Technological Surveillance on Social Insertion Strategies at the Female Prison Population

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Abstract- This article presents the application of technological intelligence tools such as technological surveillance TS, to analyze existing social insertion strategies in the female prison population. The purpose is to offer interested parties a bibliometric analysis through the biblioshiny interface, as a tool for quantitative research in scientometric and bibliometric studies; levels of analysis (sources, authors, and documents) and structural analysis (conceptual, intellectual and social). The database used for the search is science Direct, where a temporal filter was applied to obtain studies published between 2015 and 2022. The analysis results manage to identify the most relevant, emerging, and declining strategies, according to the selected data search.

Key words- Technological intelligence system, technological surveillance, social reintegration, female prison population, bibliometric analysis.

I. INTRODUCCIÓN

The term “knowledge” has been studied by numerous authors who, in their attempt to conceptualize an intangible, have originated diverse perspectives that are still inconclusive. Nevertheless, authors like Nonaka and Takeuchi [1] as cited in [2] have considered it from two conceptions. The first warns of knowledge as something static and logically formal, while the second assumes that it is a dynamic human process in search of truth, and does it so from an active, subjective and individualistic nature [2].

However, nowadays knowledge has taken on great importance due to its close relation with business management, so it is assumed to be an intangible asset and that its management depends on the competitive advantage of companies [2] Thus, knowledge management has been defined by Tasmin and Yap [3] cited in [4] as the process through which information and intellectual assets are transformed into enduring value through the so-called knowledge economy, a dynamic in which academics and entrepreneurs recognize the impact of knowledge in achieving and maintaining competitiveness of organizations [4].

In 2005, the United Nations educational, scientific and cultural organization – UNESCO, stated that knowledge should be considered a source of developed, and from this perspective, the concept of technology and connectivity capacity are promoted; This is how the current paradigm indicates that knowledge management and technology are influential elements between each other, and it is expected that their mutual impact will guarantee successfully results for an organization. The third industrial revolution brought about the creation of information and knowledge societies and the emergence of underlying economic, political, and cultural challenges [5].

Nowadays, the main activities of institutions and organizations are oriented towards the production and distribution of knowledge and the implementation of technological management methodologies that allow them to address the accelerated growth of information due to the development of ICTs Information and communication technologies. [6].

According to the reference [7], due to the need to implement technological intelligence systems, two strategies have been adapted: firstly, the development of graphic tools to qualify and organize information, promoting the appropriation and transfer of knowledge, which leads to technological surveillance, hereafter TS, and secondly, the computational management of information and communication systems and technologies, data mining, artificial intelligence, expert systems, and databases, which act in an articulated manner, with the purpose of generating a competitive advantage in a specific area.

Maps are organized as graphic tools for the systematization, preparation, and exploitation of information through the codification of individual knowledge or intellectual capital in organizational practices, providing key elements for strategic planning and improving channels and data flows [7]. These tools allow for the generation, grouping, organization, and representation of knowledge and can be mental, conceptual, thematic, dendrograms, or technological, the latter being used for statistical analysis and the detection of opportunities and threats, and frequently employed in TS exercises [7].

Now, the implementation of metrics has allowed the development of TS and the optimization of information management processes. Some of these methods are: I. the bibliometric focused on books, documents, journals, etc.; II. the science metrics, oriented towards the analysis of disciplines, subjects or fields; III. infometrics, which searches for word in databases, among others, IV. webmetrics, through which qualitative studies of web phenomena are carried out and V. patentometrics, a science that belongs to the group of analytical methods of bibliometrics. [7].
This article presents the application of a technological surveillance (TS) for the analysis of different existing social reintegration strategies in the female prison population found in documents, books, journals, and databases in general. The purpose is to apply bibliometric and scientometric metrics for the analysis of levels and structures according to quantitative research.

II. CONCEPTUAL FRAMEWORK

A. Technological Surveillance

The application of the aforementioned bibliometric methods is a process known as technological surveillance [7]. Currently, the scientific technological paradigm is being consolidated, in which the generation of information and the way it is treated is of great importance, so the central postulate is its strategic management [8]. Then, it is defined as a systematic process that captures, analyzes, and exploits useful information to contribute to strategic decision making that is consistent with the environment. Fig. 1 below, details a scheme that allows to evidence the existing relationships between traditional metrics, new techniques for measuring information and surveillance, as well as the resources that serve as input for the process [9].

Bibliometrics is the root of all sciences that rely on the treatment of information to establish dynamics in each of them; that is why bibliometric indicators are used to describe the behavior of academic communities, such as scientometric indicators, within which, through technological maps, information related to books or articles is analyzed, as well as patents as a strategic part of innovation and technification of processes [9].

T.S as a useful tool for technological generation and strategy. Fig. 2 describes the surveillance process in four stages, such as: I planning and identification of needs, II. identification, search and acquisition or knowledge; III. organization and analysis of information, and IV. communication, decision-making, and use of the results obtained in the process [9].

The use of publication indicators, which measure the quality impact of publications, as well as citation indicators that analyze the impact links or relationships between scientific publications, can be grouped into four categories: activity indicators of first-generation relational indicators, second-generation relational indicators and third generation indicators. Additionally, there are indicators to evaluate the impact, productivity, obsolescence, and dispersion that a publication has on subsequent productions; article count, productivity index, impact factor (IF), immediacy index, half-life of citations, collaboration index, and source data [9].

Consequently, the importance of indicators is related to decision-making, and this purpose, it is very useful to use statistical tools that allow for an appropriate analysis of them [9].

B. Definition of variables of interest.

Delinquency is a social phenomenon that is growing at an alarming rate throughout the world. This has caused insecurity to become one or the main concerns of citizens globally [10]. Latin American and the Caribbean have shown progress in many socioeconomic areas in recent years. For example, most countries in the region experienced annual growth rates close to 4 % since 2004, poverty rates decreased, and their citizens became healthier and achieved a higher level of education; however, in contrast to the above, crime and delinquency continue to increase in this part of the world [11].
Giving the importance of the topic at hand, the theoretical conceptualization of the variables of interest is presented below with the purpose of elucidating the phenomenon under study: the social reintegration of incarcerated women through psychosocial support, technical and financial support for entrepreneurship that facilitate their readaptation to society.

The term social reintegration is so complex that there is no clear conception of what it should mean, so it has different connotations depending on who uses it and the audience it is directed to [12] y [13].

Social reintegration can be understood from at least three perspectives. The first is a values-based perspective, in which it refers to the need to remain and be accepted in society after having broken the law. The second, is a practical perspective, understood as the provision of a service in the reintegration process. Finally, it can be understood as a dynamic bidirectional process in which individuals return to life in freedom, and institutions that participate in society facilitate this process together and temporarily [14].

Reference [15] indicates that social reintegration refers to the successful reintegration of the person into the community during the execution of the sentence. In essence, it should focus on achieving the effective socialization of individuals who have broken the criminal law and have therefore been deprived of their freedom.

Psychological support here as an essential element in the process of social reintegration, so it is essential to have a clear understanding of its conceptualization. Psychosocial care has been defined as the set of articulated processes that enable the recovery and promote the prevention of psychosocial damage, emotional suffering, and impact on psychological and moral integrity [16].

In this sense, psychological support is understood as the set of actions aimed at strengthening skills, abilities, and competencies in family, educational, productive, and community life, taking into consideration the needs of all population groups that are involved in the area to be intervened [17].

Now, considering that a social reintegration proposal based on entrepreneurship has been proposed, another concept to developed is the term “entrepreneurship”. According to reference [18] entrepreneurship has been related to the discovery of profitable opportunities.

In recent years, entrepreneurship has gained great popularity and relevance because through this process, it contributes to mitigating the negative effects produced by the social, environmental, and financial inequalities that various groups are subjected to [19].

The term entrepreneurship refers to the act of carrying out a work or a business; it is the process through which citizens build or transform institutions or systems to solve social problems, so it involves the creation of new teams or resources to improve or contribute to the mitigation of a social need [20].

Finally, terms such as technical support and financial support are of great importance for the development and understanding of this article. After conducting a systematic literature review, these can be defined as a tool or social mechanism implemented by public and private entities in order to promote economically sustainable ideas, projects and/or entrepreneurship over time, which derive from sectors with few resources but aim at the growth of the local economy, the development and creation of companies and capital of a specific social and/or economy sector. These, in some cases, are turned into public policies to support the creation and growth of different sectors of the economy.

III. METHODOLOGY

A. Search process

With the development of a TS, the aim is to carry out a synthesis of the available scientific evidence on the topic of interest through the bibliometric tracking of the variables to be studied. The search process was conducted through the biblioshiny platform, a flexible open-source tool that allows for a comprehensive analysis of scientific literature mapping.

The following aspects were considered for the search process:

I. selection of the search topic, in this case, strategies for social reintegration female prison population

II. selection of the database of interest: science Direct

III. Application of a temporal filter, so that only research articles published between 2015 and 2022 were retrieved.

IV. Download the search for the research articles retrieved in Bibtex format.

V. Import into biblioshiny for bibliometric analysis.

In Fig. 3, the process of searching and selecting information is presented, whose purpose is to ensure step by step collection of the content to be analyzed. In this one can observe the four stages that characterize technological surveillance. For example, the bibliometric search for research articles registered in the databased science Direct between the years 2015 and 2022, the identification of aspects of interest, the subsequent refinement of documents that include the study variables, and finally, the analysis of the information.
B. Bibliometric analysis.

For the execution of TS, the variables mentioned in Fig. 3 presented in the previous section were taken into account, so that through the biblioshiny platform for bibliometrix, an analysis of the most frequent words, authors, and articles of interest is performed.

Through the establishment of criteria, the information was refined and articles that did not contain sufficient content related to the study objective were discarded.

IV. ANALYSIS OF RESULTS

Through the bibliographic search of the topic “strategies for social reintegration female prison population”, various elements were identified that allow fulfilling the purpose of this article; in this sense, below, the elements that were subjected to analysis in the TS exercise are detailed:

**Fig. 3 flow diagram: technological surveillance**

**Biblioshiny source**

Firstly, in Fig. 4, a scheme of the most frequent terms in the articles obtained from the search conducted is presented. Among the most repeated words, “prison” is identified with a frequency of ten (10), followed by “incarceration”, “mental health”, and “reentry” with a frequency of five (5) followed by “drug policy”, “forensic psychiatry” and “rehabilitation” with four (4) and finally, “addiction”, “correctional education” and “gender” with a regularity of three (3).

Additionally, in the presented Fig. 4, other terms are shown whose frequency of occurrence is lower, among others, *crime, delinquency, empathy, criminal justice, etc.*

**Fig. 4 frequent words**

**Biblioshiny source**

In Fig. number 5, the data obtained through bibliometric analysis is presented, in which the most relevant sources of information were identified, that is, academic journals that provide scientific, solid, and valid content on the topic of interest. Thus, the following are recognized:

I. International Journal of Law and Psychiatry

International journal that seeks to provide a useful interdisciplinary forum for the exchange of ideas, data, and knowledge on topics related to law and psychiatry; from this portal, interested professionals can explore the objectives of legal and psychiatric systems and the social implications of their interaction in various fields and/or countries, thus fostering dialogue between experts with different cultures and their theoretical and practical positions [21].

II. International Journal of Law Crime and Justice

This is a peer-reviewed portfolio that receives high-quality articles whose content is related to criminological research and analysis, this international journal includes presentations related to the study of crime and criminality, the analysis of criminological debates, criminal justice, criminal policies, and practices, judicial policies and practices and criminal law and practice from a socio-legal perspective [22].

III. Journal of Criminal Justice
This journal arises as a response to the current need to disseminate information on the area of criminal justice, the journal offers content on crime and individual elements of the criminal justice system and illustrates the effects of their relationships through the publication of scientific articles of the highest quality [23].

IV. International Journal of Drug Policy.

The purpose of this magazine is to disseminate current research, reviews, debates, and critical analyses on drug use and existing policies regarding the issue at a global level; the portal has a particular interest in exploiting the effects of these substances on consumption behavior and on social and health practices [24].

At this point, it is pertinent to mention that in addition to the above, other sources are identified such as Child Abuse & Neglect, Child Abuse & Neglect, Social Science & Medicine, among others, which provide scientific and rigorous information on research topics related to social sciences and health, and studies focused on children, youth, disadvantaged or vulnerable families, and the systems that exist to support these populations.

Regarding the most relevant authors, that is, those researchers who stand out for their importance in the field, Fig. 6 indicates that Alan R. Felthous, Chantal Fahmy, Daniel C. Cemenza, Donatella La Tegola, Dylan B. Jackson, Felice Carabellese, Rui Abrunhosa Gonjalves and Scott H. Decker are the scholars who made significant contributions in the area.

The mentioned authors stand out in the field of female psychopathy, forensic psychiatry, mental health, criminology, and criminal justice, and the general purpose of their research in the area is to contribute to the increase of health and well-being of individuals in the face of adversity, violence, and exposure to the judicial system, and the restructuring of society through the development of studies from diverse perspectives and approaches.

Taking into account the previous section (see Fig. 6, most relevant authors), the production of some of these scholars is presented in Fig. 7 during the last years, particularly within the selected period for analysis, that is, from 2015 to 2022.

According to the figure, the authors whose temporal trajectory has been continuous between 2020 and 2021 are Chantal Fahmy, Donatella La Tegola y Felice Carabellese, who are conducted studies related to female psychopathy, the legal system, and the prison treatment of women. However, in the image, it is observed that Rui Abrunhosa Gonjalves has been studying the criminal lifestyle and some psychological aspects such as empathy in female offenders and young students since 2017, this indicates, that their work has focused on analyzing the target population from a socio-legal perspective, so their articles have been published in portals “International Journal of Law and Psychiatry” y “Journal of Criminal Justice”.

Regarding the most relevant articles, that is, those which have been most cited and influential in the field, Fig. 8 indicates that International Journal of Law and Psychiatry and Journal of Criminal Justice have been the most cited journals, followed by Social Science & Medicine.

However, in the bibliographic search carried out in the science Direct database, a total of 98 articles were obtained...
that are related to the topic under study, of which seventeen (17) passed the review filter for being the most relevant un the area according to the TS biblioshiny tool. Fig. 7, shows that of the seventeen most relevant articles, eleven (11) are published in the International Journal of Law and Psychiatry, five (5) in the Journal of Criminal Justice, and one (1) in the Journal of Social Sciences and Medicine.

**TABLE 1**

<table>
<thead>
<tr>
<th>Año</th>
<th>Autor</th>
<th>Título</th>
<th>Revista</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>Scott H. Decker, Natalie Ortiz, Cassia Spohn, Eric Hedberg</td>
<td>Criminal stigma, race, and ethnicity: The consequences of imprisonment for employment</td>
<td>Journal of Criminal Justice</td>
</tr>
<tr>
<td>2021</td>
<td>Chantal Fahmy</td>
<td>First weeks out: Social support stability and health among formerly incarcerated men</td>
<td>Social Science &amp; Medicine</td>
</tr>
<tr>
<td>2021</td>
<td>Marina Pinheiro, Rui Abrunhosa Goncalvez, Olga Cunha</td>
<td>Criminal lifestyle, psychopathy, and prison adjustment among female inmates</td>
<td>Journal of Criminal Justice</td>
</tr>
<tr>
<td>2022</td>
<td>Daniel C. Semenza, Ian A. Silver</td>
<td>Stuck in the cycle? Assessing a reciprocal model of incarceration, health, and relative risk over twenty-five years</td>
<td>Journal of Criminal Justice</td>
</tr>
</tbody>
</table>

*Source: Own elaboration*

Finally, to conclude the results analysis, the presented table shows the four research articles that were selected for the analysis of their content. In general, it is observed that three of them are published in the Journal of Criminal Justice between 2015 and 2022, and one in the Social Science and medicine journal in 2021.

The article titled “criminal Stigma, Race, and Ethnicity: The consequences of imprisonment for employment,” written by Decker, Ortiz, Spohn, and Hedberg in 2015, aimed to evaluate the role of ethnicity and prison sentences in employment opportunities for the black, Hispanic, and white ex-offender population. The results indicate that there are high levels of stigma for blacks with a criminal record, and prison records remain significant barriers to employment reintegration, especially for the black population [25].

The second article published by Fahmy in August 2021. Titled “First Weeks Out: Social support stability and health among formerly incarcerated men”, aimed to examine the effects of social support stability on the physical and mental health of newly released men. The study, referenced as number [26] was longitudinal in design, and a regression model was used to evaluate the effect of various domains of social support stability in the first few weeks after release.

The results indicate that having social support and a durable, solid, and reliable social network is essential for successful reintegration into society for those who have been released from incarceration. The author concludes that it is important to establish support programs that involve families and provide them with practical skills that facilitate reentry and increase long-term personal and social well-being, as referenced in study number [26].

On the other hand, the article titled “Criminal lifestyle, psychopathy, and prison adjustment among female inmates” [27], aimed to understand the penitentiary adaptation of female offenders and the determining role of psychopathy and criminal lifestyle in the prognosis of their adaptation. Institutional infractions and the use of health services were determined as variables to assess the penitentiary adaptation process.

The study consisted of 63 female inmates who were evaluated using the PCL-R and the LSCF-R form; the results are useful for psychologist and prison directors who are interested in mitigating the risk of maladaptation and increasing the process of adaptation to prison, as referenced in study number [27].

Finally, the last selected article titled “Stuck in the cycle? Assessing a reciprocal model of incarceration, health, and relative risk over twenty-five years” [28], exposes the complex relationship between incarceration exposure and mental health, using an autoregressive panel to evaluate the dynamics between and within individuals. [28].

The results of the aforementioned study suggest that symptoms of depression and anxiety precede subsequent exposure to incarceration. Therefore, efforts should be directed towards addressing mental health issues both inside and outside of correctional environments in order to reduce the cycles of incarceration.

**V. CONCLUSIONS AND RECOMMENDATIONS**

The findings obtained in the exercise of technological surveillance allow us to approach the current state of knowledge in the area of interest. The reintegration of the female prison population is a topic that currently demands attention and has been attractive for various scientific disciplines, especially due to the impact of this process on society as a whole.

There are many digital platforms that enable professionals and the interested community to access updated and high quality content on the subject. The most relevant international portfolios are: international journal of law, and psychiatry international journal of law crime and justice journal of criminal justice, international journal of drug policy, where the greatest production of scientific articles covering topics related to the judicial system, criminology and penitentiary environment, and associated variables such as crime, felony, society, and elements associated with mental health and the profile of offenders are concentrated.

The four articles selected for analysis agree that the social reintegration process is biased by multiple variables, and reintegrating into the labor force and being productive is particularly difficult due to the stigma and rejection that all those who have broken the law and lost their freedom for it are subject to.
In addition to the above, studies suggest that it is important to address mental health and support the processes of social reintegration for all individuals who are released from a detention center and return to freedom. The various authors cited, active researches in the field of interest, agree that it is important to conduct research that can contribute to the growth of the field from various scientific and cultural perspectives and approaches.

As can be observed, based on the indicators used to analyze the development of the specific topic and support decision-making in a quantitative manner, for this case, the most coherent, emerging, and impactful strategy for social reintegration is evident. The indicators allow for the determination of (1) the growth of any field of science according to the chronological variation of the number of papers published in it, (2) the aging of scientific fields according to the “half-life” of references in their publications, (3) the productivity of authors or institutions, measured by the number of their works, (4) collaboration between scientists or institutions, measured by the number of authors or research centers that collaborate, (5) the impact of visibility of publications within the international scientific community, measured by the number of citations received by these works from subsequent papers, and (6) the analysis and evaluation of the sources that disseminate the works.

Finally, taking into consideration the aforementioned findings, it is recommended that for future developments of the TS exercise in the area, more in-depth explorations be carried out, including more specific variables and databases that compile more social content, such as Scopus, so that when conducting bibliometric analysis, the data obtained can contribute more broadly to the fields of study.

**Referencias**


