IMPROVED PATENT-RELATED STATISTICS TO BETTER SERVE PRIVATE SECTOR NEEDS

1

WIPO CONFERENCE

IMPORTANCE OF STATISTICS ON PATENTING TRENDS ANALYSES AND PROJECTIONS

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HOW COULD PATENT-RELATED STATISTICS BE IMPROVED TO BETTER SERVE INSTITUTIONS AND PRIVATE SECTOR NEEDS

BY

ESMÉ DU PLESSIS

PARTNER

Adams & Adams

IMPROVED PATENT-RELATED STATISTICS TO BETTER SERVE PRIVATE SECTOR NEEDS

2

NEED FOR IMPROVED IP-RELATED STATISTICS BETTER TO SERVE PRIVATE SECTOR NEEDS

This topic requires consideration of the following premises:

- θ institutions and private sector enterprises need IP-related information for business and policy decisions
- θ to be useful, the information must extend beyond mere filing statistics, and must permit interpretation, projection, extraction
- θ IP-related statistics are generally available but not readily accessible, are not presented in uniform formats, and must be interpreted with caution
- θ IP-related statistics would be more useful if presented in a standardised format, and assembled in one or more comprehensive databases

IMPROVED PATENT-RELATED STATISTICS TO BETTER SERVE PRIVATE SECTOR NEEDS

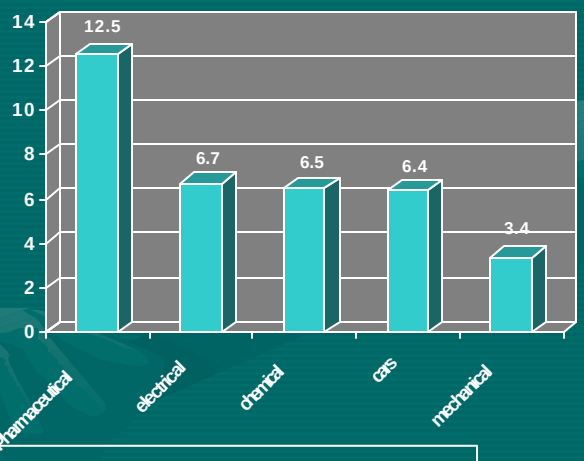
INSTITUTIONS AND PRIVATE SECTOR ENTERPRISES NEED INFORMATION

- research institutions and private sector enterprises require organised, comparative and reliable information for -
  - deciding on R&D priorities and budgets
  - deciding on the need for domestic / internal patenting to prevent home market competition
  - deciding on foreign / external patenting to establish and safeguard foreign markets
  - selecting patent filing regimes, eg independent national filings, regional filings, multiple-filing systems
  - assessing time delays in publication, examination, grant
  - assessing time delays before market entry
  - comparing costing structures

IMPROVED PATENT-RELATED STATISTICS TO BETTER SERVE PRIVATE SECTOR NEEDS

EXAMPLE 1 : R&D EXPENSES IN DIFFERENT INDUSTRIES

In % of turnover

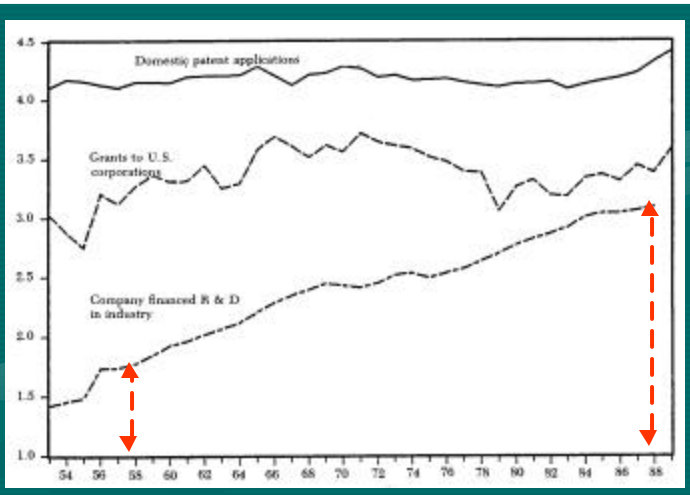


Source: Stifterverband Wissenschaftsstatistik (1997)

IMPROVED PATENT-RELATED STATISTICS TO BETTER SERVE PRIVATE SECTOR NEEDS

EXAMPLE 1 : R&D EXPENSES IN RELATION TO PATENT APPLICATIONS AND GRANTS (US 1953-1989)

5



Source: Griliches, Patent Statistics Survey (1990)

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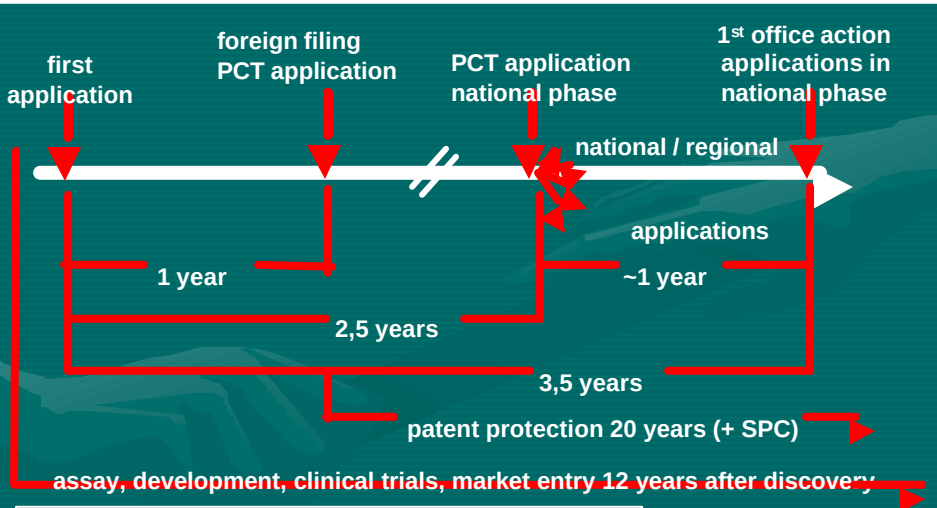
EXAMPLE 2 : TIME SCALE FOR PCT APPLICATIONS AND MARKET ENTRY

6



Source: EPO International Academy Seminar 21/2002

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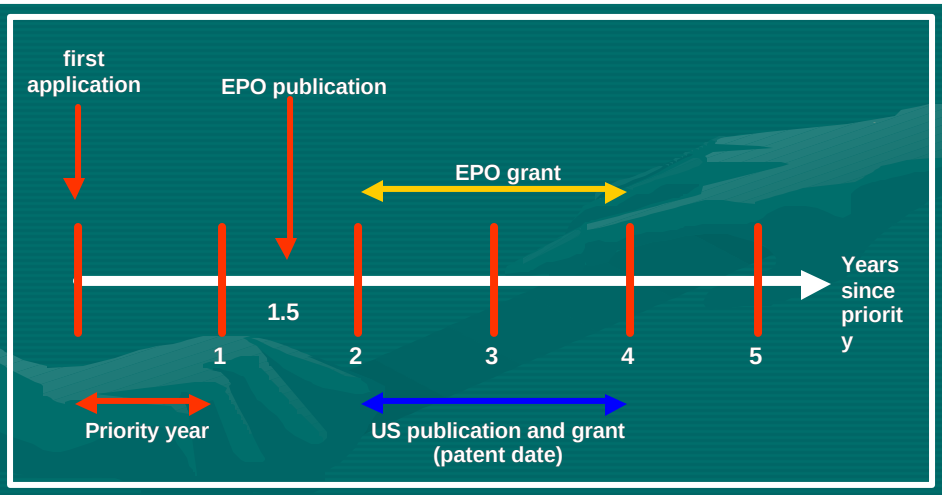
EXAMPLE 2 : TIME SCALE FOR EPO AND US APPLICATIONS

7



Source: Schmoch (1990-A)

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INSTITUTIONS AND PRIVATE SECTOR ENTERPRISES NEED ENHANCED INFORMATION

8

- the information required by institutions and private sector enterprises extends beyond mere patent statistics
- information derived from patent statistics must serve as economic indicators to assist with business decisions
  - economic advantages of patenting, eg quantification of competitive advantage
  - influence of patent rights on technology transfer
  - relevance of patents in conversion of innovative concept into marketable technology
- information required must comprise an interpretation of patent statistics, an extraction of underlying principles or drivers, a predication of future projections

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SHORTCOMINGS OF PATENT STATISTICS AS A BASIS FOR ENHANCED INFORMATION

9

- it has been pointed out that patent indicators should not be used in isolation
  - patents reflect only one aspect of innovation; a consistent picture can only be achieved by combining several indicators
  - propensity to make use of patent protection varies from one field of technology to another (eg electronics, chemical)
  - propensity to patent may vary from one country to another, due to geographical, economic, research and trade factors
  - granting of patents entails a delay factor, but often precedes marketplace / trade activity
  - absolute novelty requirement makes developed countries more heavily represented vis-à-vis developing countries
  - differences in patentability criteria and examination standards cause deviations

IMPROVED PATENT-RELATED STATISTICS TO BETTER SERVE PRIVATE SECTOR NEEDS

PATENT STATISTICS CAN PROVIDE FOR PRIVATE SECTOR NEEDS

10

- patent statistics can provide information extending beyond mere filing figures and prosecution periods
- patent statistics have been used in the past to –
  - measure economic development (Braga et al, Sherwood)
  - measure (economic and other) inputs and outputs required for "technology changing" activities (Griliches)
  - interpret and predict foreign direct investment (Maskus)
  - assess the relevance of research programmes (Grupp et al)
  - quantify science and technology output (Soete et al)
  - analyse trends in innovation, measure innovation output (Meyer-Krahmer)

IMPROVED PATENT-RELATED STATISTICS TO BETTER SERVE PRIVATE SECTOR NEEDS

PATENT STATISTICS CAN PROVIDE FOR PRIVATE SECTOR NEEDS

11

- θ differentiate between patent statistics (filing counts, etc) and technical information gleaned from patent documents
- θ patent statistics can provide information to be used, with other information, in the decision-making process
  - ϖ indicators of trends in technology development
  - ϖ indicators of technological, pre-marketing activity of competitors
  - ϖ indicators of geographical distribution of potential markets
  - ϖ indicators of expected timeframes for introduction / marketing of new technology / products
- θ patent statistics must be presented in a manner to facilitate such integrated application

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CURRENT NATURE OF AVAILABLE PATENT STATISTICS

12

- θ although annual country listings by domestic registry offices are available from many countries, they are lacking in uniformity and detail
  - ϖ generally without differentiation between local / resident applicants and foreign / non-resident applicants
  - ϖ seldom statistical information on outgoing / external applications
  - ϖ infrequent break-down information according to technology sectors, eg international classification information
    - ♣ exception is USPTO statistics with various sector and category break-downs and drill-downs

IMPROVED PATENT-RELATED STATISTICS TO BETTER SERVE PRIVATE SECTOR NEEDS

ENHANCED PATENT-RELATED STATISTICS CAN BE USEFUL TOOL

13

- differentiation of patent filings on the basis of applicant identity would be useful
  - number of resident applications may be taken to indicate a country's technology innovation / invention output
  - number of non-resident applications may be taken to indicate ranking of country as a destination for technology transfer
  - number of external / outgoing applications may be taken to indicate focus of local enterprises on safeguarding returns from foreign markets

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ENHANCED PATENT-RELATED STATISTICS CAN BE USEFUL TOOL

14

- differentiation of patent filings on the basis of area of technology provides a useful tool
  - standardised technology differentiation criteria are important, eg adherence to international classification
  - classification may present difficulty, eg leading-edge inventions hard to classify, multiple technical features extend across classes
  - different classification practices may cause practical difficulties, eg classification only at IPC subclass level, or full classification
  - revision of IPC is not retroactive; granted patents not re-indexed
  - some countries use individual classification systems (eg US)
- standardisation and uniformity would be useful

IMPROVED PATENT-RELATED STATISTICS TO BETTER SERVE PRIVATE SECTOR NEEDS

IMPROVEMENTS OF PATENT STATISTICS TO SERVE INSTITUTIONS AND PRIVATE SECTOR NEEDS

15

- to provide qualitative and quantitative tools for institutions and private sector needs, patent statistics must be
  - easily accessible, preferably in electronic format
  - updated regularly
  - broken down into workable and comparable sections, eg year listings, technology sector listings, country of origin listings
  - presented in consistent, comparable structure and format
  - capable of manipulation, eg to extract sector information
- importantly, patent-related statistics should ideally be –
  - assembled in one or more comprehensive databases
  - interpreted / correlated in economic context

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STATISTICS AS A TOOL FOR INSTITUTIONS AND PRIVATE SECTOR ENTERPRISES : IN CONCLUSION

16

- WIPO already provides a comprehensive international service in the area of IP statistics
- WIPO may consider extending its role and service by creating integrated and differentiated databases, such as
  - integrated filing statistics of the three major filing offices (USPTO, JPO, EPO)
  - differentiated break-down information on technology fields / classification
  - augmented by linkages to other indicators / economic, S&T, R&D)

IMPROVED PATENT-RELATED STATISTICS TO BETTER SERVE PRIVATE SECTOR NEEDS

Thank you

for your attention