



General Analysis Of Academic Publications At University Ufpso And Indexing System

Sir-Alexci Suarez Castrillon ¹, July Andrea Gomez Camperos ², Haidee Yulady Jaramillo ³

¹ *Department of Systems Engineering, Faculty of Engineering, GRUCITE Research Group, University Francisco de Paula Santander Ocaña, Colombia*

² *Mechanical Engineering Department, Faculty of Engineering, GINSTI Research Group, University Francisco de Paula Santander Ocaña, Colombia*

³ *Department of Civil Engineering, Faculty of Engineering, GINSTI Research Group, University Francisco de Paula Santander Ocaña, Colombia*

APA Citation:

Castrillon, S. A. S., Camperos, J. A. G., Jaramillo, H. Y. (2022). General Analysis of Academic Publications at University UFPSO and Indexing System. *Journal of Language and Linguistic Studies*, 18(4), 931-941.

Submission Date: 09/10/2022

Acceptance Date: 08/12/2022

Abstract

This research analyses the academic publications at the Universidad Francisco de Paula Santander, to determine if they maintain the same citation systems which allow the classification in the national system in Colombia, selecting the publication of the Faculty of Engineering and the Faculty of Administrative and Economic Sciences. In Colombia, publications older than 5 years after publication are not taken into account as articles for the H index of scientific publications; however, at the international level, they are selected more by quality than by years of publication. Finding the factor where more citation is perceived can improve the internal system to aspire to a more effective classification, where national and international citations help to improve the index of both publications.

Keywords: H-index; publication Ingenio; publication Profundidad; Engineering; year of publication.

1. Introduction

Academic publications in Colombia need to meet high standards in the H index to be able to enter at least a C category, the factors to be cited take as a reference the last 5 years of each publication, otherwise the article even if it has a high H index does not add up for indexing. However, this factor is not relevant in the H index of google academic, where the value is extracted according to its citation, and in other countries it is not synonymous with quality or reference, although it is important that the citations are current, there are reference articles that are always important regardless of the number of years they have been published. To know the factors that can affect the citations depending on the abstract, it can be the composition it has, and it can also be analyzed by its sentiment index, based on natural language processing techniques and its textual information, which derives in positive, neutral or negative indexes. This area of science has its priority margin in product marketing and sales (Tinoco-Egas et al., 2019), based on user opinions (Castrillon, Camperos, et al., 2022; Soares & Modesto, 2022).

To determine if the academic publications of the Universidad Francisco de Paula Santander Ocaña branch is determined by the last 5 years in the 2 educational publications that it maintains, such as *Ingenio* and *Profundidad*, an analysis is performed with the *Ingenio* articles and discussed with the work already published on the *Profundidad* publication (Castrillon, Peñaranda, et al., 2022). The ingenuity articles are referential in the area of engineering, where the first article proposes using the XP methodology to tabulate surveys (A. Rosado-Gómez et al., 2012), which help in the self-evaluation process of the UFPSO, and thus be able to achieve high quality accreditation in the existing academic programs likewise to consolidate the information and be able to present the indicators before the Ministry of Education by applying business intelligence in the creation of a data warehouse (A. A. Rosado-Gómez, 2016). To determine whether environmental regulations are complied with in a brickyard through isokinetic sampling (Guerrero-Gómez et al., 2017); ethical hacking techniques are also employed to use it in audits and improve the search for vulnerabilities (Rojas-Osorio et al., 2016); for teaching, research is presented to improve learning based on didactic games and using gamification to motivate students (Hernandez-Rojas et al., 2017); to further improve the teaching process, video tutorials are used in the area of business administration, where the whole process of editing, , formatting, recording and dissemination is explained (Rogriguez-Suarez et al., 2016); methodologies and tools are important as long as they are adapted to the pedagogical model of the institution and thus are aligned, and determine whether improvement plans should be made (Durán-Chinchilla et al., 2016); likewise, it is analyzed that the incorporation of ICT in education improves motivation from high school, above subjects that do not use this type of technologies (Ospina-Hernández et al., 2016). The projective methodology for the creation of a grain planter prototype that allows improvement in the agricultural sector in the area of Norte de Santander is also analyzed (García-León et al., 2017). For the incorporation of employees with disabilities, teleworking is proposed as a way to incorporate them into the labor system, since it avoids displacement, decrease of physical spaces and adequacy in companies increasing work performance and complying with the social law of inclusion (Callejas et al., 2017). For the analysis of animal nutrition, a research using near infrared spectroscopy is presented due to its low cost and reliability (Rivera-Rivera & Alba-Maldonado, 2017). Finally, articles on Morin's thinking (Peñaranda-Franco, 2016) and the use of image processing for deforestation in Colombia (Parody-Zuleta & Zapata-Sanjuan, 2015) are analyzed.

The objective of this research is to know if the scientific publications of the Universidad Francisco de Paula Santander Ocaña (UFPSO) present the same citation factor by analyzing the years, magnitude and sentimental index, which is governed by the classification standards of Colombian journals, by comparing the research work of the publication of *Profundidad* and *Ingenio* who focuses on engineering research, thus allowing to know what factor the publications at UFPSO should aim for national recognition.

2. Method

In the sample of the *Ingenio* publication, the 3 best articles are eliminated according to the H index, in order to be homogeneous with the *Profundidad* publication, so that the following 13 articles are selected and the factors of year, magnitude, of publication, sentiment index, and importance weighting are compared with those of the *Profundidad* publication with the purpose of knowing if the same selection factors are followed to cite the articles in the UFPSO publications.

For the sentimental index, the Cloud Natural Language Where: Positive 0.25 to 1.0, Neutral-0.25 to 0.25, Negative -1.0 to -0.25. And the importance weighting is calculated with equation 1 and 2; in addition to

table 1, to reduce the index according to the years of publication, because the articles with more years may have the advantage of being the most cited. The articles are taken from the academic google of each journal and the data to be compared are those published by Castrillon et al. (2022) of the journal profundidad where the determining factor is the years (Table 2), while those of Ingenio are extracted from academic google for the analysis (Table 3).

Table 1. Discount percentage.

Years elapsed	% Index discount
1	0
2	10
3	20
4	30
5	40
6	50
7	60
8	70
9	80
10	90

$$P = \sum_{i=1}^{13} indice_i \quad (1)$$

$$P = \sum_{i=1}^{13} indice_i * (100 - Index discount) \quad (2)$$

Table 2. Selection of articles published in Profundidad

Publication	Year
Sustainability In Agroecological Family Agriculture: Castilla Blackberry In Sumapaz (Fonseca-Carreño, 2019).	3
Financial management in land management plans as a tool for urban development (Zambrano-Mercado et al., 2020).	2
Sustainability and sustainable projects: Bibliometric study (Manzano-Durán et al., 2021).	1
The Entrepreneurial Culture In Business Administration Students (Pineda-López & Manzano-Sanguino, 2018).	4
Characterization of the clinical laboratories of the municipality of Ocaña (Coronel-Nuñez et al., 2019).	3
Entrepreneurship And Informal Work Of Venezuelan Immigrants, Barranquilla Case 2015-2018 (Salas-Hernandez et al., 2019).	3
Companies B: A Diagnosis On Its Applicability (Rodríguez-Téllez & Pacheco-Sánchez, 2019).	3
Augmented reality for education of financial mathematics. An application to improve university academic performance (Muñoz-Hernandez et al., 2020)	2
Organizational development theory: Organizational and labor inefficiency (Ortiz-Gutiérrez et al., 2021)	1
Adverse habits and barriers for the adaptation and adoption of reading (Moreno-Mendoza & Coronel-Arenas, 2018)	4

Socio-educational evaluation in the research processes of the children's pedagogy programme (Cruz-Vega, 2019)	3
Triadic thinking and its relationship with sociodemographic variables of Business Administration students (Lemus-Quintero, 2021)	1
Color Psychology: Strategies immersed in the service of advertising agencies (Barbosa & Sánchez, 2017)	5

Source: (Castrillon, Peñaranda, et al., 2022)

Table 3. Item selection Ingenio.

Publication	Year
Agile software development applying Extreme Programming (A. Rosado-Gómez et al., 2012).	10
Isokinetic analysis and correction to reference conditions in open kiln in the municipality of Ocaña, Norte de Santander (Guerrero-Gómez et al., 2017).	6
Pentesting ethical hacking techniques using network (Rojas-Osorio et al., 2016).	7
Gamification and functional architecture: practical strategy in the teaching/learning process using technology (Hernandez-Rojas et al., 2017).	6
The video tutorials as a teaching tool (Rogriguez-Suarez et al., 2016).	7
The teaching models and its influence on the teaching practice, Francisco de Paula Santander University (Durán-Chinchilla et al., 2016).	7
Design of a prototype seeder machine of grain, alternative agriculture (García-León et al., 2017).	6
Use of ICT arouses greater motivation than if they are not included in the teaching and learning process (Ospina-Hernández et al., 2016).	7
Teleworking as an employability strategy for people with disabilities (Callejas et al., 2017).	6
Review: NIRS in animal nutrition feed analysis (Rivera-Rivera & Alba-Maldonado, 2017).	6
Consolidation of institutional indicators using a data warehouse (A. A. Rosado-Gómez, 2016).	7
Edgar Morin's complex thinking: a new vision of knowledge (Peñaranda-Franco, 2016).	7
Multitemporal study of deforestation in Colombia using image processing (Parody-Zuleta & Zapata-Sanjuan, 2015).	8

3. Results

The publication Ingenio, which focuses on the area of civil, mechanical and systems engineering, publishes 2 volumes per year of academic works of the university and external authors, for the 13 selected articles it extracts the sentiment index per sentence and in Spanish language so that the meaning of the sentence is not distorted, in figure 1, it can be observed that in this publication the abstracts are more extensive, even having more than 9 sentences, while in depth only reached 6.

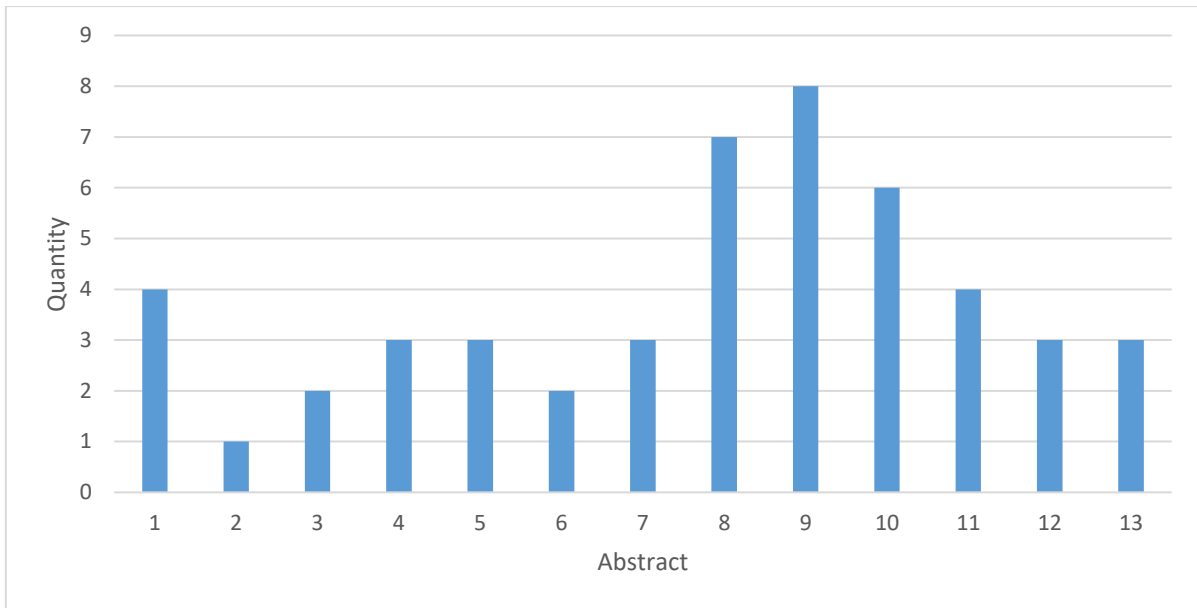


Figure 1. Number of sentences for the Ingenio abstracts.

In Figure 2 and 3, the value of the sentiment index of the abstracts can be observed, for example, it is observed that almost all the articles have sentences with a more neutral than positive value, including abstract 11 in sentence 3 maintains a negative index of -5, which makes the abstract neutral. It is also observed that abstract 10 in sentence 6 maintains a positive index of 0.9 but decreases due to the fact that the other sentences are neutral. The greater the number of sentences, the higher the magnitude value also increases regardless of the positive, neutral or negative index, which leads to the conclusion that this factor has not been normalized and is not a reference to be followed.

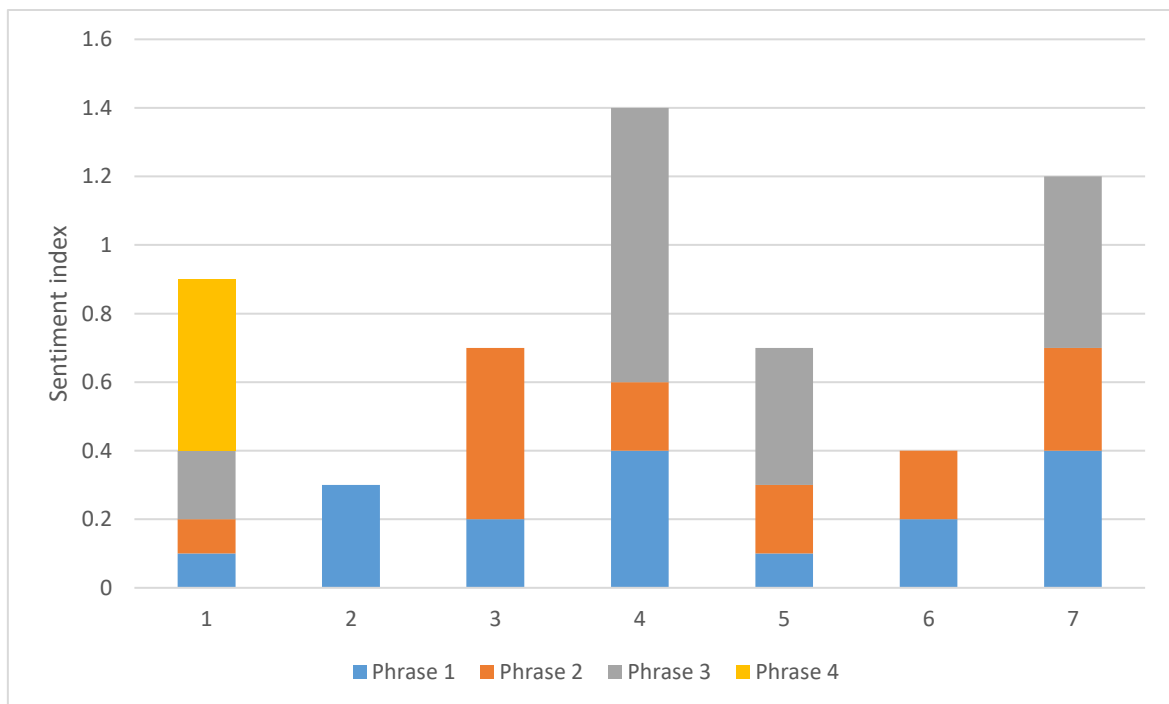


Figure 2. Abstract sentiment index 1 to 7.

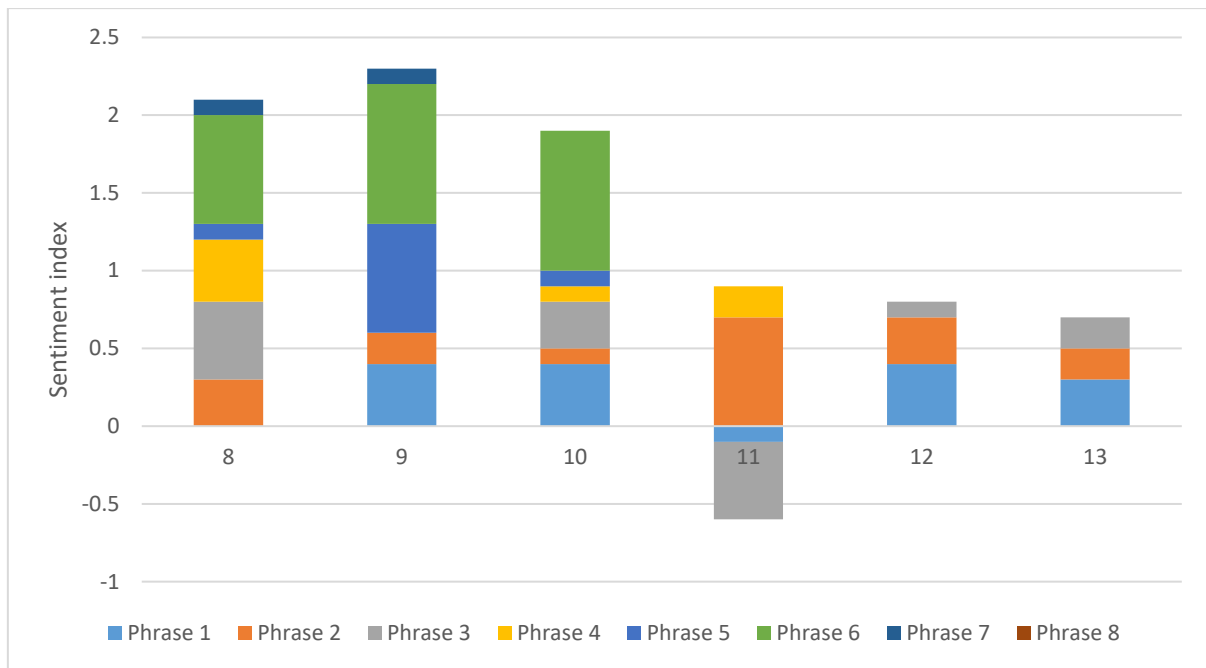


Figure 3. Sentiment index abstracts 8 to 13.

The final sentiment index is shown in Figure 4, where the values indicate that 69.23% of the abstracts have a positive value and 30.76 are neutral, where the magnitude value does not affect the sentiment index (Figure 4). When analyzing in Figure 5, the number of years of publication does factor the H index, because the more years the higher the index, something that does not happen in the depth publication, where the factor is the same in years but the more years the more the H index is harmed, therefore the factors change according to the areas of interest of each publication.

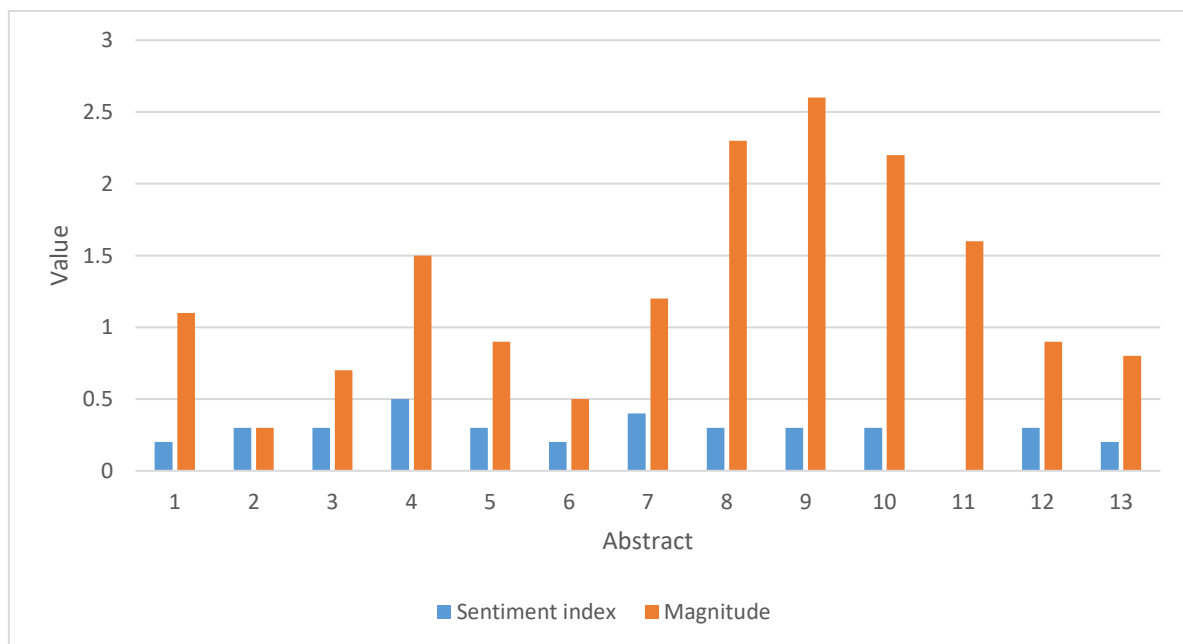


Figure 4. Total sentiment index of Ingenio abstracts.

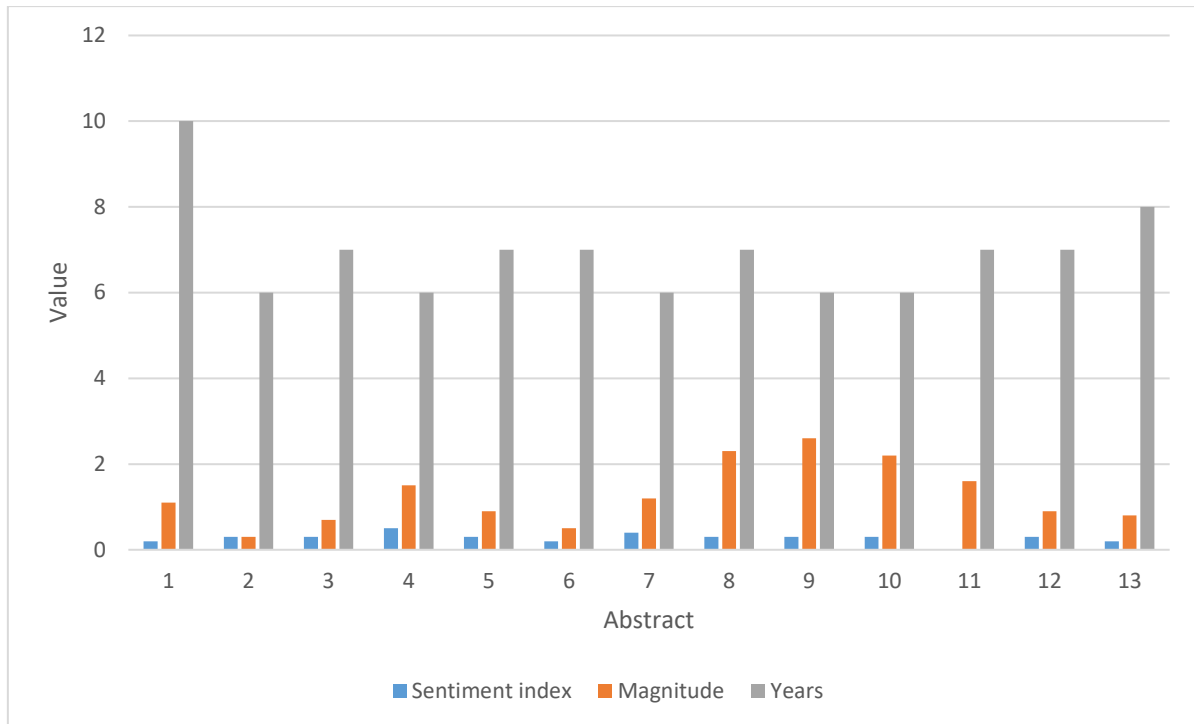


Figure 5. Factors according to years of publication Ingenio.

In Figure 6, the factor of the years of both publications and their H index is analyzed, as described above, the articles of the Ingenio publication maintain a higher H index, and have more years in publication than Profundidad, however, they do not count for the database of the Ministry of Education where only the last 5 years of all the articles are being taken, which can harm the indexing of the publications.

When weighting by importance according to equations 1 and 2, all the articles of the Ingenio publication decrease in weight (Table 4), which means that they lose strength to be able to elevate the publication and be classified in the bibliographic systems in Colombia. Likewise, Profundidad is not classified, because it complies in years but does not have a high H index that allows it to compete with the average of the publications in its area in Colombia.

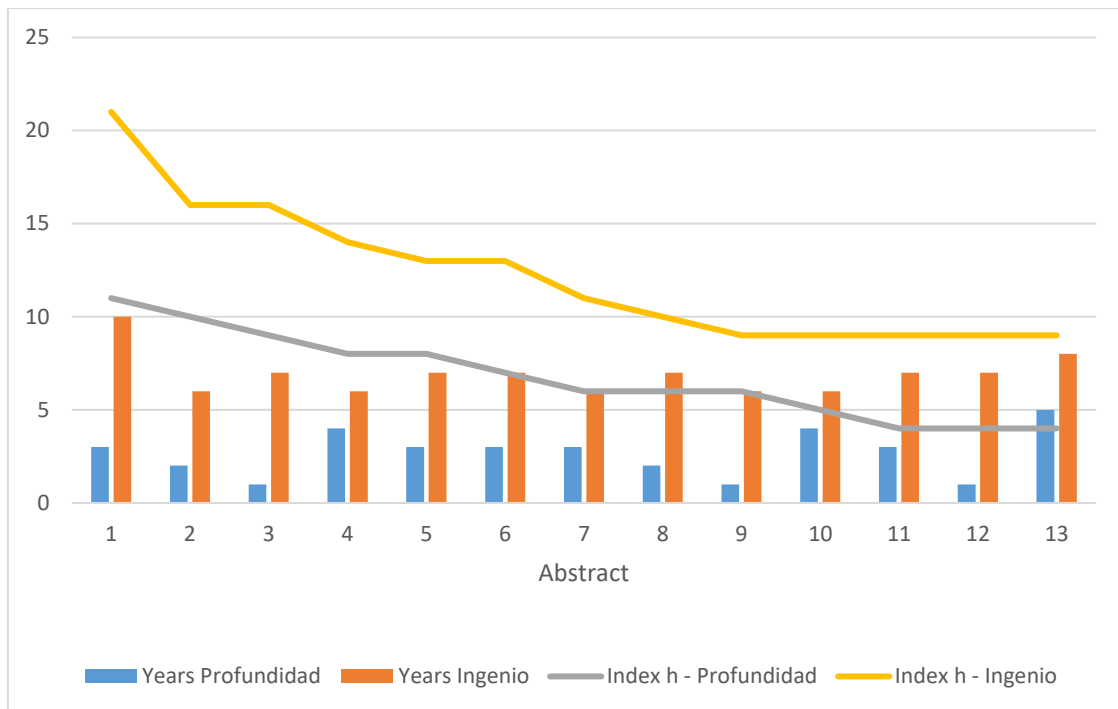


Figure 6. Year factor in the publication Ingenio y Profundidad.

Table 4. Importance weighting Ingenio.

Abstract	Sentiment index	Years	Importance weighting
1	0.2	10	0.02
2	0.3	6	0.15
3	0.3	7	0.12
4	0.5	6	0.25
5	0.3	7	0.12
6	0.2	7	0.08
7	0.4	6	0.2
8	0.3	7	0.12
9	0.3	6	0.15
10	0.3	6	0.15
11	0	7	0
12	0.3	7	0.12
13	0.2	8	0.06

4. Conclusions

The Colombian national system allows to classify journals for a year, as long as it complies with quality levels such as the citation factor of the H index, one of the rules to enter is that the articles that allow to know this index are published in the last 5 years otherwise it is not taken into account for the sum of the final score, however, factors that can improve the citation should be analysed. In the UFPSO, two scientific publications are maintained and it was determined that to attract more citations are not necessarily obtained by the factor of years of publication, so that the area in which it is published and the quality of the article is more important than the factor proposed by the Ministry of Education if you

want to be recognized also internationally, it is also determined that the two publications although they are governed by the years of publication present different extension in their abstracts and in the years of antiquity of each article.

References

- Barbosa, M. F. O., & Sánchez, C. A. P. (2017). Psicología del color: Estrategias inmersas en el servicio de las agencias de publicidad. *Revista Científica Profundidad Construyendo Futuro*, 7(7), 39-45.
- Callejas, H. J., Gomez, S. I., Uriibe, S. L., & Vergel, L. C. (2017). Teletrabajo como estrategia de empleabilidad para población con discapacidad. *Revista ingenio*, 14(1), 137-145.
- Castrillon, S.-A. S., Camperos, J. A. G., & Jaramillo, H. Y. (2022). Sentiment Analysis Of The Educational Mission Of The Mechanical Engineering Programs In Norte De Santander. *Journal of Language and Linguistic Studies*, 18(4), Art. 4. <http://www.jlls.org/index.php/jlls/article/view/5019>
- Castrillon, S.-A. S., Peñaranda, M. M. P., & Castrillon, A. M. S. (2022). Determination Of The Measurement Factor In Citations Of Educational Publications Using Natural Language Processing. *Journal of Language and Linguistic Studies*, 18(4), Art. 4. <https://jlls.org/index.php/jlls/article/view/5046>
- Coronel-Nuñez, Y., Velasco-Burgos, B. M., & Cárdenas-García, M. (2019). Characterization of the clinical laboratories of the municipality of Ocaña. *Revista Científica Profundidad Construyendo Futuro*, 11(11), 23-30.
- Cruz-Vega, F. A. (2019). Evaluación socio formativa en los procesos investigativos del programa de pedagogía infantil. *Revista Científica Profundidad Construyendo Futuro*, 10(10), 10-23.
- Durán-Chinchilla, C. M., Cárdenas-García, M., & Velasquez-Pérez, T. (2016). Los modelos pedagógicos y su influencia en la práctica docente de la Universidad Francisco de Paula Santander. *Revista Ingenio*, 9(1), 77-88.
- Fonseca-Carreño, N. E. (2019). Sustentabilidad en la agricultura familiar agroecológica: Mora de Castilla en Sumapaz. *Revista Científica Profundidad Construyendo Futuro*, 11(11), Art. 11.
- García-León, R. A., Avendaño-Quintero, Á., & Suarez-Castrillón, A. (2017). Diseño de un prototipo de sembrador mecánica de granos, alternativa agrícola. *Revista Ingenio*, 12(1), 33-40.
- Guerrero-Gómez, G., Espinel-Blanco, E., & Velásquez-Pérez, T. (2017). Análisis isocinético y corrección a condiciones de referencia en horno a cielo abierto en el municipio de Ocaña, Norte de Santander. *Revista Ingenio*, 14(1), 43-51.
- Hernandez-Rojas, L. L., Suárez-Castrillón, A., & Rico-Bautista, D. (2017). La gamificación y arquitectura funcional: Estrategia práctica en el proceso de enseñanza/aprendizaje usando la tecnología. *Revista Ingenio*, 14(1), 123-136.

- Lemus-Quintero, J. A. (2021). Pensamiento triádico y su relación con variables sociodemográficas de los estudiantes de Administración de Empresas. *Revista Científica Profundidad Construyendo Futuro*, 14(14), 54-63.
- Manzano-Durán, O., Peñaranda-Peñaranda, M. M., & Luna-Quintero, J. C. (2021). Sostenibilidad y proyectos sostenibles: Estudio bibliométrico. *Revista Científica Profundidad Construyendo Futuro*, 14(14), 15-24.
- Moreno-Mendoza, E. F., & Coronel-Arenas, M. F. (2018). Hábitos que impiden la adaptación y adopción de la lectura en estudiantes de Administración de Empresas. *Revista Científica Profundidad Construyendo Futuro*, 9(9), 2-9.
- Muñoz-Hernandez, H., Canabal-Guzmán, J. D., & Galarcio-Guevara, D. E. (2020). Realidad aumentada para la educación de matemática financiera. Una app para el mejoramiento del rendimiento académico universitario. *Revista Científica Profundidad Construyendo Futuro*, 12(12), 37-44.
- Ortiz-Gutiérrez, M. F., Galindo-Henao, A. M., Valbuena-Rodríguez, P. D., Clavijo-Peña, A. V., & Duarte-Leguizamo, J. D. (2021). Teoría del desarrollo organizacional: Ineficiencia laboral y organizativa. *Revista Científica Profundidad Construyendo Futuro*, 14(14), 25-42.
- Ospina-Hernández, M. C., Suarez-Castrillon, A. M., Espinoza-Morales, G., & Jaimes-Sandoval, N. (2016). Uso de las TIC despierta una mayor motivación que con la no inclusión de las mismas en el proceso de enseñanza y aprendizaje. *Revista Ingenio*, 9(1), 101-119.
- Parody-Zuleta, A. M., & Zapata-Sanjuan, E. (2015). Estudio multitemporal de la deforestación en Colombia utilizando procesamiento de imágenes. *Revista Ingenio*, 8(1), 159-175.
- Peñaranda-Franco, J. P. (2016). Pensamiento complejo de Edgar Morin: Nueva visión del conocimiento. *Revista Ingenio*, 11(1), 129-137.
- Pineda-López, C. P., & Manzano-Sanguino, Y. D. (2018). La cultura emprendedora en los estudiantes de Administración de Empresas. *Revista Científica Profundidad Construyendo Futuro*, 8(8), Art. 8.
- Rivera-Rivera, A., & Alba-Maldonado, J. M. (2017). Revisión: NIRS en el análisis de alimentos para la nutrición animal. *Revista Ingenio*, 13(1), 199-211.
- Rodríguez-Téllez, F., & Pacheco-Sánchez, C. A. (2019). Empresas B: Un diagnóstico sobre su aplicabilidad. *Revista Científica Profundidad Construyendo Futuro*, 10(10), 2-9.
- Rodriguez-Suarez, A. M., Moreno-Montagut, J. A., & Trigos-Rodriguez, M. (2016). Los videos tutoriales como herramienta formativa. *Revista Ingenio*, 10(1), 37-42.
- Rojas-Osorio, J. A., Medina-Cardenas, Y. C., & Rico-Bautista, D. (2016). Pentesting empleando técnicas de ethical hacking en redes IPv6. *Revista Ingenio*, 11(1), 79-96.

- Rosado-Gómez, A. A. (2016). Consolidación de indicadores institucionales utilizando bodega de datos. *Revista Ingenio*, 11(1), 53-63.
- Rosado-Gómez, A., Quintero-Duarte, A., & Meneses-Guevara, C. D. (2012). Desarrollo ágil de software aplicando programación extrema. *Revista Ingenio*, 5(1), 24-29.
- Salas-Hernandez, I. Z., Sagbini-Henriquez, H. S., & Salazar-Araujo, E. J. (2019). Emprendimiento y trabajo informal de migrantes venezolanas, caso Barranquilla 2015-2018. *Revista Científica Profundidad Construyendo Futuro*, 11(11), 53-58.
- Soares, S. T. A., & Modesto, J. G. (2022). Persuasão e emoções: Fraudes ao consumidor na Black Friday Brasil. *Ciencias Psicológicas*, e-2339. <https://doi.org/10.22235/cp.v16i2.2339>
- Tinoco-Egas, R., Juanatey-Boga, Ó., & Martínez-Fernández, V. A. (2019). Generación de emociones en la intención de compra. *Revista de Ciencias Sociales (Ve)*, XXV(3), 218-229.
- Zambrano-Mercado, R. A., Muñoz-Hernández, H., Brito-Aleman, C. C., & Caro-Flórez, A. P. (2020). Gestión financiera en planes de ordenamiento territorial como herramienta de desarrollo urbano. *Revista Científica Profundidad Construyendo Futuro*, 13(13), Art. 13.