u>
- Krippendorff, K. (2018). Content Analysis: An Introduction to its Methodology (4th ed.). SAGE Publications.
- Delgado López-Cózar, E., Torres-Salinas, D., Jiménez-Contreras, E., & Ruiz-Pérez, R. (2006). Análisis bibliométrico y de redes sociales aplicado a las tesis bibliométricas defendidas en España (1976-2002): temas, escuelas científicas y redes académicas. *Revista Española De Documentación Científica*, 29(4), 493-524. <u>https://doi.org/10.3989/redc.2006.v29.i4.306</u>
- Marichal Guevara, O. C., Mazariegos Biolis, W. R., Gatica Secaida, M. T. y Moscoso Portillo, O. M. (2021^a). Indicios de liderazgo en directores de escuelas de la República de Guatemala. En S. Alonso García, J.M. Trujillo Torres, A.J. Moreno Guerrero y C. Rodríguez Jiménez. (Eds.). *Investigación educativa en*



| Olga María Moscoso Portillo | Oruam Cadex Marichal Guevara | Walter Ramiro Mazariegos Biolis | Ingrid María Portillo Fajardo |

de pandemia 667-679). Dykinson S.L. contexto (pp. https://dialnet.unirioja.es/servlet/articulo?codigo=8338309

Marichal Guevara, O. C., Rey Benguría, C. F., Molina Velasco, M., Perdomo Vázquez, J. M., López Rodríguez del Rev. M. M., Misas Hernández, J., Cáceres Reche, M. P., Aznar Díaz, I., Hinojo Lucena, F. J., Barrientos Piñeiro, C. A., Moscoso Portillo, O. M., Mazariegos Biolis, W. R., Roy Sadradín, D., Ruiz Luis, M., Bernal Díaz, R., Buendía Espinosa, M. A., Guajardo Castillo, C. A., & Javier Vidal, F. (2021^b). Formación de la competencia liderazgo educacional en los directores de escuelas (2015-2020). Anales de la Academia de Ciencias de Cuba, 11(3), 1-8.

http://revistaccuba.sld.cu/index.php/revacc/article/view/1100/1266

- Marginson, S. (2018). Global knowledge economy and the future of higher education. Studies in Higher Education. 43(2). 322-334. https://doi.org/10.1080/03075079.2016.1155554
- Meneghini, R., & Packer, A. L. (2007). Is there science beyond English? Initiatives to increase the quality and visibility of non-English publications might help to break down language barriers in scientific communication. EMBO reports, 8(2), 112-116. https://doi.org/10.1038/sj.embor.7400906
- Misas Hernández, J., López Rodríguez del Rey, M. M. y Marichal Guevara, O. C. (2022). Consideraciones pedagógicas y didácticas para la formación de líderes jóvenes. En F.J. Hinojo Lucena, O.M. Marichal Guevara, M.P. Cáceres Reche y C.A. Barrientos Piñeiro. (Eds.). Aportes de investigación derivados de la Red Iberoamericana de Investigación en Liderazgo y Prácticas Educativas (RILPE) 139-165). Dvkinson S.L. (pp. https://dialnet.unirioja.es/servlet/articulo?codigo=8681291
- Pereira da Costa, M., & Lima Leite, F. C. (2019). Open access institutional repositories in Latin America. Biblios. (74), 1-14. http://dx.doi.org/10.5195/biblios.2019.328.
- Puljak, L., & Vari, S. G. (2014). Significance of research networking for enhancing collaboration and research productivity. Croatian medical journal, 55(3), 181. https://doi.10.3325/cmj.2014.55.181
- Ramírez, Y., & Tejada, Á. (2019). Digital transparency and public accountability in Spanish universities in online media. Journal of Intellectual Capital, 20(5), 701-732. https://doi.org/10.1108/JIC-02-2019-0039
- Snyder, H. (2019). Literature review as a research methodology: An overview and guidelines. Journal of Business Research, 104. 333-339. https://doi.org/10.1016/j.jbusres.2019.07.039
- Sugimoto, C. R., Work, S., Larivière, V., & Haustein, S. (2017). Scholarly use of social media and altmetrics: A review of the literature. Journal of the Association for Technology, Information Science and 68(9), 2037-2062. https://doi.org/10.1002/asi.23833
- Timney, C., Wright, S., & Sargeant, C. (2024). "If You're Not Yourself, Who are You Going to be?" an Exploration of Gender and Sexuality Diverse Pupils



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Experiences of Visibility Management in School: A Systematic Literature Review. *Journal of Homosexuality*, 71(11), 2545-2570. https://doi.org/10.1080/00918369.2023.2246616

- Romero-Hall, E., Gómez-Vásquez, L., Forstmane, L., Ripine, C., & Da Silva, C. D. (2024). "Visibility, Transparency, Feedback and Recognition": Higher Education Scholars Using Digital Social Networks". *Journal of Interactive Media* https://files.eric.ed.gov/fulltext/EJ1427682.pdf
- Thelwall, M., & Kousha, K. (2015). Research Gate: Disseminating, communicating, and measuring Scholarship? *Journal of the Association for Information Science & Technology*, 66(5), 876-889. <u>https://doi.org/10.1002/asi.23236</u>
- Törnquist-Chesnier, M. (2020). Transparency and accountability in academic networks. *Higher Education Research & Development*, 39(4), 645-657. https://doi.org/10.1080/07294360.2020.1738375
- Torres-Salinas, D., y Milanés-Guisado, Y. (2014). Presencia en redes sociales y altmétricas de los principales autores de la revista" El Profesional de la Información". *El Profesional de la Información*. 23(4). <u>http://digibug.ugr.es/handle/10481/32932</u>
- Turpo, J. E. y G. E. Medina. (2013). Producción intelectual y visibilidad científica. *Apuntes Universitarios*. 2, 9-18. https://www.redalyc.org/pdf/4676/467646127001.pdf
- Van Manen, M. (2016). Phenomenology of practice: Meaning-giving methods in phenomenological research and writing. Routledge.
- Yin, R. K. (2020). Case study research and applications: Design and methods (6th ed.). SAGE Publications.



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Declaration of author responsibility

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Oruam Cadex Marichal Guevara 2: Conceptualization, Data curation, Formal analysis, Research, Methodology, Resources, Software, Supervision, Validation/Verification, Visualization, Writing/original draft and Writing, review and editing.

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Special Acknowledgments:

University of San Carlos of Guatemala.

Financing:

University of San Carlos of Guatemala, Cooperation and International Relations.