Technological surveillance as element for the positioning of public universities

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Abstract. This research work is primarily aimed at Technological Surveillance as an Element for the Positioning of Public Universities. This research is characterized by being descriptive, non-experimental design of transectional-descriptive type. The population was made up of the National Open and Distance University and the University of La Guajira, the units of informants made up of the managers responsible for the technologies in the mentioned universities. For the data collection, a simple questionnaire composed of 57 items and constituted by the response alternatives was always, almost always, sometimes, never and almost never. In turn, for the validation of the data collection instrument, it was necessary to submit it to 5 an expert and to apply a reliability test through the Alpha Cronbach statistics formula, giving a result of 0.83 for the Technological Surveillance variable. An analysis of the results obtained in the research was carried out, the presence in public universities is reiterated, however, there is evidence of weakness in the activities for the positioning of the Technology Watch.

1. Introduction
Technological advances establish the momentum of organizations due to the operational advantages that are possible in the immediacy that is achieved in the processes, in addition to the ability to minimize response times and quality of activities that are managed in this scenario. Therefore, generating opportunities to sustain this alternative determines a scenario of high chances of success for the objectives set. The Colombian Higher Education system is organized by Law 30 of 1992 issued by the Presidency of the Republic, according to this regulation, the system is made up of three types of institutions: professional techniques; Universities or technology schools. In addition, the system is constituted by the set of educational programs, which seek to achieve the aims of higher education. Its direction and control corresponds to the national government, which delegates to the Colombian Institute for the Promotion of Higher Education (ICFES) the action of promoting and coordinating the development of the sector. For the theoretical bases, contributions from authors such as [1][2][3] others were used

On the other hand, a quick analysis of the scenario allows us to gather that although our country has had a slight rebound in the appropriation of technologies there is still a marked underutilization of them. Regarding the figures, it can be said that in Colombia the technological gap has narrowed over time, an example of this is that the number of Colombians who have access to a computer has passed 48% in the year 2005 to 54% in 2006. Another important fact, which ratifies this reduction in the technology gap, is that more and more Colombians use computers in their homes, it indicates that the number of computers in homes has increased, and the most interesting thing is that 84% use it to connect to the Internet. According to the seventh report of the Economist Intelligence Unit (EIU), a
unit of the company that publishes The Economist magazine, Colombia has evolved very slowly compared to the progress made worldwide.

Taking into account the above, the importance generated by this research work is aimed at Technological Surveillance As an Element for the Positioning of Public Universities, presenting the optimization of activities where the experience of university institutions will be determined, the academic offer they generate will be valid for the group to the extent that these are viable to their interest and professional alternatives. Undoubtedly, this is also stipulated with the plans and programs that the countries lead according to the current technological development plan or program.

2. Technological surveillance and public universities in Colombia in the department of La Guajira.

At present, organizations are influenced by the great competition that exists in their various regional, national and international markets, in which not only low prices or quality are decisive to survive on stage, but the effort they make to materialize a position in these that can be durable and scalable [1], says that technological surveillance is an innovative tool available to any organization which allows it to capture information from outside, analyze it and convert it into knowledge, so that it can be oriented to make decisions with lower risk and be able to anticipate changes. This is a process that must be carried out systematically (capture, analysis, dissemination and exploitation of information) to alert the organization about innovations that are likely to create opportunities or threats and thus increase its competitiveness.

In this order of ideas, the technology surveillance resource will allow organizations to make a diagnosis in the scenario in which they are located, to know how their competitors have developed a sustainable work scheme based on details and definitions which can be determinants of its success, which is why this data is relevant for the performer in the definition of key decisions in the business. When considering the previous theorization, it is assumed that the positioning will allow organizations to trigger an internal and external analysis process to achieve the ideal image in the consumer's mind against the competition. That is why, this dynamic of work the reality of organizations determines a high possibility of transit in this space in which technological surveillance and the positioning of universities in Colombia are linked.

For the development of the research, the person in charge has managed to hold conversations with the technology managers at the National Open and Distance Universities and the University of La Guajira, so that I get to know some elements that characterize the situation of these educational institutions, which It can mean a possibility of problems, given the sequence of some symptoms. In the same way, in the absence of the manager or director of the institution as a promoter of the dissemination and management of technological surveillance, staff assume that attitude, therefore considering that their responsibilities do not integrate it into a methodology that may qualify them as suitable for high technology specialists. Such facts raised, achieve a greater gap between university staff and the work of technological surveillance when no training and education plans have been conducted in this regard, causing a functional illiteracy towards this key work component within the institutions which disadvantages intellectual capital in its organizational and personal value.

This research raises the need to generate a study, which allows to know in detail the reality of this problem, thus obtaining relevant and objective information to drive decision-making in the construction of a viable alternative, to achieve monitoring or technology surveillance in the sector of these public universities in Colombia in the department of La Guajira.
3. Technological surveillance dimensions

3.1. Requirements of the technology surveillance system

The Technology Surveillance and Competitive Intelligence units are responsible for the implementation of a technological surveillance system, in which, through a set of information methods and resources, it is systematically captured, analyzed and disseminated with intelligence the managers and staff of the organization who can act from it. Technology surveillance units can basically provide two types of services, passive surveillance or active surveillance. As for the products, some of a regular nature and others of a specialized nature can be offered, the former are characterized by their greater frequency of elaboration (alert messages, technical bulletins, generic newsletters and profiles of customers and competitors), the latter are distinguished due to the depth of the contents to be treated (in-depth evaluations, strategic forecast, situation analysis). In order to comply with each of these products, it is necessary to comply with a series of requirements to achieve the effectiveness of the Technology Surveillance system which appear to be established by standardized guidance standards or those guidelines established by organizations.

3.2. Management responsibilities in technological surveillance

At this point, emphasizes that internal controls have limitations, and managers should know that even the best performance will also provide deficiencies and errors in the transfer of information. Although the level of protection can be determined by the priority of the supervision carried out, when management takes the time to find out if the commitments and revisions are being regulated as planned, there must be a continuous mechanism that reiterates a message to all analysts that internal controls are important. On the contrary, when the administration does not pay attention to the responsibilities that they think are in place, it is likely that these controls are not working effectively; it is then a clear responsibility of the management to assume the controls that in the matter of technology surveillance have to be arranged for the organization. That for this reason, in addition to performing some type of continuous monitoring, the administration must communicate its expectations for internal controls to all employees, as well as establish a form of dissemination that transmits knowledge tacit from the base of the organization to the top and vice versa.

3.3. Resource management in technological surveillance

Says that the design of resource supply must be linked to the development of exploitation maneuvers, which anticipate future needs, and focus on strategic objectives. With the support of a central computer platform to support the mission of the organization, effective management planning immediately becomes a vital axis, and therefore, guaranteeing the viability, relevance and value of the infrastructure of said platform also requires adequate financial approach. On the other hand, considers that the benefits proactively against the capital requirements can help to minimize the risks given by the probable leverage and activities outside the operating budgets. In this way, the long-term vision of financing programs, when an organization extends to the acquisition and support costs, aligns the synchronization of the real profits of the Technological Surveillance searches. Subsequently, when observing the procedures from a perspective of the modeling analysis of the technological life cycle based on patents, a serious congruence can be appreciated to ensure that the resources are adequately focused on the transverse axes. In this way, through an exhaustive technical evaluation taking the opportunity cost as a financial control, an organization can offer realistic life cycle scenarios that mark the user's expectations and allow the generalities of the human components and infrastructure to be managed as a service.

3.4. Performance of the Technology Watch (standard UNE 166006:2011)

- Have the most current scientific and technical information and facilitate its dissemination in the organization.
- Identify and track the main trends for one or several technologies in order to anticipate changes.
- Have relevant information for use in the decision-making process of R & D & I: i) Define an R&D strategy ii) Analysis and selection of R&D ideas and iii) Planning of the portfolio of technological projects.

3.5. Mechanisms for monitoring technological surveillance
According to Standard UNE 166006:2011, the organization must plan, program and implement the processes of monitoring, measurement, analysis and improvement of the process of Technological Surveillance and Competitive Intelligence. The organization must track the perception of interested parties regarding the satisfaction of their needs and expectations. This section of the standard includes the following requirements: i) Follow-up of satisfaction and fulfillment of expectations of interested parties, ii) Internal audits, iii) Follow-up and measurement of the R & D & I process. iv) Monitoring and measurement of the results of the R + D + i process, that is, of the R + D + i products, v) Control of deviations, vi) Data analysis, vii) Corrective actions and viii) Preventive actions.

3.6. Positioning of public university institutions
The positioning of a product is the way in which consumers define the products based on their important attributes; the place that the product occupies in the minds of consumers, in relation to competing products define positioning as a term that refers to the place that a product or brand occupies in the market and even in the consumer's mind, this order of preference is established with respect to the other competitors. Similarly, the Standard UNE 166006:2011, this tool deals with the strategic positioning and the evaluation model of the positioning actions of the company / organization itself against its rivals taking into account financial power, competitive advantages, strengths of the industry sector and turbulence in the external business environment.

4. Performing Technological Surveillance methodology
4.1. Population object of study.
The spatial delimitation points to the operational universe, otherwise the process would become very complex. The population is, according to [5], the set of all the data that match a series of specifications, the relevant population depends on the objectives of the research, that is, it is the processes, things or people, which are intended to generalize the results. The population for the case study was selected taking into account those responsible for technology of public universities, which are detailed below (see table 1). In view of the fact that the population is made up of a finite group of subjects that correspond to those responsible for technology at public universities, it is not necessary to go to sampling criteria to define the group of informants and in view of them, the term of census type population.

| Table 1. – Population distribution |
|-----------------------------------|
| **Public universities**           | **Responsible for technology in public universities** |
| Open and distance national university | 3          |
| University of la guajira           | 5          |
| **Total**                          | **8**      |

4.2. Data collection technique and instrument
According to Bavaresco (2006), data collection techniques lead to the verification of the silver problem. Each type of investigation determines what techniques should be used and at the same time
establishes the tools, instruments or means that should be used. According to Blanco (2002), observation by means of the survey consists in obtaining information from a representative sample of a population, using an interview or questionnaire.

The simple questionnaire will be available, which constitutes a technical form of observation, will be prepared in accordance with the objectives, variable, dimensions and indicators proposed. For the purposes of this study, it was made up of a total of 57 items and it was arranged as stated [6], a Likert type response scale consisting of five alternatives; where the highest scores are: Always (5) and almost always (4); referring to the positive responses, followed sometimes (3), indicative of a neutral posture of the respondent, culminating with almost never (2) and (1) never, related to the negative trend responses. (See table 2).

| Escala | Abreviación | Puntuación |
|--------|-------------|------------|
| always | (S)         | 5          |
| Usually | (CS)      | 4          |
| Sometimes | (AV)    | 3          |
| Rarely | (CN)       | 2          |
| Never | (N)         | 1          |

*Elaborated by: Hernández, Fernández y Baptista (2006)*

5. Results and discussion
The data collected through the instrument applied in this research are presented, indicated by dimension to interpret the research objectives. The information obtained was arranged to analyze the variables through absolute, percentage, standard and average deviation frequencies. These results were analyzed descriptively through the design of tables detailing the input (frequency and percentage), of which the study was presented, as well as the interpretation of the theory confrontation with the reality assessed by the researcher.

5.1. Dimension: technological surveillance system requirements.

| INDICATOR | \( \Xi \) | (S) | (CS) | (AV) | (CN) | \( \Xi \) | Totals | MÉDIO | STANDARD DEVIATION |
|-----------|----------|-----|------|------|------|----------|--------|-------|-------------------|
| Frequencies | Fa | Fr (%) | Fa | Fr (%) | Fa | Fr (%) | Fa | Fr (%) | Fa | Fr (%) | Fa | Fr (%) | X | X |
| Requirements Generals | 0 | 0,0 | 3 | 37,5 | 5 | 62,5 | 0 | 0 | 0 | 0 | 8 | 100 | 4 | 1,0 |
| Requirements of the documentation | 0 | 0,0 | 0 | 0,0 | 3 | 37,5 | 3 | 37,5 | 2 | 25 | 8 | 100 | 2,6 | 0,47 |
| Confidentiality requirements legality and ethical aspects | 0 | 0,0 | 1 | 12,5 | 4 | 50 | 2 | 25 | 1 | 12,5 | 8 | 100 | 2 | 1,22 |

STANDARD DIMENSION DEVIATION 1,0

Regarding the particular indicator, it is possible to show that 62.5% of respondents say that sometimes in the Institution there are general requirements corresponding to the technological surveillance
system, however, 37.5% of respondents say that almost always in the institution there are general requirements corresponding to the Technology Watch system, while the other 0% of those consulted always refer, almost never and never respectively; In addition, the standard deviation of the indicator is 1, which indicates a medium level of dispersion and therefore a high reliability index. Consequently, the UNE 166006: 2011 standard establishes that the areas of performance of the Technology Surveillance system must be identified. Be clear in what areas, activities, structures of the department will operate the Technology Watch system. If the Technology Surveillance system has a performance in all departments of the analyzed area / unit (“Full performance”), in the majority (“Enough performance”), in a minority (“poor performance”), in any department (“Null performance”).

The previous indicator is consistent with what was stated by the authors [3], where it raises the aspects that must be treated with a high sense of responsibility, ethicism in addition to the respect of each organization, the forecasts are not a coincidence of The International Association of Professionals of this field, Society for Competitive Intelligence Professionals, SCIP, with more than 5,000 members has developed a deontological code based on professional ethics and strict respect for legality, one of its foundational pillars.

5.2. Dimension: Management responsibilities in technological surveillance

| INDICATOR                                      | S | (S) | (AV) | (CN) | (N) | Totals | MEDIUM INDICATOR | STANDARD DEVIATION |
|------------------------------------------------|---|-----|------|------|-----|--------|-----------------|-------------------|
| Commitment to management                       | 0 | 0.0 | 4    | 50   | 1   | 12.5   | 3               | 37.5              | 0.0               | 1.24              |
| Technology Watch Policy                        | 0 | 0.0 | 0    | 0.0  | 2   | 25     | 5               | 62.5              | 1                 | 1.69              |
| Responsibility authority and communication     | 0 | 0.00| 1    | 12.5 | 1   | 12.5   | 4               | 50                | 2                 | 2.0               | 1.22              |

STANDARD DEVIATION DIMENSION 0.38

Regarding the particular indicator, it is possible to show that 50% of those consulted said that there is almost always a commitment to management in the Institution, corresponding to the Technology Watch system and almost never 35.7%, in turn 12.5% of the consulted refers that sometimes; while 0% of those consulted said that there is always and never respectively in the institution commitment to the direction corresponding to the Technology Watch system, in addition the standard deviation of the indicator is 1.24; which indicates a low dispersion level and therefore a high reliability index. In relation to the aforementioned, the results are in accordance with the provisions of Standard UNE 166006: 2011, the standard sets out the guidelines for the organization in which the importance of the Technology Surveillance system can be visualized. Likewise, meetings must be held, at least quarterly, between the person in charge of the project and the workers to be aware of the development and implementation of the Technology Watch service and ensure that they establish the objectives of the system.
5.3. Dimension: Resource management in technological surveillance

First, the human resources indicator exposes an average 2.33; tending to the category of negative response, according to the scale developed. In addition, the standard deviation of the dimension was 0.23; what allows to interpret a high reliability of the answers and very low dispersion on the particular indicator, allows to show that 37.5% of the consulted ones say that almost never and never exists in the Institution the human resources corresponding to the Technological Surveillance system. Therefore, 25.0% of those consulted said that sometimes there are human resources in the institution corresponding to the Technology Watch system, while the other 0% of those consulted always and almost always refer respectively; In addition, the standard deviation of the indicator is 0.47; which indicates a low dispersion level and therefore a high reliability index.

The particular indicator is consistent with what is established in Standard UNE 166006: 2011 in relation to the number of training courses related totally or partially to specialized databases; The staff must have a minimum of 3 courses related to the previous theme, each of them must have a minimum duration of 4 hours. Management and exploitation of specialized databases. Prepare a report on “tools and information resource available on the internet” on the area that corresponds to the entity, in which the main tools for information search are found. It will be necessary to keep it updated (minimum update every 3 months) Tools and resources to search for information available on the internet.

5.4. Dimension: Performance of technological surveillance.

First, the human resources indicator exposes an average 2.33; tending to the category of negative response, according to the scale developed. In addition, the standard deviation of the dimension was 0.23; what allows to interpret a high reliability of the answers and very low dispersion on the particular indicator, allows to show that 37.5% of the consulted ones say that almost never and never exists in the Institution the human resources corresponding to the Technological Surveillance system. Therefore, 25.0% of those consulted said that sometimes there are human resources in the institution corresponding to the Technology Watch system, while the other 0% of those consulted always and almost always refer respectively; In addition, the standard deviation of the indicator is 0.47; which indicates a low dispersion level and therefore a high reliability index.

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Regarding the particular indicator, it is possible to show that 62.5%, 25% and 12.5% of those consulted, state that almost never, never and sometimes there is a process of identification of needs, sources and means of access to Information in the Institution, corresponding to the Technology Surveillance system, however, 0% of those consulted said that there is always and almost always the process of identifying needs, sources and means of access to Information; In addition, the standard deviation of the indicator is 1.69, which indicates a high level of dispersion and therefore a high reliability index.

According to the previous indicator, the results agree with the UNE 166006:2011 Standard, which states that a procedure must be established by the organization for the identification of information needs. A preliminary document must be prepared that includes a minimum of information (specified above). Identification of information needs to perform searches establishing previous search strategies and actions in the selected sources (descriptors, terminology, keywords, operators used, geographical and temporal segmentation). In turn, the results are in accordance with the statement by the author Winter, (2010). In this sense, the author states that one can aspire to full satisfaction; in the previous fulfillment of the R + D + i profile in order to improve the competitiveness of the organization and act as a promoter for scientific-technological monitoring. Therefore, it is a commitment to be aware of the innovations and technological changes required in the market, as well as the demand of the clients, strengthening the instruction and motivation of the staff of the Technology Watch Committee.

5.5. Dimension: Mechanisms for monitoring technological surveillance.

### Table 7. - Mechanisms for monitoring technological surveillance.

| INDICATOR | (S) | (CS) | (AV) | (CN) | (N) | Totals |
|------------|-----|------|------|------|-----|--------|
| Internal audits | Fa | Fr (%) | Fa | Fr (%) | Fa | Fr (%) | Fa | Fr (%) | Fa | Fr (%) | Fa | Fr (%) |
| 0 | 0,0 | 1 | 12,5 | 4 | 50 | 2 | 25 | 1 | 12,5 | 8 | 100 |
| Monitoring and measurement of the Technological Surveillance process | Fa | Fr (%) | Fa | Fr (%) | Fa | Fr (%) | Fa | Fr (%) | Fa | Fr (%) |
| 0 | 0,0 | 0 | 0,0 | 2 | 25,0 | 4 | 50,0 | 2 | 25,0 | 8 | 100 |
| Monitoring and measurement of the results of the Technology Watch process | Fa | Fr (%) | Fa | Fr (%) | Fa | Fr (%) | Fa | Fr (%) | Fa | Fr (%) |
| 0 | 0,0 | 0 | 0,0 | 2 | 25 | 2 | 25 | 4 | 50 | 8 | 100 |
| Improvement | Fa | Fr (%) | Fa | Fr (%) | Fa | Fr (%) | Fa | Fr (%) | Fa | Fr (%) |
| 1 | 4,17 | 4 | 16,6 | 4 | 16,6 | 8 | 33,3 | 7 | 29,1 | 8 | 100 |

STANDARD DEVIATION DIMENSION 0.31

Regarding the particular indicator, it is possible to show that 50% and 25% of respondents state that, sometimes, almost never, there are internal audits corresponding to the technological surveillance system, however, 12.5% of respondents say that almost always and never; while 0% of those consulted said that there are always internal audits corresponding to the technological surveillance system, in addition the standard deviation of the indicator is 1.22; which indicates a low dispersion level and therefore a high reliability index. From the particular indicator the results are in accordance with the approach of Standard UNE 166006: 2011. According to indicator, Monitoring and measurement of the technological surveillance process, it exposes an average of 2.66; This indicator allows us to show that 50.0% of respondents say that almost never and 25.0% say that sometimes and never, while 0% of respondents always and almost always refer, there is monitoring and measurement of Technological
surveillance process, in addition the standard deviation of the indicator is 0.94; which indicates a moderate level of dispersion and therefore a high reliability index.

These results coincide with the provisions of Standard UNE 166006: 201 Corrective action to eliminate “non-conformities”, in the VT / IC system in order to prevent them from happening again should be established. The area coordinator will be in charge of performing these tasks. A report will be produced that will collect the requirements. The elaboration of the same in its employees, as long as it continues supervising it. The Preventive Action in the same way specifies Standard UNE 166006: 2011, which to eliminate the causes of “non-conformities”, among other potentials in the VT / IC system in order to prevent them from happening again, a procedure must be established.

5.6. Dimension: Positioning of university institutions.

| INDICATOR                        | Fa (%) | Fr (%) | Fa (%) | Fr (%) | Fa (%) | Fr (%) | Fa (%) | Fr (%) | Fa (%) | Fr (%) | X   | X   |
|----------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-----|-----|
| Positioning according to technological capacity | 12.5   | 0      | 12.5   | 0      | 12.5   | 5      | 62.5   | 1      | 12.5   | 8      | 100 | 2   |
| Durability of the competitive advantage | 12.5   | 0      | 0      | 0      | 5      | 62.5   | 1      | 12.5   | 1      | 12.5   | 8   | 100 | 2   |
| Return                           | 12.5   | 0      | 0      | 0      | 5      | 62.5   | 1      | 12.5   | 1      | 12.5   | 8   | 100 | 2   |
| Uncertainty and risk             | 12.5   | 1      | 25.0   | 3      | 37.5   | 2      | 25.0   | 0      | 0.0    | 8      | 100 | 3.08|

First, the indicator Positioning according to technological capacity, exposes an average 2; tending to the low response category, according to the scale developed, in addition the standard deviation of the dimension was 0.54; what allows to interpret a high reliability of the answers and very low dispersion. Regarding the particular indicator, it shows that 62.5% of respondents almost never refer; and 12.5% of respondents said that almost always, sometimes and never. However, 0% of respondents say that there is always positioning according to technological capacity university institutions corresponding to the technological surveillance system. In addition, the standard deviation of the indicator is 1.73; This indicates a high level of dispersion and a high reliability index. The results are in accordance with the statement by the author [6] where he states that technologies in the face of their interest in technological innovation processes can be classified with generic criteria and that they have an endogenous root, typical of technology, is say, they value their difficulty, their grade.

These results coincide with the author [6], where he postulates the analysis of the risk that has been mentioned before, provides, at least, two other indicators of attractiveness. Project One is the probability of technical success, in the sense that the project meet the intended objectives and other, the probabilities of commercial success, that is, the probability that, in addition, the result of the project will be translated into new products, processes and services or improvements for those currently offered by the company that are valued by customers and consequently, bought by them. In many cases a single risk factor calculated from the product of the previous two is used.
6. Conclusions

After carrying out the analysis and discussion of the results, taking into account the objectives of the investigation, the following conclusions were reached: In relation to the first specific objective, which refers to identifying the requirements of the technological surveillance system as an element for the positioning of public universities. It was possible to establish that in the components of the technological surveillance the identification, the object of study or critical factors prevail, because the processes of the technological surveillance include all kinds of documentation that can be used for the analysis and reflection on business management strategies. In this sense, the organization must focus its efforts on mission objectives.

Regarding the second specific objective, which refers to describing the responsibilities of management in technological surveillance as an element for the positioning of public universities, it was established that the Center for Technological Development or Systems Department plays a predominant role, as opposed to To the character of the external development of the Information and Communication Technologies of an aggressive nature, the most obstacle-free alternative in the short term has to do with the capacity of these centers, by quickly identifying technological advances, making a strategic reading of they, in terms of identifying the opportunities and / or threats that are generated on a day-to-day basis. The institution must creatively take advantage of these opportunities; To this end, technological capacities must be developed to identify and evaluate the competitive impacts of their environment.

Regarding the third specific objective, to characterize the management of resources in technological surveillance as an element for the positioning of public universities, it was established that the absorption of the technological changes identified requires, in some cases, a deep technological and productive reconversion. Which requires senior management some capital investment commitments and training of technology area personnel, in the opinion of the experts consulted they must be an essential condition in the solution of the characterization in the management of technological surveillance in university positioning public.

In relation to the fourth specific objective, which refers to describing the performance of technological surveillance as an element for the positioning of Public Universities. It could be established that it is a systematic and organized process of searching, capturing and filtering information, preferably automated, of which a number of documents are generated, which must be organized and systematized to serve as an aid to decision making anticipating to external threats and opportunities that affect business strategy and research in science and technology. Regarding the fifth specific objective, it refers to establishing the monitoring mechanisms in technological surveillance as an element for the positioning of public universities. It could be established that everything.

The process requires feedback, which helps to enrich the exercise itself, in this sense of the technological surveillance projects, they are not alien to the audit processes and monitoring the information processed by the technological surveillance systems, in the era of knowledge management, where information abounds, is relevant and of extreme importance the processes of analysis of the results for its success. Regarding the sixth specific objective, the elements that characterize the positioning of university institutions were analyzed based on the efforts of technological surveillance. It was established that positioning is one of the most managed concepts in the world of current administration, and yet it is one of the worst understood when defining and putting it into practice.

In this sense, technological surveillance will support the management of corporate identity, as well as communications, which represents what public universities intend to convey to the target audience, in this same order of ideas is the perceived image, which is how the environment looks at the academic community. In accordance, with what is indicated in the first conclusion, it is the stamp or imprint that public universities want; To be recognized and to alternate what the competition is doing, in the continuous or systematic exercise of the technological surveillance process, it is key to enduring in time and in the opinion of the experts consulted it must be an essential condition within the
institutions. The solution of the characterization in the management of technological surveillance for the positioning of public universities.

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