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Research Paper

Patents as a source of strategic information: The inventive activity in Morocco

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Abstract. This paper aims to shed light on how the patent analysis can provide strategic information. The methodological approach is qualitative based on a study of the patent market in Morocco. Its purpose is to analyze, from a strategic management perspective, the actions carried out in this area. To do so, interviews were conducted with the main stakeholders of the patent market in Morocco for the data collection. This paper is organized as follows: the first part will lay down a state-of-the-art patent from a theoretical standpoint. The second part will present the methods of patent analysis. Finally, the third part will focus on the patent analysis in Morocco.

Keywords: Patent, strategic information, intellectual proprieties.

INTRODUCTION

The identification of new markets, new technologies and new trend markets are essential for companies who want to ensure a sustainable competitive advantage. To do so, the resources to acquire should be ones with which the companies can achieve and maintain a sustainable competitive advantage. That is, these resources ought to be rare, valuable and difficult to imitate.

The emergence of the resources-based theory has questioned the research paradigm resulting from adaptation to market constraints. Strategic management is now based on the evaluation of the company's resources, and in so doing, highlights the primacy of resources in the development of competitive advantage (Allouche and Schmidt, 1995).

Amit and Shoemaker (1993) distinguish between two types of resources: tangible and intangible resources. Organizations in their ongoing quest to create and support a sustainable competitive advantage, due to a changing environment, should effectively manage their resources. Wernerfelt (1989) identifies three categories of resources: fixed assets with long-term capacity (factories, equipment, employees with specific training, etc), the blueprints with unlimited capacity (patents, trademarks, reputation, etc) and impact team or routines.

In today's competitive business environments, the transformation of content found in patents into technical, business, and legal insight is getting much attention as a tool to aid in efforts to secure competitive advantages (Park et al., 2013). On that, our research aims to build a comprehensive framework that has both empirical and theoretical grounding on the role of patents as a source of strategic information.

This paper is divided into three parts. The first part aims at exploring the role of patents in strategic management. The second part focuses on the patent analysis. Finally, the third part presents the inventive activity in Morocco.

The patent in the strategic management

The patent is granted to the inventor (or assignee) through which they have the exclusive right to exploit the invention directly or indirectly (Breese, 2002) as a competitive advantage. This choice involves a trade-off between several criteria which include: the deposit

requirements (novelty, nature of the invention), the competitive position (Breese, 2002), the cost of protection and return on investment (Campes, 1987), the difficulty to imitate the invention (Campes and Moreaux, 1995), the consistency of the invention with the company's business (Ribault et al., 1991), collaborative strategies considered (Allegrezza, 1998) and finally trust granted to employees (Hannah, 2005).

The patent in the company's strategy

Research on patents affects the legal side of the pane where it plays a protection role against imitation. However, the patent appears increasingly as a multifaceted strategic tool (Hufker and Alpert, 1994; Nickerson and Silverman, 1998).

Indeed, the objective of the patent is to promote the dissemination of technical information to grant a monopoly limited to a duration of 20 years. This is a means of blocking or deterring competitors from the use or exploitation of certain technologies (Le Bas and Mothe, 2009, The Netherlands, 2002; Bellon, 2001; Campes and Moreaux, 1995). However, Blind et al. (2006) indicate that the traditional function of the patent appeal is now largely superseded by strategic logic ("Strategic patenting"). Other research has shown that the patent could have other roles or objectives.

Marquer (1985) thinks that the patent may be dependent on its use objectives and expected effects. The direct effects are, on one hand, a search of a monopoly position to protect themselves from the attacks of competitors, to prohibit counterfeiting, to enhance intangible assets and/or create barriers to entry. On the other hand, to gain a patent is considered more as a medium of exchange for access to competitors or a marketable asset to technologies. Indirect effects lead to the accumulation of technological reserve which may be exploited later to enhance the image of the company or the communication and informational documentary.

Other research has completed this typology indicating that the patent is a differentiation tool (Grindley and Teece, 1997), a means of collaboration sometimes giving free licenses to competitors (Allegrezza, 1998; Shapiro and Varian, 1999; Demil and Lecocq, 2002), or an access to technology competitors through cross-licensing agreements (Hall and Ziedonis, 2001) facilitator. These strategies aim to develop the patent portfolio to increase its profitability or gain market share. This approach can be characterized as income strategy (Chaouat, 1999).

Management of patent

The patent strategy is closely related to organizational modalities, including modalities for collaboration between the fields of research, Marketing and Industrial Property (Marquer, 1985; Granstrand, 1999). According to Granstrand (1999), the organization of the management of patents depends on the size of the firm and its degree of internationalization. It can be outsourced to other companies or internalized in one single department or a dependent of one or more departments' service.

Therefore, the management of intellectual property can be conferred, in whole or in part (deposit or exploitation) in the pilot unit for patents. This unit, called "Patent Department", "group of industrial property" (Sproule, 1999; Grindley and Teece, 1997) or "group knowledge management" (O'Dell, 1998), may also be responsible for the dissemination of information on patents in the company. It is versatile, incorporating specialists from different backgrounds: legal, technical, managerial or marketing (Napper and Irvine, 2002; Granstrand, 1999). The management of the unit is assigned to a responsible but hierarchical rules are not rigid as the nature of the work requires temporary mini-teams working on specific tasks.

Concerning the decision on patents, the patent departments: R&D, production, finance, marketing and general management are considered key stakeholders (Bresse, 2002; Napper and Irvine, 2002). According to Marquer (1985), the department responsible for patents, the R & D and top management involve the legal point (filing and prosecution of counterfeiters legal negotiations).

At this level, Napper (2002) emphasizes the participation of the marketing department, especially during the deposition. Meanwhile, Gaillard (1997) refers to the collaboration between the department of R&D and Marketing for the successful transformation of invention into innovation. In terms of operating or recovery of the patent, it is useful to combine the marketing department and R&D (Marquer, 1985). From the outside, the departments of marketing, Patent and Top management cooperate for the success of the project. However, participation of all functions is essential to optimize the management organization of the patent.

Ayerbe and Mitkova (2006, 2008) studied the organization set up in patent departments of large French companies. They showed that departments having an offensive strategy in the sense of the value of their portfolio have certain characteristics compared to companies taking a more defensive strategy. These characteristics, held in the largest weight in the patent department decisions, had greater proximity hierarchical management and greater diversity of profiles.

From their part, Corbel et al. (2007) identified the three largest expense items of a common patent department which are: deposits, extensions and annuities maintenance. These posts, especially the last two, are much more important in terms of cost for a company seeking protection against imitation or search royalties to protect its freedom to operate.

Another point in terms of the organization relates to the

formalization and centralization decisions of deposit which may be limited to the department responsible for patents or are decentralized in "business units" or other cross-organizational forms (Granstrand, 1999).

From his part, Gilardoni (2007) explored the relationship between the goals of the patent strategy, strategic actions and portfolio management patent. These studies reveal five types of configurations: the aggressive approach, the active approach, the selective approach, the passive approach and the approach based on the reputation.

BACKGROUND AND LITERATURE REVIEW

There is a long history in economics about the use of patent data to understand the processes of invention and innovations (Griliches, 1990; Schmookler, 1966). Patent data is an important source of competitive intelligence that enterprises can use to gain a strategic advantage. This section highlights the core background knowledge and related literature of the research, including patents as sources of strategic information and patent analysis.

Patent, source of strategic information

Patents contain dozens of items for analyses which can be grouped into two categories: structured and unstructured items. The structured items are consistent in semantics and formats across patents (e.g. patent number, filing date, inventors, and assignees) while the unstructured items are text of contents having different structures and styles (e.g. descriptions and claims) (Lee et al., 2011). Shih et al. (2010) argue that the patent represents a source of information that the company can use to gain a competitive advantage. According to Kehoe and Yu (2001), a company can use patent documents in order to:

i) Monitor technological developments;
ii) Identify emerging trends in the industry;
iii) Monitor trends in information technology;
iv) Identify experts and potential employees;
v) Identify joint ventures;
vi) Identify potential partners for joint venture opportunities or merger / acquisition;
vii) Identify opportunities for licensing of products;
viii) Identify competitors and monitor new competitors;
ix) Monitor the activities and plans of competitors, and their R & D activities;
x) Analyze investment opportunities.

For Wanise et al. (2009), the patent information is very important to:

i) Improve the quality of patent applications;
ii) Understand the general situation of the business environment;
iii) Identify alternative technologies;
iv) Identify the owners of alternatives or alternative technologies;
v) Identify information technology and business, involving companies and specific individuals as applicants and their dependents;
vi) Investigate the novelty and inventive step of an invention.

Given the strategic importance of patents for business and in the definition of strategies, it would be interesting to present the main tools and methods of analysis presented in the literature.

Patent analysis

A variety of sectors have extensively employed patent analysis, including: entire nations, industries, firms, and technological fields (Son et al., 2012). Patent analysis has long been considered as a useful analytic tool for technology monitoring. It provides a unique opportunity to satisfy the need for conceptual or qualitative analyses of technological change and empirically explains most aspects of technological innovation (Lee et al., 2011).

Many patent analysis methods have been developed to support decision-making in technology planning. Overall, they can be classified into two approaches: the bibliographic and the content-based approach. The bibliographic approach uses bibliographic patent information including: citations, applicants, inventors, and international patent classification (IPC) codes. The content-based patent intelligence tools are increasingly being proposed by researchers. One representative content-based approach method is keyword-based analysis (KWA) (Park et al., 2013).

According to Tseng et al. (2011), the process of the patent analysis is to use statistical analysis, multivariate analysis or other quantitative models to analyze and interpret each field of a patent. For example, the filing date, the name of the assignee, assignee countries, and international classification

Furthermore, according to Bonino et al. (2010), the patent analysis can be divided into two categories respectively connected to a micro and a macro analysis. The micro analysis involves a single patent document, while macro analysis relates to a patent portfolio. The authors speak of analysis tasks which are classified on the basis of their underlying reasons. Indeed, some analysis are driven by the needs of the company, including assessment of intellectual property through the use of available data on the size of the family of patents and the number of citations to estimate the value of patent.

As patents contain huge volumes of structured and

unstructured data, it requires tools that are effective enough to accomplish the analysis tasks. There is no apparent classification of conventionally utilized tools and techniques for patent analysis (Abbas et al., 2014). However, the vast literature on patent analysis has used patent trend change mining, data envelopment analysis and formal concept analysis for analyzing the patent content.

Patent trend change mining (PTCM)

According to Shih et al. (2010), the objective of change mining is to discover changes in two datasets belonging to different time periods. Change mining approaches can be classified into two types: Decision Tree Models and Association Rules. They developed a technique for patent analysis called Patent Trend Change Mining (PTCM). This technique allows to transform patent documents into formatted data and then identify the most common orientations. It is then to study the trend of patent on a specific period and then observe the trend changes over two time periods. PTCM uses data mining models such as decision trees and association rules.

The results of the patent analysis are generally presented in graph form or tables to specialists, researchers and practitioners of R & D, in order to plan their strategies (Shih et al., 2010). These graphs and tables provide quantitative measures such as the number of patents held by the transferee, the number of patents per organization, per domain and qualitative measures such as the origin of patent applications.

Data envelopment analysis (DEA)

Hyeonju et al. (2011) propose an alternative method of the patent analysis based on patent analysis of data envelopment (DEA). This technique was developed by Rhodes in 1978, and detailed by Charnes et al. (1978). According to Yu-Shan and Bi-Yu (2007), DEA is a method that applies the techniques of nonlinear programming to analyze multiple inputs and outputs of a process of decision making. This technique uses statistical analyses such as: Pearson correlation, non-parametric statistical tests, cluster analysis, ANOVA (Yu-Shan and Bi-Yu, 2007).

Formal concept analysis (FCA)

Formal concept analysis (FCA), first proposed by Wille based on the lattice theory of Birkoff, is a mathematical tool for analyzing the relations among objects with shared properties. Based on the historical cases, it provides a hierarchy of cases to be understood easily and effectively (Lee et al., 2011). It is used for the analysis of information described by properties and visualized in Hasse diagram. First, the information is expressed by a 2-dimensional table whose row expresses each text document. Second, the column expresses whether the document has each property or not. This table is called formal context of the information (Moriki and Yoshida, 2010).

Many applications of FCA to real-life problems in information retrieval, database management systems, data mining, software engineering, and many other disciplines have been demonstrated during the last decade (Deoguna and Saquer, 2004).

METHODOLOGY

Patent data is considered strategic by all the actors because it concerns the perspectives, the future conditions wished by their owners and therefore their competitiveness. Consequently, the data collection can be conducted only through interviews, with the aim of reassuring the actors and inciting them to supply information.

The interviews themes are varied and particularly concern following:

1. Business sectors of patentees;
2. Type of patentees;
3. Number of patent registrations;

Data was collected by semi directive interviews with the OMPIC [1], the Ministry of Industry, Trade and New Technologies and the CNRST[2], and analysed through PTCM method.

RESULTS AND DISCUSSION

In the hyper competition world and internationalization markets the innovation, as the main engine of the economic growth, is imperative more than ever. The reason behind this is the fact that the innovation in Morocco knows a constant evolution and a particular interest because of its repercussions on the economic growth.

In terms of patent registrations (Table 1), Morocco knows an obvious delay because only 1017 patents were registered in 2012. This number is in a light reduction of 0.49% in comparison to 2011.

On 1017 patents registered in 2012, 80.72% are from foreign patentees who have no industrial activity in Morocco. This proportion is constant in Morocco because the foreign registrations were always superior to Moroccan ones. This tendency has become more important between 2004 and 2012.

Between 2009 and 2012, about 62 Moroccan patents were recorded. This important increase can be explained

[1] Moroccan Office of Intellectual and Commercial Property
[2] National Center of Scientific and Technical Research

Table 1: Patents by number of registrations.

Year	2004	2005	2006	2007	2008	2009	2010	2011	2012
Number of registrations	561	660	910	932	1011	929	1007	1022	1017
Moroccan registrations	104	140	178	150	178	134	151	167	196
Foreign registrations	457	520	732	782	833	795	856	855	821

by the launch of the Initiative Morocco Innovation in 2009. This initiative aims, by the end of 2014, to reach the registration of 1000 Moroccan patents and the creation of 200 innovative start-up[3]. To pursue this increase, it would be necessary to promote the culture of the industrial property through actions carried out to diverse levels, and to support the quality of Moroccan innovation patents.

Also, it is to indicate that the number of foreign patent registrations decreased by 4.78% between 2008 and 2009. This backward movement can be due to the restrictive policies of the foreign companies which, in times of crisis, limit their patent registration in the countries which do not present an important development potential.

According to Table 2, most of these patents concern the chemistry and the mechanical engineering sectors. In 2012, 54 patents registered in the OMPIC concerned "mechanical engineering" with 29 patents and "Chemistry" with 25 patents. "Electrotechnics" and "Other domains" represent almost the same proportion with respectively 20 and 19 patents, while the "Instruments" sector registered 13 patents.

In 2012, 106 Moroccan registrations concern only the requests settled and accepted. 90 remaining applications for a patent (difference in number of registration between Tables 1 and 2) concern the rejected or pending requests. They were not included in this sectorial distribution because of a lack of information about the patent content or incomplete data on the patent recording document.

Concerning universities of patent registrations (Table 3), they knew a continuous growth particularly in 2010. In 2011, the number of registrations decreased by 25% to find a light increase in 2012.

Things being what they are, the commitment of the Moroccan universities to the patent registration has known a continuous progress since 2008. It has reached 12 universities in 2012 from a total number of 14 universities[4] in Morocco.

This quantitative jump in terms of patent registrations and the commitment taken by universities about patents is the result of the cooperation between the Moroccan Office of the Intellectual and Commercial Property (OMPIC) and the universities. Ten agreements were signed in 2010 and five in 2011 to cover all the universities and research centers in Morocco. Furthermore, awareness-raising activities, in particular training and projects identification days, were organized in several institutions to encourage and develop the innovation.

Concerning the ranking of universities in terms of patent numbers, Hassan II and Cadi Ayyad universities held the top of the list in 2012 with seven patent registrations (Table 4). It is especially the Cadi Ayyad university which draws the attention about this quantitative jump in the number of patents knowing that in 2011 it was not even mentioned in this ranking.

This increase was expected because in 2011 the OMPIC had launched an initiative called "Moubtakir" with the aim of encouraging the innovative projects realized in universities and to bring attention to the importance of the intellectual property. Besides, 2012 knew a first patent registration stemming from collaboration between two universities and two research centers which shows the birth of a new registration strategy.

As shown in Tables 5 and 6, the business sectors of patent registrations in 2011 and 2012 are varied.

Four business sectors are specifically targeted by Moroccan universities: the computing technology and telecommunications, the mechanical engineering, the environment technologies and the machines and tools. Furthermore, it should be noticed that university of Hassan II in Mohammedia is more active on the sector of mechanical engineering with six patents and seven patents in computing technologies and telecommunications. The University of Hassan II Ain Chock has three patents in the sector of environmental technologies and the university Hassan the 1st of Settat has two patents in the sector of machines and tools for the university Mohammed V Agdal.

In 2012, business sectors of patent registration have changed. In fact, Hassan II Mohammedia University focused on the sectors of chemical energy, materials and medical technologies. The Caddi Ayyad university preferred to target the sectors of Machines and tools, and chemistry and techniques of measurement Sidi Mohammed Ben Abdellah University of Fes was interested in the sectors of medical technologies and techniques of measurement. The sector of transportation was exclusively targeted by the University Abdelmalek Essaadi, while Hassan the 1st university of Settat was interested, at the same time, in the technology of the environment, the chemical engineering and the sector of machines and tools.

In 2012, this centering on other business sectors such

[3] Report of Moroccan Innovation Initiative, MICNT, 2009

[4] Al Quaraouiyine University of Letters and Religious Sciences is not included.

Table 2. Registrations by business sectors.

Business sectors		Number of registrations 2011	Number of registrations 2012
I: Electrotechnics		37	20
1	Machines and electric devices, electrical energy	10	7
2	Broadcasting technologies	8	2
3	Telecommunication	2	3
4	Digital communication	2	1
5	Communication techniques	1	0
6	Computing	11	7
7	Methods of data processing for management purposes	0	0
8	Semiconductors	3	0
II: Instruments		29	13
9	Optics	0	0
10	Techniques of measure	14	8
11	Analysis of biological equipments	0	0
12	Control systems	7	3
13	Medical technology	8	2
III: Chemistry		31	25
14	Organic chemistry	3	0
15	Biotechnology	1	1
16	Pharmaceutical products	4	9
17	Macromolecular chemistry, polymers	2	0
18	Food chemistry	5	5
19	Basic chemistry	5	1
20	Materials, metal industry	2	3
21	Techniques of surface, cover	2	0
22	Technology of microstructures, nanotechnology	0	0
23	Chemical engineering	2	2
24	Ecotechnology	5	4
IV: Mechanical engineering		46	29
25	Handling	4	3
26	Machine tools	7	3
27	Engines, pumps, turbines	10	5
28	Paper and textiles machines	0	3
29	Other special machines	6	2
30	Processes and thermal devices	6	5
31	Mechanical elements	4	2
32	Transport	9	6
IV: Other sectors		24	19
33	Furniture, games	5	7
34	Other consumer goods	7	1
35	Civil engineering	12	11
Total		167	106

Table 3. Evolution of Moroccan universities registrations of patents.

Parameter	2008	2009	2010	2011	2012
Universities registrations	1	11	40	30	31
Number of universities	1	4	11	10	12

Table 4. Number of patents by University in 2011 and 2012.

University	Number of registrations in 2011	Number of registrations in 2012
University Abdelmalek Essaadi, Faculty of Sciences and Techniques in Tanger	1	3
University Abdelmalek Essaadi, Faculty of Sciences in Tétouan	0	1(*)
University Chouaib Doukkali	1	1
University Hassan 1er – Settat	3	3
University Hassan II Aïn Chock -Casablanca	7	2
University Hassan II Mohammedia	6	7
University Sidi Mohamed Ben Abdellah	2	4
University Mohammed V Agdal	3	1(*)
International University of Rabat	3	0
University Ibn Tofaïl	1	1
Agronomic and veterinary institute of Hassan II	3	0
University Cadi Ayyad - Marrakech	0	7
University Ibn Zohr - Agadir	0	2
University Chouaib Doukkali	0	1
Total	30	31

(*) The two universities have registered a common patent with the collaboration with Research Institute for Development (Institut de Recherche pour de Développement -IRD) and the National Center of Energy, Sciences and Nuclear Techniques (CNESTEN).

Table 5. Patent registrations by university and business sectors in 2011.

Date of publication	University	Business sectors
02/10/2011	University Hassan 1er	Environmental technology
01/07/2011	University Hassan II Ain Chock	Computing technology
01/07/2011	University Hassan II Ain Chock	Computing technology
01/07/2011	University Hassan II Ain Chock	Telecommunication
01/08/2011	University Hassan II Ain Chock	Computing technology
02/10/2011	University Hassan II Ain Chock CASABLANCA	Techniques of surface, cover
02/10/2011	University Hassan II CASABLANCA	Techniques of measure
01/12/2011	University Hassan II-MOHAMMEDIA	Mechanical engineering
01/12/2011	International University of Rabat	Processes and thermal devices
01/12/2011	International University of Rabat	Semiconductors
01/12/2011	International University of Rabat	Engines, pumps, turbines
01/08/2011	University Mohammed V Agdal	Chemical engineering
01/08/2011	University Mohammed V Agdal	Machines and electric devices, electrical energy
01/08/2011	University Mohammed V Agdal	Machines and electric devices, electrical energy

as transportation, medical technologies, and chemical engineering testifies as a will to diversify the research subjects and to target those with a high added value.

CONCLUSION

This article aims to show, on one hand, the role of the patent in the strategic management, and more specifically its role as a supplier of strategic information. As an example, the patent can play an important role in the identification of R&D partner or potential partners for a joint-venture. Also, the patent enhances research in the public and private sectors by allowing inventors to take advantage of their realizations. On the other hand, the

Table 6. Patent registrations by university and business sectors in 2012.

Date of publication	University	Business sectors
02/01/2012	University Abdelmalek Essaadi, Faculty of Sciences and Techniques in Tanger	Transport
02/01/2012	University Chouaib Doukkali	Medical technology
02/01/2012	University Hassan 1st - Settat	Chemical engineering
02/01/2012	University Hassan 1st – Settat	Other special machines
02/01/2012	University Hassan II Aïn Chock -Casablanca	Techniques of surface, cover
01/02/2012	University Hassan II Mohammedia	Chemical engineering
01/02/2012	University Sidi Mohamed Ben Abdellah- Fes	Techniques of measure
01/02/2012	University Sidi Mohamed Ben Abdellah- Fes	Techniques of measure
01/02/2012	University Sidi Mohamed Ben Abdellah- Fes	Medical technology
02/05/2012	University Abdelmalek Essaâdi, Faculty of Sciences in Tétouan	Environmental technology
02/05/2012	University Ibn Tofail – Kenitra	Environmental technology
02/05/2012	University Mohammed V – AGDAL, Faculty of Sciences in Rabat	Environmental technology
02/05/2012	University Abdelmalek Essaâdi	Materials, Metal industry
02/05/2012	University Hassan II Mohammedia	Medical technology
01/06/2012	University Hassan II Mohammedia	Chemical engineering
01/06/2012	University Abdelmalek Essaadi, Faculty of Sciences and Techniques in Tanger	Techniques of measure
03/07/2012	University Cadi Ayyad – Marrakech	Chemistry of materials
03/07/2012	University Cadi Ayyad – Marrakech	Chemistry of materials
03/07/2012	University Ibn Zohr – Agadir	Chemistry of materials
03/07/2012	University Cadi Ayyad – Marrakech	Techniques of measure
03/07/2012	University Cadi Ayyad – Marrakech	Techniques of measure
03/07/2012	University Cadi Ayyad - Marrakech	Other special machines
03/07/2012	University Cadi Ayyad - Marrakech	Other special machines
03/07/2012	University Sidi Mohamed Ben Abdellah – Fes	Pharmaceutical products
01/08/2012	University Hassan II Aïn Chock -Casablanca	Techniques of measure
01/09/2012	University Ibn Zohr – Agadir	Other special machines
01/09/2012	University Cadi Ayyad - Marrakech	Machines of Textile and paper
02/10/2012	University Hassan II Mohammedia	Chemical engineering
02/10/2012	University Hassan II Mohammedia	Chemical engineering
02/10/2012	University Hassan II Mohammedia	Chemical engineering
02/10/2012	University Hassan 1st – Settat	Environmental technology
03/12/2012	University Hassan II Mohammedia	Materials, Metal industry
03/12/2012	University Moulay Ismail	Techniques de measure

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article suggests exploring the methods of patent analysis. In this paper, two methods of analysis were presented, the method PTCM and the method DEA. Only the method PTCM was used for the empirical study because it allows more accessibility to data.

The empirical study was based on interviews with the actors of the creative activity in Morocco, like the Moroccan Office of the Industrial and Commercial Property (OMPIC), the Ministry of Industry, Trade and New Technologies (MICNT), and the National Center for the Scientific and Technical Research (CNRST). Empirical observations prove that the creative production in Morocco remains very low, even if many initiatives were launched, and modifications were brought to patent regulations in Morocco over the last years.

Also, the objective of the Morocco Innovation initiative to reach 1000 Moroccan patents by 2015 is far from being realized. In 2012, only 196 patent registration requests were recorded.

Aware of this delay, the Ministry of Industry, Trade and New Technologies has set up a program of 13 projects with 4 axes which are the governance, the infrastructure, the financing and the mobilization of the talents[5]. The analysis of these four axes shows that a huge work is to be done regarding the creative production in Morocco.

Over the past years, Morocco has launched ambitious sectorial strategies. It is in particular about the national

[5] Speech of the S.G. of the Ministry of Industry, Trade and New Technologies, the Innovation Summit, February 22nd, 2011.

pact Emergence, the plan Rawaj, the strategy Morocco Numeric and the initiative Morocco Innovation. On that, Will these sectorial strategies be sufficient to take up the challenge of 1000 Moroccan patents by 2015? Morocco has to direct its efforts of innovation measured within this article by the number of patent registration, on the six Moroccan World Business sectors (offshoring, automobiles, aeronautical and spatial, electronics, textile and leather, food-processing industry) for which the country possesses clear and exploitable competitive advantages through dedicated development programs.

To this end and to answer these questions, this article must be complemented by other researches and studies on the six Moroccan World Business sectors to analyze the impact of sectorial strategies on the inventive activity.

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