

REVIEW OF ARTICLE: “Synergy between Competitive Intelligence (CI), Knowledge Management (KM) and Technological Foresight (TF) as a strategic model of prospecting - The use of biotechnology in the development of drugs against breast cancer”

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The text discusses concepts such as Competitive Intelligence (CI), Knowledge Management (KM) and Technological Foresight (TF) in the Biotechnology field and in particular on how a strategic model of data prospecting can work as a mechanism to support the decision making process so that it can be in line with sustainable development. The article uses the development of drugs against breast cancer to illustrate its thesis.

First of all, the author emphasizes on how biotechnology can be a key sector in knowledge societies in order for them to achieve sustainable and sustained growth. Emerging economies like Brazil, India or China are demonstrating great economical achievements by empowering R+D activities in this field. The management of innovation at national, regional and local level (local R+D+I activities linked to global tendencies, “think globally, act locally”) is indeed essential for success in the global economy. The synergy of the added value chain is also a key factor for success.

Guarantying competitiveness and welfare of modern economies demands products of higher value, flexibility, cost rationalization and innovation. To meet these demands, approaches like CI, KM and TF become more and more important. In this context, unified innovation systems can help rationalize resources. One proposal for achieving this goal is SSIP (Sectoral System of Innovation and Production) presented by Malerba (2003). This approach is based on analyzing sectoral particularities, differences, and similarities and also on the collaboration for the development of public policies.

Canongia then presents its model of prospecting strategy for R+D-intensive sectors. The model aims to explore the synergy of CI, KM and TF and proposes two pre-phases plus 5 steps of analysis:

- a. Contextualization: presentation of the topic to be studied;
- b. Identification of critical factors of that particular sector;
 1. Identification of trends in R&D and technologies and the competencies of the country or countries;
 2. Content analysis: analyze trends in R&D and technologies and the competencies of the country or countries;

3. General evaluations of the trends identified by means of interviews with stakeholders, seeking validation and new input;
4. Global analysis of the content obtained in the previous stages, in order to indicate opportunities and forces, threat and weaknesses;
5. Recommendations aimed to defining actions related to the economic, social and technological aspects, and arranging these according to their length perspective (in the short, medium and long terms) all in order to support the decision making process.

The author then digs deep into the study case “The use of biotechnology in the development of drugs against breast cancer in Brazil” to illustrate how these steps are applied in a practical case. In step 5, particular recommendations for the study case are presented and categorized into: offensive and defensive actions; vulnerabilities to overcome; and economic, social and technological aspects to consider. All the recommendations are distributed according to the time dimension (short, medium and long term). As an example of this, a table with the short term recommendations is presented in the article (table 4).

The article concludes, firstly, that the use of the methods described can indeed contribute to the creation of greater value in the development of R+D and innovation activities in a country or region (in this particular case, biotechnology for the development of breast cancer drugs in Brazil). The strategic model of data prospecting, based both on the synergy “CI – KM – TF” and the tripod “Trends – analysis – stakeholder”, can offer alternatives on how the future will unfold and can also warn about the problems that need solutions in the temporal perspective that is being considered. In the end, the objective is to help make better decisions.

Finally, C. Canongia argues that even though it is clear that the US is leading the scientific community in the biotechnology field, emerging countries still have the chance to catch up, and attract Foreign Direct Investment (FDI). This is possible because of the enormous potential of growth that exists in this sector. Their challenge then consists on attracting investment and generating Technological Transfer (TT) that can contribute to their social and economical development.