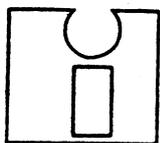


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WORLDINTELLECTUAL
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INVENTORS AT THE DAWN OF THE NEW MILLENNIUM: WIPO-IFIA INTERNATIONAL SYMPOSIUM

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PROMOTION OF NATIONAL INVENTIONS AND INNOVATIVE ACTIVITIES:
PRESENTATION OF THE "CREATIVITY PROJECT"

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I. INTRODUCTION

1. Technological progress depends fundamentally on inventions and innovations. Nowadays an invention is regarded as an idea, a creation, that can serve for the achievement of a process or making of a product or a new or improved system. Invention is confined to the field of knowledge, and therefore has only potential economic value until it is incorporated in the production of goods and services for the market.
2. Innovation, on the other hand, is characterized by the use of the invention in production, and is only complete in economic terms when the first commercial transaction occurs that involves the process, the new product, etc.
3. The success of an innovation depends not only on its technical viability but also and above all on its market acceptance.
4. One of the important things with which to promote inventions, without any doubt, is the patent system, or in more general terms the intellectual property system.
5. The exclusive rights conferred by the patent are an important incentive to inventive activity now that research and development (R&D) costs are generally so high, and also when human and material resources have to be taken into account.
6. If there is no legal protection for inventions, they will be open to commercial exploitation by anyone, including those who have not made any R&D investment.
7. The economic and technological effect of intellectual property rights on the R&D activities of technology companies and institutions is quite considerable. The protection of rights increases the efficiency with which the inventive activity involved in innovation can be managed and exploited. In addition, it stimulates the creativeness of employees within companies and research institutes and creates a competitive environment.
8. It does however have to be mentioned that, while intellectual property is an important instrument for stimulating invention and innovation, many other practical factors contribute to an invention's success or failure. These are the securing of legal protection for innovations does not automatically assure them of success on the market.
9. A great deal of work has to be done during the period between the inventive act and the successful implementation and marketing of the innovation based on the invention. During that period of development of the innovation external factors, for instance economic, technical or regulatory constraints, which are beyond the control of the innovator may cause it to succeed or fail.
10. Studies of the factors that affect technological innovation have revealed that the great majority of successful innovations are developed in response to demand. So successful innovations are generally the result of the identification of a market need.
11. The commonest reasons for failures in innovation have been identified as the following: marketing errors, difficulties in identifying and developing new markets, inadequate management and lack of capital among others.

12. The following points have to be borne in mind for the promotion of inventive and innovative activities within a company:

- There have to be clear rules on the mutual obligations of employees and employers regarding the inventions of the former, and also systems for compensation and licensing;
- Employees have to be given sufficient information on matters of industrial property;
- There has to be cooperation between inventors and the patent departments of their companies; alternatively, in the case of smaller companies that do not have dedicated patent departments, there has to be an established policy of cooperation between the inventor and the manager responsible for development and competitiveness within the company.

II. THE NATIONAL CREATIVITY PROJECT

13. This project arose from the need to start by identifying the reasons why inventions have not systematically evolved into innovations.

14. The objective of the Project is to identify the policies and the infrastructure existing in Brazil that lend support to inventors in the corporate sector, in technology institutes and in local and Federal government. It also aims to identify the actual difficulties and demands of inventors in various sectors, and the support that can be given them for the promotion of their inventions with a view to stimulating creativity and the integration of inventions in the production chain; this will be done by improving the competitive position of the company concerned or by setting up micro or smaller businesses and thereby creating new jobs.

15. The Ministry of Industry, Commerce and Tourism of Brazil (MICT), acting through its Industrial Technology Secretariat, will, with the National Institute of Industrial Property (INPI), be developing the Project with the cooperation with the private sector, represented by the Federation and Center of Industries of the State of São Paulo (FIESP/CIESP) and the Brazilian Support Service for Micro and Smaller Businesses (SEBRAE).

16. The structured methodology has been made into a guide gathering all aspects together (as will be seen in the Annex) in such a way as to permit diagnosis on the spot in dealings with the senior officials of the organizations visited.

17. To that end, those States of the Federation were elected that possessed at least one technology institute and/or one "corporate incubator." In addition to that each State had to be a confederation of industries that was active in the technology field and an association of inventors under its control. In this way 13 States of the Federation were identified from the north to the south of the country.

18. Within those States visits were paid to 14 research centers, 37 smaller businesses, five major businesses, two associations of inventors and two education centers.

19. For the interviews, the methodology used on the businesses and technology institutions was structured around six major themes:

- Activity of the entity in the industrial property field;
- Training of human resources;
- Promotion of inventions;
- Support services for the marketing of inventions;
- Support service for national creativity;
- General matters.

20. For the “incubators” and associations of inventors the questions were distributed according to the following five major themes:

- Activities of the entity concerning intellectual property;
- Training, particularly in industrial and other intellectual property;
- Support services for the marketing of inventions;
- General matters.

21. According to the information gathered, it seems to be extremely important to Brazil that it should structure policies and engage in action that would afford effective support to the national inventor. Some of the findings of the study that was conducted on aspects of technology and industrial property are given below.

22. The financial resources used on R&D in the country, apart from being modest – between 0.7 and 1% of DNP – are predominantly year marked for dealing with spontaneous demand, and in particular are concentrated on basic research although some do go to applied research. There is no inducement to develop new goods and services that would respond to a socio-economic demand existing within the country, apart from generating new businesses and new jobs.

- There is a lack of technology policy in the sense of priorities being set around which the basic and further training of staff could be promoted, as could the use of financial resources for applied research and technological development and the encouragement and backing of inventors.

- Combined with this, there is a distortion of the system of research evaluation for which funding agencies are especially responsible through having concentrated more on the number of technical reviews published than on the promotion of the patenting of the results of innovative work. The question of the disclosure of results in scientific publications is still the main concern of researchers, who in this have the sole means of gaining recognition at the national and international level.

- The organizations involved lack technology management practice and technology training follow-up. A lack is a culture of legal protection for the technological heritage, support or encouragement for technological cooperation (for instance, a strategy for the development of prototypes in the case of products, and “scaling up” for processes or simulation for services), negotiation and marketing.

- Technology institutes do not adopt any selection criteria for prioritizing inventions for legal protection, and in 93% of them there is no budget set aside for patenting.

-Of the 14 establishments visited, most have no formal industrial property policy for the making and patenting of inventions. Four of them have some guidelines, and only one has a formal structure.

-In the case of the smaller businesses, it was established that there is no concern for industrial property at all. The great majority of "incubators" (67%) do not use industrial property as a criterion for the selection of businesses. Guidance is offered to companies on application by 33% of the incubators, but not one of them gives advice on infringement matters;

-State-of-the-art searching in patent files is practised by only 36% of the institutions.

23. This study was completed in 1997, and the final report was sent to the main development agencies, State governments and various Ministries.

24. Many changes have taken place since then. We believe that the results of the Creativity Project have contributed to that and also called the attention of the Federal government to the need to introduce incentive policies to stimulate patenting and innovation. In 1998 Resolution No. 88 of 23-04-98 was issued within the Ministry of Science and Technology to regulate the rights and obligations associated with industrial property in the country.

25. So now universities and research centers are protecting their inventions and introducing machinery for the marketing of innovations.

26. In addition, the main government funding agency FINEP (*Financiadora de Estudos e Projetos*) recently created the "Projeto Inovar" on the subject of venture capital in Brazil. Attention should be drawn here to the concluding recommendations of the "Creativity Project" regarding the need to introduce support of that kind in the country.

[Annex follows]

ANNEX

LIST OF QUESTIONS PUT TO RESEARCH INSTITUTES AND COMPANIES

Industrial Property Activity

- POLICY of the instituteregardingthemakingandperfectingofinventions
- INFRASTRUCTUREforaffordingsupporttoindustrialpropertyactionandpatenting
- CRITERIA FORTHESELECTIONOF INVENTIONS forpatentapplications
- NUMBEROFAPPLICATIO NSANDPATENTS currentlybeingprocessed
- INVENTIONSIDENTIFIEDinthelasttenyears;howmanyofthemwerepatented
- IDENTIFICATIONOFTHOSEINVENTIONS(processesand products)
- EXISTENCEOFINCENTIVESand/orforecasts
- STATE -OF-THE-ARTSEARCHESusingpatentdocuments
- ATTITUDEOFTHEORGANIZATIONTOTHEDEVELOPMENTOFINNOVATIONS:
relationsbetweenemployeesandtheinstitutionregardingresearchfindings;research
conductedjointlybytheinstitutionandthirdparties,withthepercentagesnegotiated
- FORMALINTERACTIONwithINPI,privateindustrialpropertyagenciesandassociations
ofinventors
- MethodologyandpolicyoftheorganizationregardingCO OPERATIONCONTRACTS -
sharingofindustrialpropertyrights
- PossibilityforEMPLOYEEStofileforpatentsintheirownname

[EndofAnnexandofdocument]