

## **FUNDAMENTS AND APPLICATIONS OF PUBLISHING INTELLIGENCE SYSTEMS TOWARDS INNOVATION**

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### **ABSTRACT**

Academic development is committed to generating new knowledge that responds to the needs of the society in which it is involved. In order to transmit this development in a relevant and fast way with a suitable language, the publications resulting from this process must meet criteria, strategies and policies to improve its dissemination and diffusion. In this sense, university presses are precisely the organizations that must create, adopt and develop measures to improve their management and decision-making skills, so that they become support centers to contribute to the connection between the academic development and future innovations. Given this situation and the technological change in the transformation from print to electronic, this paper proposes to implement some technological management tools through the ability given by the publishing intelligence to strengthen academic publications as a vehicle for innovation, improving the quality of the results of research and development communication by making strategic decisions. To this end, the concept of publishing intelligence is revised, as well as the main results of implementing management tools such as benchmarking and forecasting, where through articulated processes of knowledge management with the stakeholders of the university publishing environment, allow establishing strategies as a basis for the construction of projects, plans, investments and institutional policies to the diffusion of the academic university development.

### **INTRODUCTION**

According to Sierra (2005), university presses are organizations acting within the scope of a university and whose principal activity is to guide, find, obtain, evaluate and select academic and literary works of a high quality and scientific rigor, for its publication and subsequent dissemination. In this sense, these presses face major challenges due to the constantly changing environment and the dynamics associated with digital convergence; therefore, they should be at the forefront of innovation, competitiveness and continuous improvement. Additionally, these publishers, having the great responsibility of strengthening the visibility of academic

development, must implement actions that allow them to create and strengthen competitive advantage and facilitate the process of decision making for strategic management.

In connection with the internal management of university presses and based on Latin-American cases of study, Rama *et al.* (2006) indicate the absence of marketing policies; development of catalogs without a deep analysis of the markets for these publications; lack of mechanisms to achieve an autonomous and professional management; reliance on bureaucratic systems of authorizations; lack of administrative and financial flexibility, and almost no existence of distribution mechanisms and operational marketing systems. Also, authors as Viljakainena and Toivonena (2014) incorporate the futures studies and foresight perspectives in analyzing an industrial change towards service business, with the publishing markets as the case context.

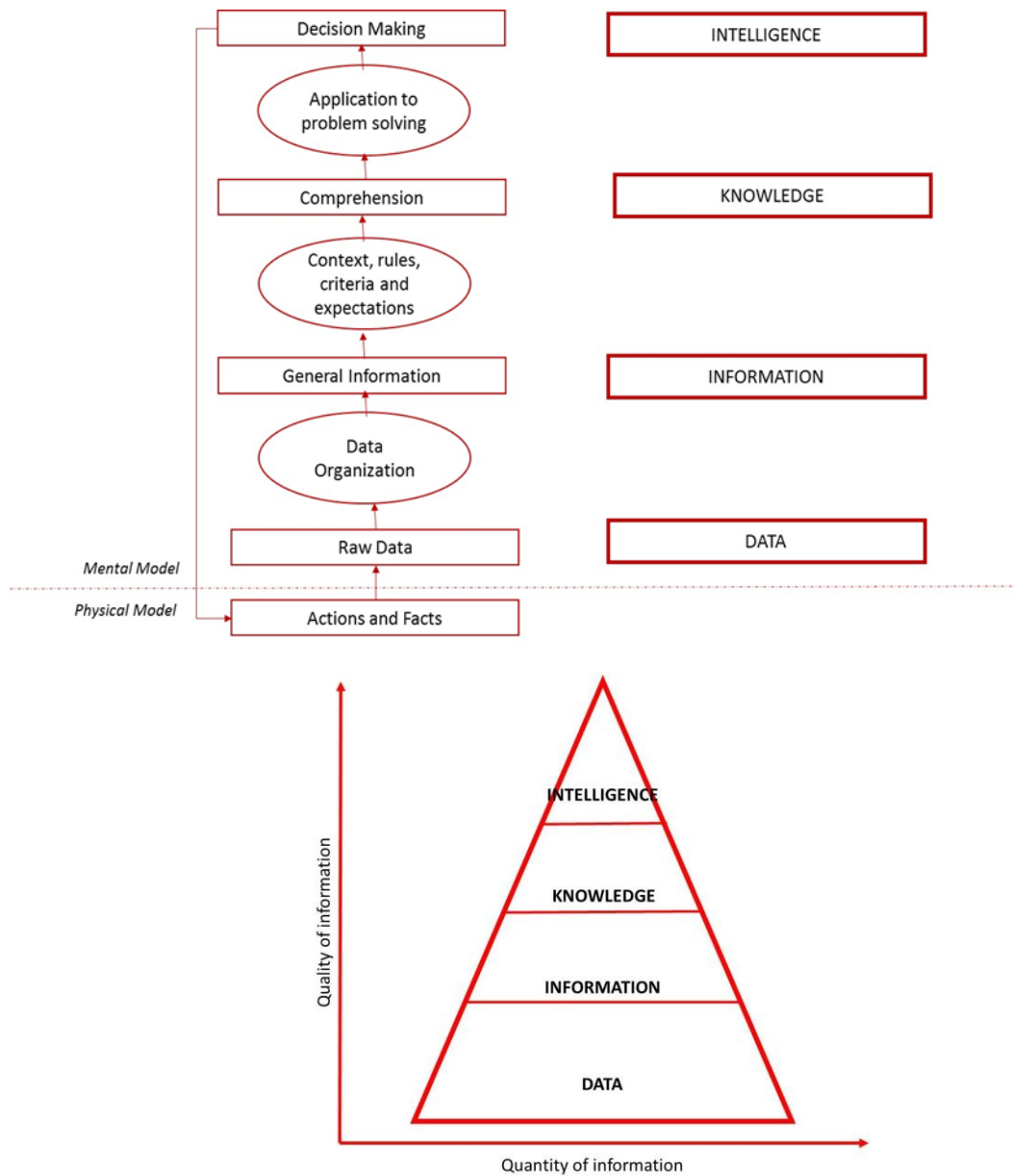
Seeking to address this problem within the university publishing sphere, arises the need to implement a new management approach that is characterized by defining and executing strategies based on relevant, accurate and updated information related to the internal management and the state of the environment.

As an alternative to improve the competitiveness of university presses, the implementation of the technology management tools becomes crucial, especially through the capacities given by the formalized intelligence systems.

Among the intelligence systems implemented in organizations, highlights the technological intelligence, market intelligence, organizational intelligence and competitive intelligence, among others (Chitiva, 2011). The term intelligence comes from Latin “*intelligentia*”, which in turn derives from “*inteligere*”. This is a word composed of two terms: *intus* (“between”) and *legere* (“select”), therefore, the etymological origin of the concept of intelligence refers to who knows how to choose, that is, who knows how to make the right decisions (Xataca Science, 2006). This concept is supported by the statement of Castellanos (2007), who indicates that intelligence should be interpreted as a process in which relevant information is obtained to solve a problem or situation that must then be understood and assimilated, for its conversion into useful and relevant knowledge, in order to generate decision-making process and the development of specific actions.

This can be illustrated through the issues raised by Cetisme (2002) and Ponjuán *et al.* (2002), where as shown in figure 1, intelligence is a process that begins when the individual obtains data from interaction with the physical world, that later, by organizing the data, transforms into meaningful information; this information when generally applied to a specific context, becomes knowledge, which together with the experience and learning, are the key factors that affect the decision-making process of the individual.

Figure 1. From data to intelligence



(Source: Up. Cetisme, 2002 and down. Ponjuán et al., 2002)

Moreover, not all data obtained from the environment become valuable and useful information for decision-making; therefore, the transformation of data into intelligence will be determined by the quantity and quality of the information, as it is claimed by Ponjuán *et al.* (2002) on the left side of figure 1. Thus, **Intelligence Systems** have been developed and implemented, which have enabled organizations to identify their problems, the objectives to be achieved and the critical success factors to improve.

In order to develop and Publishing Intelligence System in the research described in this paper, the Technological Intelligence System developed in 2006 was taken as a reference. This model was implemented in more than 30 productive sectors under the coordination of public and

private entities at the national level aiming to define strategic actions towards competitiveness thereof (Torres *et al.*, 2008; Fonseca *et al.*, 2013; Castellanos *et al.*, 2009).

Based on the reference above, an intelligence system consists of three components:

- Application of tools
- Generation of knowledge
- Formulation and implementation of strategies.

These components are not necessarily developed in sequential stages but should complement each other.

This paper proposes to implement technological management tools through the capacity provided by publishing intelligence, based on the intelligence system described above, in order to strengthen academic publications as a vehicle for innovation, improving the quality of the communication of the research results. Initially, the conceptual description of Publishing Intelligence is performed. Subsequently, the main results of using certain tools are mentioned, as well as the results from knowledge generation and the definition of strategies. These strategies have been the basis for projects, plans, investments and institutional policies for dissemination of university academic development.

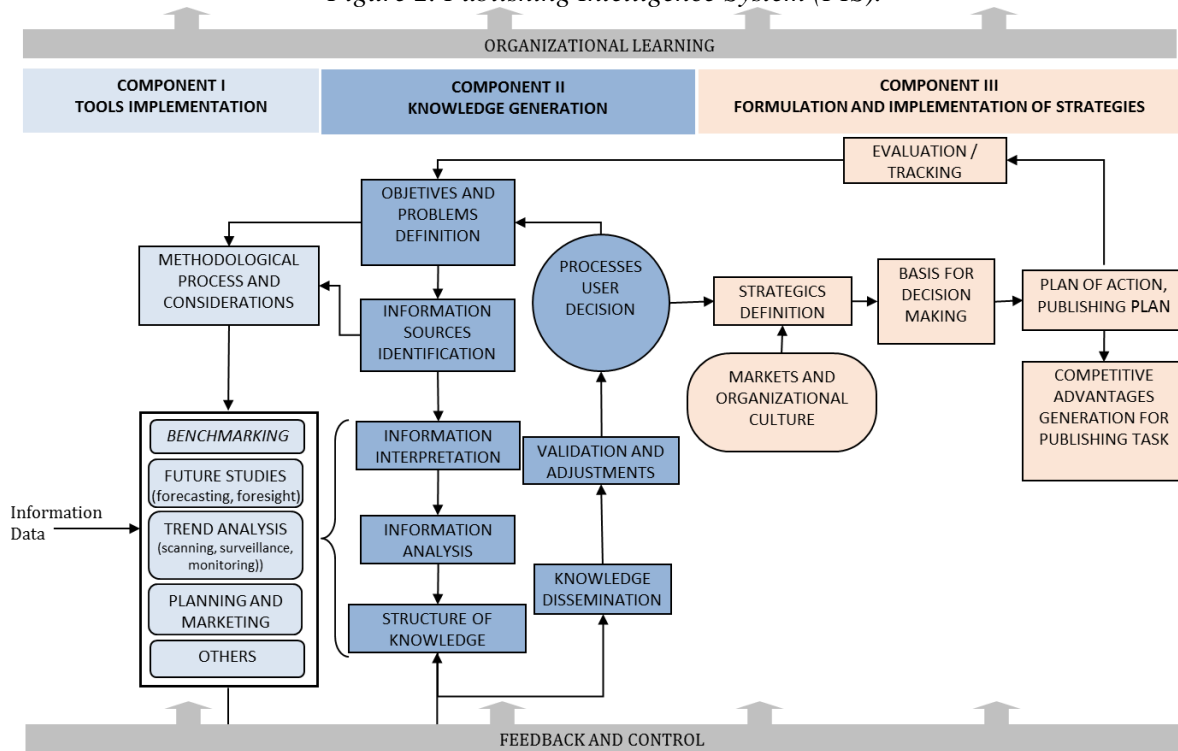
## **PUBLISHING INTELLIGENCE SYSTEM - PIS**

According to the above discussion, Publishing Intelligence is *the process of searching, managing and analyzing information on developments, events and trends in book publishing, magazines and other publications, in various formats that through an appropriate knowledge management provides tools and mechanisms to facilitate and support the process of making strategic decisions. These decisions are based on publishing management processes, visibility of published works, external challenges, support to authors, and quality assurance with which the reader receives messages.*

Figure 2 shows the Publishing Intelligence System, adapted from the model presented by Torres *et al.*, 2008, for the technological variable.



Figure 2. Publishing Intelligence System (PIS).



Source: Adapted from Torres et al., 2008

### Component I: Implementation of management tools

To implement a PIS is necessary to know the status of the organization in order to identify its problems, the objectives achieved and the critical success factor that needs to be improved.

This first component involves the identification of information needs and the definition of the sources that would provide such information. When implementing the management tools, it is important to note that the information obtained has certain attributes, which are defined according to the environment, time, dynamics, uncertainty and sources. Additionally, it is important to highlight that the information required by the system should come from both internal management of the publisher and the factors and trends of the environment.

Given the flexibility provided by a Publishing Intelligence System, the next section presents the main tools implemented in the process of Publishing Intelligence applied to the press of the National University of Colombia (Universidad Nacional de Colombia). These tools are: *Diagnosis, identification of organizational culture and strategic planning (SWOT analysis), Foresight (future analysis), benchmarking (Best practices), and Marketing and positioning.*

The main objective pursued by implementing management tools in an organization is to obtain accurate and timely information to facilitate and support the process of strategic decision making for management; therefore, it is important to note that the implementation of the same should be done in an integrated manner because as mentioned Castellanos *et al.*, 2009 these tools have traditionally been used independently.

Therefore, it can be concluded that part of the success of the system starts with the right choice of management tools that will be used and the subsequent integrated application, allowing obtaining complete information of both the internal and external environment of the

organization. Additionally, the application must ensure the active participation of all stakeholders in the process, so valuable information provided by professionals from various disciplines will be obtained.

## **Component II: Knowledge generation**

This component is crucial for the PIS since it gathers all the information generated by the individuals and the organization, in order to evaluate it, use it, share it and spread it for its following validation.

According to Galtieri and Maniñán (2001), the generation of knowledge starts with a series of data, that after being organized logically can be called information. When this information is framed within a context, it undergoes processes of assimilation and understanding from every individual in the system, thus generating knowledge.

Given that publishers seek to generate long-term value, it is necessary to manage the knowledge gained through the implementation of these tools and knowledge that individuals possess internally from their own expertise. An adequate knowledge management becomes the support that leaders need in order to formulate the strategic planning of the press as well as the action plan by which they will comply with the established objectives.

## **Component III: formulation and implementation of strategies**

For successful decision-making is necessary to define and implement strategies that respond to the current dynamics that occur in the environment, as well as the challenges identified within the publishing organization. According to Fonseca *et al.* (2013), the strategy is a coherent, unifying and inclusive decision model that determines and reveals the purpose of the organization in terms of long-term objectives, action programs and priorities in the allocation of resources, trying to gain a sustainable advantage and responding appropriately to opportunities and threats arising in the external environment of the company, considering its strengths and weaknesses.

## **IMPLEMENTATION OF PSI - CASE OF STUDY: EDITORIAL UNIVERSIDAD NACIONAL DE COLOMBIA (NATIONAL UNIVERSITY OF COLOMBIA PRESS)**

This section reviews the aspects that identify the Editorial Universidad Nacional de Colombia – Editorial UN (National University of Colombia Press - UN Press), where the implementation of PSI was performed. Subsequently, relevant aspects of the implementation mentioned are described.

### **UN Press**

National University of Colombia (Universidad Nacional de Colombia)<sup>1</sup>, since its foundation in 1867, has maintained a department associated to the University in charge of the publishing development of the university community. Recently, through the Agreement 026 of 2008, the Higher University Council establishes the UN Press as a “national entity, with independent management resources, entitled to be delegate by the Higher University Council and Rector, whose objective is to execute the activities and functions related to editing, production and

<sup>1</sup> Institution of Higher Education in Colombia with the highest number of titles published.

distribution of publications in an integrated manner”. The Agreement 113 of 2013 establishes the Editorial Universidad Nacional de Colombia (National University of Colombia Press) must be attached to the Research Office, and under its guidance, the press will design the publishing policies of the University. In regulations that are currently under construction, **Publishing Intelligence** will be established as one of the functions included in the mission of the organization.

The academic production of the University is made by the different campuses and within them by different faculties, departments, service centers, research institutes and academic units. Faculties and institutes constitute publishing centers that along with UN Press are in charge of editing, reediting and production of text.

Each publishing center has the autonomy to publish their own books as long as the basic guidelines established by the University<sup>2</sup> are met for by these publications.

### Implementation of PIS

In order to evaluate the result of its management, UN Press has created a team for strategic management aimed to analyze the current state of the organization, and in a second state, define new strategies to improve or eliminate the shortcomings that can be identified through the implementation of the PIS. This section describes the strategies obtained by the application of the tools selected. Each one of the following subheadings describes the tools implemented (Component I), the highlights of the knowledge management (Component II) and finally, it presents the strategy defined for the competitive development of the press (Component III).

#### *Diagnosis, identification of organizational culture and strategic planning*

At the first moment, the strategic management team made a report about every unit of the publisher, which evaluated the existence of protocols in the production processes, implementation of current regulations, work environment, among other items. In this process, tools such as **SWOT** analysis (strengths, weaknesses, opportunities, and threats), **IGO methodology** (importance and governance) were implemented. In this process, all the members of the publisher were involved and its main objective was to broaden the perspective of the current state of the organization. To support this strategy, a **Quality Management System (QMS)** was implemented as well, in order to obtain the certification related.

The SWOT analysis shows the perception of the members about the internal and external aspects of the organization. The internal analysis evaluates the strengths and weaknesses that can be identified within the organization. On the other hand, the external analysis assesses the opportunities and threats that can affect the publishing house. "The identification of these factors allows developing strategies to eliminate weaknesses, counteract threats, exploit opportunities and strengths" (Dyson, 2004, p. 632).

For the case of study, UN press, and as a part of the QMS actions, defined four macro processes: Publishing Policy, Publishing Quality, Development of Collections and Catalogs, and Diffusion and dissemination. Solarte (2009) argues that the macro refers to processes that systemically enable the fulfillment of the mission of an organization. In the same way, for each macro process some variables were defined and evaluated through the SWOT analysis for each one of the members of the publishing house.

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<sup>2</sup> Resolution 1053/ 2010 – Rector of Universidad Nacional de Colombia (National University of Colombia).

Similarly, the IGO analysis describes each of the variables already defined in terms of the importance and governance with a rating from one to five, with 1 being the lowest rating. Consequently, each variable has double qualification and can be represented in a Cartesian map where each axis represents the characteristics importance and governance (Mojica, 2008).

On the other hand, to consolidate the objectives, values and vision, this team conducted a complete analysis that involved all staff and areas of the publishing house, as well as the representatives of the board of directors of the university. The vision, values and objectives defined can be found at the UN Press web page.

Based on the conclusions of the diagnosis, strategic management team seeks to establish the set of strategies that will achieve the new goals set for the publisher. In this sense, strategic planning is a developmental process that allows the identification and implementation of strategies to eliminate the shortages in certain aspects (Ander, 1995).

### *Foresight (futures studies)*

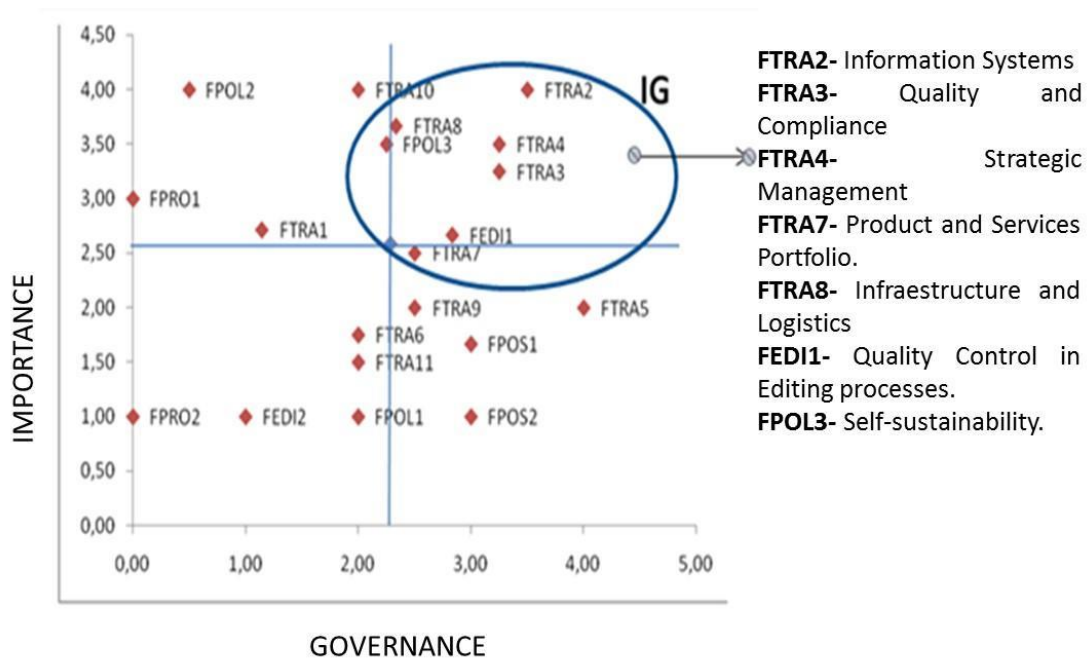
Another tool used to implement the PIS was foresight in order to develop long-term objectives that are feasible and where their future path is known. Prospective can be defined as the study of future scenarios and the factors that might affect its path. In essence, foresight is related to the design of a model of reality based on abstractions depending on the problem of study, aiming to build feasible strategies that allow achieving the desired future scenario (Miklos y Tello, 2007).

Using foresight requires identifying the key factors that can transform the future, and thus build a set of strategies that allow achieving a desired future scenario for the UN Press, consistent with an efficient management of the resources available without affecting the accomplishment of the social purpose of it.

In order to identify these key factors that can transform the future, it is necessary to use the information obtained through the diagnosis, thus it becomes crucial to this stage. In particular, according to the IGO analysis, it is possible to obtain certain variables that might have a positive impact on governance and importance. That is why these factors are critical and have the attribute to change the future. In the specific case of the UN Press, the effect of altering these variables is greater due to the scores of the importance and government. Figure 3 presents this situation and summarizes the IGO analysis for the UN Press.



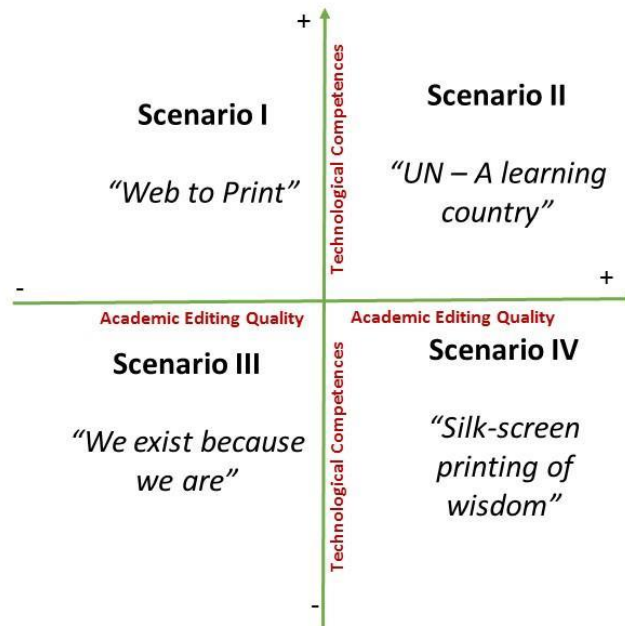
Figure 3. IGO Analysis for the UN Press.



The identification of the future changing factors allows to focus on the design of strategies that lead to strengthen and improve their performance. Nevertheless, it is important to take into account the fact that the strategy formulation should be based on theoretical guidance related to communication of scientific production. In particular, *knowledge management* is a recent development area, which aims to design elements of knowledge transfer.

Similarly, it is necessary to establish the long run objective and the desirable future scenario. Therefore, possible future scenarios for the UN Press must be determined, in order to decide which ones should be targeted. In the construction of them, two global categories were chosen: quality of academic publishing and technological skills development. These categories summarize the desirable guidance established by the strategic management team, based on the future planning for the UN Press. Additionally, four prospective scenarios were established based on the application of the Schwartz scenario planning methodology. In order to represent this analysis in a simple manner, a Cartesian plane in two dimensions is used, where each axis represents a global category, and each scenario (quadrants) was defined based on the advantages and disadvantages that it might bring. Figure 4 presents the implementation of the Schwartz methodology.

Figure 4. Implementation of the Schwartz methodology for the UN Press.



The definition of each scenario established by the strategic management team is presented down below.

**Scenario I, “UN-A learning country (UN-país que aprende)”:** This scenario aims to ensure the knowledge transfer directed to new social groups, through the implementation of the best publishing practices. In line with this objective, 50% of the publications are edited in English and Spanish. Additionally, there is a publishing intelligence system, certified processes that comply with the publishing policy, international quality standards and academic rigor, protocols of “clean production”, and qualified human capital who assumes knowledge management as a strategic process, facilitating decision-making and ensuring the effective use of new technologies in response to the academic needs of society.

**Scenario II, “Silk-screen printing of wisdom (Serigrafías de sabiduría)”:** In this scenario, there is a qualified human capital component and publishing processes have been developed with high quality standards. However, it does not have an optimization of processes due to the low implementation of leading-edge technology that allow to meet the new needs and ways of disseminating academic knowledge produced in the University.

**Scenario III, “Web to print”:** This scenario ensures a robust technology platform and information systems that communicate publishing processes. However, there is a lack of management of knowledge process that adds value to the publishing process itself, and there is no existence of synergy between the technological utility and those processes that involve the publishing value chain.

**Scenario IV, “We exist because we are (Existimos porque somos)”:** It assumes the obligation to exist, as a dependency of the National University of Colombia, in this scenario the lack of management versus the improvement of publishing processes that ensure relevance, sustainability and value added of the knowledge that is transferred to society is evident. This scenario represents a "state of comfort" in front of the dynamics of the world in academic and cultural dissemination, therefore prevents the positioning of the corporate image in the international market.

The strategic management team chose the “A learning country (UN país que aprende)” as the best-case scenario, based on the possibilities that it might offered in order to strengthen the UN press, in case of achieving it. Once this best-case scenario was selected, we proceed to the determination of strategies that allow to create a line of work.

To reach this stage, the publishing management requires the implementation of policies that generate a significant development of the units within it. For this, it is inevitable to consider the main tasks of publishing daily chore: human resource management, production process optimization, financial and administrative planning, among others. On the other hand, in the process of renovation of the UN press, it is necessary to align these tasks with the new strategies to be implemented.

Among the strategic programs, key goals were established in order to achieve the best-case scenario, which were align with the Global Planning of the University and the Publishing Plan 2014 – 2015. These goals are related to the number of books with international standards of publishing quality, publishing international quality certification, new collections, protection of copyright, and promotion of co-publishing processes, among others.

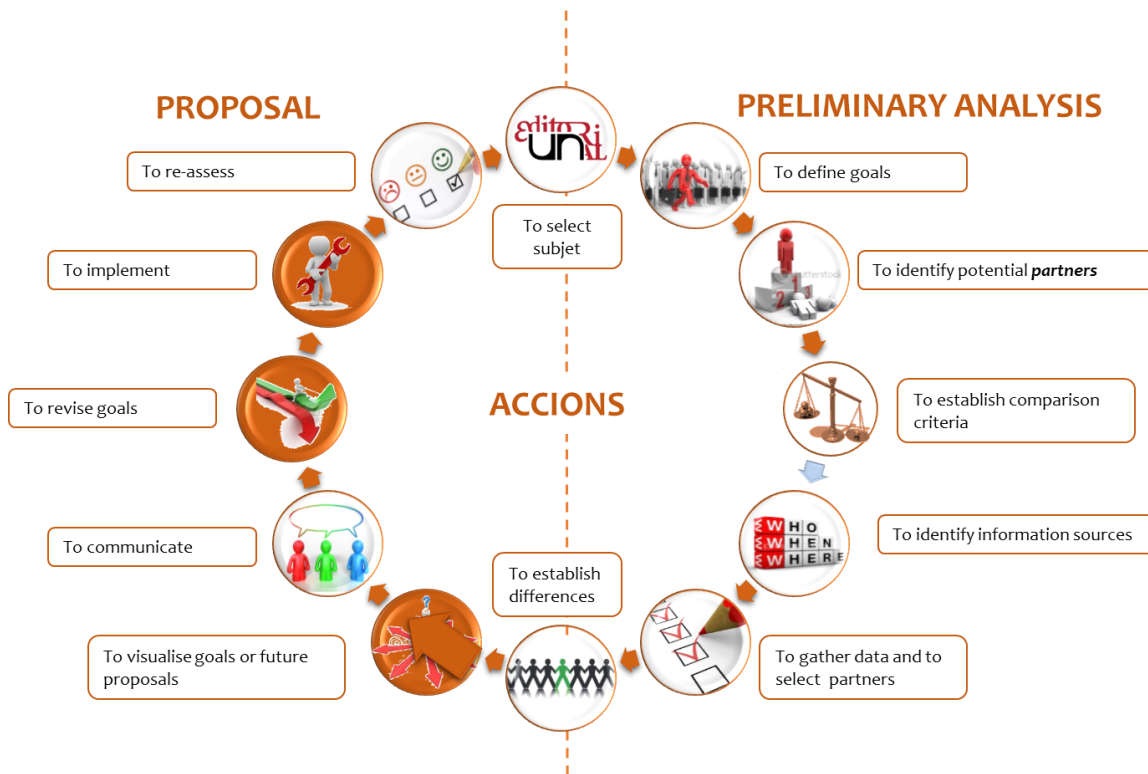
#### *Peer review and learnings through benchmarking*

In order to complement the establishment of strategic actions and the services portfolio of the UN Press, the benchmarking technique was implemented, as suggested in the Component I of the PIS, and as part of the management techniques set used in the institution. In particular, the benchmarking implies the identification of the best practices implemented by the leading organizations in certain areas of interest. Therefore, any organization might be able to collect relevant information and include it in the decision making process, improving its management (McKinnon *et al.*, 2003).

The methodology can be summarized in two main stages: the preliminary analysis, and the proposal and implementation. The first one refers to the definition of the objectives intended to achieve. The second stage focuses on reconsidering the current management of the organization, taking into account information obtained from the previous step and establish new strategies to overcome deficiencies (Mundt, 2003).

Figure 5 summarizes the implementation the benchmarking methodology in the UN Press, whose objectives were 1. Establishment of the product and services portfolio that meets the needs of the academic society and complies with the innovative purpose to the publishing sector. 2. Create and design a catalog of publications in order to facilitate the diffusion and dissemination of publishing projects, and finally 3. Establish the criteria for the creation and selection of collections and, in the same way, decide which one will be part of the catalogue.

Figure 5. Benchmarking process in the UN Press



Once the objectives were established, the next step was to identify the potential partners. In order to do this, the best international and national universities in terms of academic production were selected, according to the 2012 *QS World University Ranking*. These ranking is considered among the academic community to be relevant and globally renowned. Finally, 4 national and 4 international universities were selected, in order to reflect the academic production panorama.

The strategic management team defined as comparison criteria among university presses the following: a. Experience, b. Catalogue(s), c. Collections, d. Publishing lines, and e. Innovation and added value.

### Marketing and positioning

This section describes the implementation of certain tools designed to strengthen and the UN Press in different and diverse interest groups.

In general, academic publishers are in the midst of an industry indifferent to its own reality. That is, the university publishing industry is rarely a topic of interest within the publishing industry and is therefore difficult to identify, manage and understand, in the context of those processes that allow to achieve certain positioning levels, some of the dynamics derived from the publishing chores in terms of disclosure and dissemination of scientific works.

Currently, publishing marketing is not an appellant topic in Colombian academic publishing sector. Nevertheless, all publishers that have implemented publishing marketing strategies conduct regular and extensive studies as part of their daily activities and its knowledge





management (this is, market research, target markets, marketing intelligence, among others). To the UN Press, marketing is of vital interest to strengthen its work and positioning.

An important link within the marketing strategies is the new prosumer (Islas-Carmona, 2008), who must be the new focus of the diffusion strategies implemented by the university presses, publishing centers, institutes and authors jointly. Permanent demands of this type of user with respect to their purchase and use experience make this definition an extremely important topic, which is necessary to understand in order to grow as a publishing institution inserted in a more dynamic, edgy and demanding market that requires co-creation and constant user research.

The UN Press has developed specific programs to expand its position, some of them are:

- i. **Social project as the core of visibility.** It is possible to enable the development of cognitive skills of reading and writing in society through activities and actions that benefit social and community development. Table 1 summarizes the main activities undertaken in this program.

Tabla 1. Positioning strategies in the UN Press

<p>Campaign "Adopt Book"</p>		<p>Books are given away from the analogy of the adoption, to present publications and promote the value of reading and research as healthy and cognitive habits.</p>
<p>#YOU ARE WHAT YOU READ</p>		<p>In response to a social need: the lack of efforts and initiatives to promote reading comprehension in children and adolescents as a complementary aspect of the reading programs implemented by different institutions.</p>

- ii. **Finding the other social half.** Today it is almost imperative to recognize social networks as platforms for content distribution and dissemination of knowledge. It is necessary to identify the social networks with greater social impact and high indicators of suitability for spreading the message by university presses, considering that they satisfy the conditions necessary to perform this purpose and are taken into account as communication tools in within the structure of an academic organization.

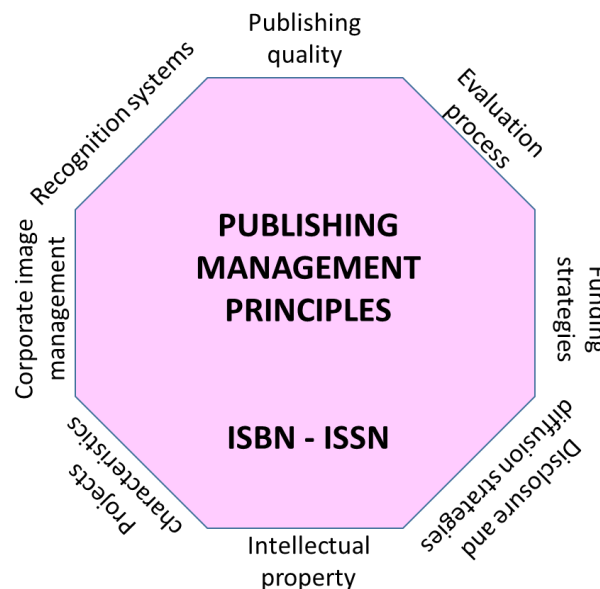
## POSITIONING AND VISIBILITY CAPACITIES TOWARDS INNOVATION

Based on *diagnose* conducted in the previous stage, the *identification of organizational culture and strategic planning*, a set of essential need was established as a target that management should focus on. These were 1. Comprehension, appropriation and implementation of the university regulation (Agreement 026 of 2008), 2. Drawing a vision in the short, medium and long term based on strategic planning, 3. Strengthening of the administrative unit, improving communication and internal cohesion, and finally 4. Development and implementation of clear policies in the publishing process.

The UN Press has a plan of specific objectives, because it is desirable that the organization has a clear work path, to fully comply its mission. Furthermore, this plan must be consistent with the ethical principles that characterize the actions and the image of the UN Press.

Through the implementation of *future analysis*, the UN Press identified certain characteristics that must guide the publishing policy in a manner that generate principles of quality in publications that should be managed. Consequently, the administrative direction establishes the foundations that should regulate the publishing process and, in turn, determining the publishing policy. These elements are presented in Figure 6. After the application of foresight and development of quality guidelines, the strategic management team defined four strategic programs: 1. Modernization of the publishing system of the Universidad Nacional de Colombia (National University of Colombia), 2. Implementation of quality models, 3. Development of integrated logistics system, 4. Strengthening cooperation networks and systems.

Figure 6. Principals of Quality in the UN Press



By analyzing references and learning through benchmarking, the update and unification of the database of the entire academic production was suggested, accompanied by the implementation of an online catalog with real-time updating. The creation of an exclusive publishing line was crucial, aside from boosting the added value offered by current production, it is desirable to develop innovative products and services that enable greater interaction and user feedback. The UN Press should comprehend the academic position of the University in order to guide its production. Likewise, it is important to disclose the publishing policy among the academic community itself, as well as publishing regulation, and make it appealing to this community. Finally, the strengthening of the corporate image trough the web page requires a greater communication of the organization, its history, mission, objectives and principles, client relationship management and e-commerce.

After analyzing marketing and positioning, one of the first strategies was to clearly identify the interest groups that should be focused on and it is desirable to impact. The main UN Press stakeholders are internal users (University Community itself), academy, Colombian publishing sector, society and external users, and international community. Through the implementation of the PIS, the level of positioning towards the stakeholders was evaluated, in certain action lines, including e-trend, UN libraries, event and fair, bibliographic purchase and distribution.

This evaluation allowed identifying the strengths and aspects to improve, as well as to expand services directed to certain users.

Clearly, the dissemination of academic knowledge is a social commitment of the university; where there is not only necessary to encourage the links between academia and society, but also to encourage the University to go to the society in order to share its achievements and progress. In order to do this, the UN Press has taken action, such as the implementation of the online libraries, and the large-scale conversion to digital formats of physical works. After the implementation of this strategy, in the recent years the UN Press has become a model of digital culture and the only unit in the University that leads and accompanies the process of digitization and migration to digital books.

The foregoing is presented as basic strategies to strengthen innovation from the disclosure and dissemination of academic development through publications, reiterating once again the importance of intelligence processes in publishing organizations.

## IMPACTS

Impacts of the implementation of PIS on the management decisions of UN Press can be divided into three spheres: institutional impacts, product impacts and consumer experience impacts. This process, that took less than three years between 2013 and 2015, had a great positive effect on crucial indicators of the UN Press, some of which are discussed below.

Regarding on *institutional impacts*, it is important to highlight that UN Press is one of the three between 60 institution of its class in receiving the certification of Colciencias (Administrative Department of Science, Technology and Innovation), which is the lead governmental agency on scientific publishing. Additionally, the publishing portfolio was expanded considerably. For example, in 2012 Bogotá Book Fair, there was 12 book launches, while in the same event in 2015, the number of launches grew until 60, which represents an increase of five times in the number of publications.

Another positive effect on UN Press positioning is the increase of the investment resources. In this way, between 2010 and 2012 theses resources were equal to USD \$250.000, with a rate of execution of 30%. While in 2015, the investment reached USD \$1'400.000, with a rate of execution higher than 85%. This means, there was an increase of more than ten times between those two periods.

On the other hand, the implementation of PIS in the UN Press allowed to identify the need of break into new market niches, which boost the production of digital publications. Therefore, this production rose to 300 digital books, published in an institutional web platform and that can be bought through different e-payment mechanisms. Thus, the UN Press achieved the number one position in the electronic publishing ranking in 2015, while it was located in the last place in 2012.

Related to *product impact*, there was a reduction in the average production cost around 30%, reflected on the expansion and diversification of the portfolio. Additionally, there was a considerable reduction in the production time. In 2012, the average production time of a book was close to 14 months, while in 2015 this period was reduced down to 4 or 5 months.

Another advantage of the implementation of PIS was the increase in the number of dissemination channels, and therefore, the number of different formats. In this manner, the UN Press portfolio includes ISBN Paper Version, ISBN POD (Print on Demand) and Electronic ISBN, among others.

Finally, the *consumer experience impact* was reflected on achieving new audiences such as students from different universities and readers from different Latin American countries. In addition, new dissemination channels were developed, hand in hand with the development of new formats.

## CONCLUSION

University presses, as organizations that support academic development communication, should implement actions to improve its processes and the development of services that add value to the community in which it works.

The PIS, due to its flexibility and dynamism, becomes a mechanism of strategic support for UN Press and the editorial boards of the University, which strengthens capacities and competencies to determine future development scenarios in the academic edition at the national and international level, through the appropriation and use of modern management tools and analysis. The diagnosis, identification of organizational culture and strategic planning allowed the UN Press to get an overview of the situation in which it found itself and the possibilities it had in relation to its roles and expectations; foresight enabled to clarify a better scenario and strengthen the vision; benchmarking, gave the opportunity to learn best practices and consider adopting them; finally, the marketing has allowed inroads in actions to strengthen the positioning in different interest groups.

The implementation of management tools of internal and external information, in coordination with knowledge management processes and the involvement of internal and external agents of the UN Press, taken into account the past scenarios and the establishment of a future better scenario, enabled to establish the bases to create a successful model of scientific and academic diffusion. In addition to capacity building and visibility of human, intellectual, relational and structural capital of the University.

Innovation achieved in the organization is not comparable with the results of R&D derived from the implementation of technological intelligence systems. Nevertheless, if the concept is understood as the action and effect of changing something by creating novelties (DRAE, 2012), innovation is evidenced in the perception and/or acceptance by the readers, authors and other stakeholders (markets) of new and improved products, as well as innovative processes that were implemented in the UN Press.

Another element of innovation is the possibility of extrapolating PIS methodology to other academic publishers. However, this requires at least the completion of three conditions: i) Institutional commitment; ii) the strengthening of capacities and abilities that allow implementing changes in processes; iii) allocation of considerable economic resources to this end.



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