International Journal for Research in Applied Science & Engineering Technology (IJRASET)
ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor :6.887
Volume 6 Issue I, January 2018- Available at www.ijraset.com

Performance Investigation of WIPO, USPTO and Patent Lens Patent Databases for Prior Art Search

P Karthigeyan[1], Dr. Anupama Bharadwaj[2]
[1]*Research Scholar, Department of Management, Maharishi University of Information Technology, Lucknow*
[2]*Assistant Professor, Department of Management, Maharishi University of Information Technology, Lucknow*

Abstract: Patentability assessment is done to check for patent grant which is evaluated using prior art search. .Patent Search is classified into simple, advanced search. Comparison of patent search databases like WIPO,USPTO and Patent Lens is done to check which database retrieves the keywords gives accurate result..
Keywords: **WIPO, USPTO, Patent Lens**.

I. INTRODUCTION

IPR(Intellectual Property Rights) are the rights awarded by the society to individuals or organization over the creations of innovative work. They generally specify a time period during which others do not copy the innovations, Idea allowing him or her to commercialize it and recover any investment on research and development. Pior to TRIPS(Trade Related Intellectual property rights)Agreement, there are number of international treaties and conventions covering Intellectual Property Rights. the conventions covering geographical indications are Paris convention and Madrid Agreement(1891)and Lisbon agreement(1958) these treaties however failed to exert much influence and could not become competent. Berne convention for protection of literary and artistic works as one of oldest international treaties in copyright i.e rights of authors in literary and artistic works. Hague agreement covers the protection of industrial designs. Rome conventions defined as the standards of protection of related rights enacted to protect artistic and broadcasting organization.. Patent co-operation treaty is to bring about the effectiveness and economy by simplying patent process ..International convention for protection of new varieties of plants was covered in 1991.New varieties require time money and effort. Trademark law treaty(1994)simplifies and harmonises administrative procedures with respect to national application and protection has endowed with intellectual created by beneficial faculty and same has been effectively utilized thereby improving the standard of living right from the stone age .It is a property which has been created by exercise of intellectual faculty. India has a long credible protection of IPR to a system of well developed substantiated laws and establishment of legal ,administrative infrastructure for IPR enforcement. The importance of patent system for innovative research and development which inturn causes the industrial development of a country. The progress and prosperity of a nation depend on level of scientific, industry and technological development. The inventors, research workers, entrepreneurs have to be encouraged, ,inspired, accelerate the research work, Research and Developmental activities by providing incentives and the rewards for their valuable work for the progress of the country. In the absence of any other bulletin system granting patterns for new inventors have to be accepted all over the world.

II. DSCRIPTION

A. Patent search

Patent Search is to determine the novelty, Inventiveness and industrial utility of the research disclosure. This search needs to be done rigorously in patent and non patent literature to find out if any prior art overlap exists or not.If prior art exists, then its non patentable else its patentable Steps to conduct a patent search. Summarize the invention in 100 words covering the novel key aspects alone. Frame the key aspects from the keywords. Perform an iterative combination of Key words such that the combination of novel key aspects is not present in any one patent or non patent document,

B. World Intellectual Property Organization

The World Intellectual Property Organization (WIPO) offers full-text search of international patent applications, filed within the framework of the Patent Cooperation Treaty (PCT), as well as access to certain national and regional collections through its PATENTSCOPE® search service. At present, the offices covered include ARIPO, Cuba, Israel, Mexico, the Republic of Korea, Singapore, South Africa and Viet Nam. For PCT applications and patent documents from Cuba, Israel, and Mexico, full document images are available. Additionally, related documents including search reports, forms, and declarations can also be retrieved for the

PCT collection as well as sequence listings, where available PCT national phase entry data can also be accessed for over 40 offices around the world as can the most recent status information available for PCT applications, through the International Application Status Report (IASR). The PATENTSCOPE® search service provides basic, structured (fielded), advanced, and cross-lingual search interfaces. The basic search interface offers the option of searching in full-text, by ID/number, international classification, names, or publication dates across one or more collections. The structured (fielded) search interface provides a wider range of searchable data fields, which can be linked using Boolean operators. Additional search fields may be added as necessary to allow greater flexibility in searching without requiring knowledge of field codes. The advanced search interface permits the use of command-line query syntax, including field codes and a full range of Boolean, proximity, range, and special operators. All three interfaces allow the use of proximity and wildcard operators as well as the fuzzy search operator. They also permit the selection of the query language used and automatic word stemming. 93. The cross-lingual search interface allows the simultaneous searching of a given term in one language in its variants in multiple languages (currently: English, French, German, Japanese and Spanish). Automatic and manual ("supervised") term expansion modes are available, where the manual mode permits the user to select the technical field to which the entered term belongs and adjust how closely the variants must be related to this term. Finally, the fields in which the term and its variants are to be located can be selected. . Search results can be ordered by relevancy, publication date, or application date. Statistical analysis is automatically performed on search results to show number of records for top offices of filing, top fields of technology (top IPC classes), top applicants, top inventors, and publication dates. Graphical representations of these top groups can be prepared, and additional filtering of search results can be carried out for these groups.

C. Uspto

The United States Patent and Trademark Office offers access to granted patents through its PatFT database service and to published patent applications from March 15, 2001 through its AppFT database service. Patents granted prior between 1790 and 1975, available through the PatFT service, are only searchable by patent number, issue date, and current US patent classification (USPC), while all other documents in the PatFT and AppFT services are searchable in full-text. Text records do not include drawings; however, full document images in TIFF format including drawings can also be retrieved through the PatFT and AppFT services. 129. Both services offer Quick and Advanced Search interfaces, while the PatFT service additionally offers a patent number search interface and the AppFT a publication number search interface. The Quick Search interface allows searching in two separate data fields, which can be selected by the user and combined using Boolean operators. Right truncation is available using wildcard operators. The Advanced Search interface allows command-line search syntax (a list of the allowed field codes is displayed underneath the query fields) along with a keyword search. For both the Quick and Advanced Search interfaces, the PatFT service also permits the selection of the period to be searched (from 1976 or from 1790). Search terms are highlighted in the search results. 130. Related services: Legal and procedural status information can be retrieved through the Patent Application Information Retrieval (PAIR) service using application, control, patent, PCT, and publication numbers. Assignment information can also be retrieved through a separate Patent Assignment Database service. An IPC-USPC concordance tool is provided to assist in the identification of USPC symbols based on IPC symbols and vice versa. The USPTO also offers a sequence search scheme through the Publication Site for Issued and Published Sequences (PSIPS) providing sequence Listings, tables, and other mega items for granted US patents or published US patent applications, available for viewing and download. The users may access this information through the proper document detail page and then submitting a SEQ ID NO or a mega table ID number in the relevant search field.

D. Patent Lens

Patent Lens is a multi-country search service provided by Cambia. It offers full-text search of PCT applications, US patent applications and granted patents, and European (EP) granted patents as well as full text search (excluding claims) of Australian patent applications and granted patents, a feature not currently offered by IP Australia. INPADOC legal status information is available for many patent documents included in the service. 88. The following search forms are offered: Number Search; Quick Search; Structured Search; Expert Search; and US Sequence Search. Number Search allows search by patent or publication number, where patent collections and document types to be included in the search can be selected. Quick Search enables keyword or patent/publication number search, with a stemming option and the possibility to limit the search to certain patent collections. In addition to the options available through the Quick Search, Structured Search provides the possibility to search in specific fields, including applicant/assignee, front page, title, abstracts, inventor, agent, references, description, and claims (not for Australian documents). It further permits the possibility to filter results by publication/filing date and by predicted expiry date or lapsed date (for US patents only). Expert Search offers the option of a command-line search in the fields covered by the Structured Search. In

addition, PatLens also offers a DNA, RNA and Protein Sequence Search which can be carried out either by patent number and Sequence/Genbank ID or by INPC DNA, RNA and Protein. Similarities search of biological sequences can also be carried using the National Center for Biotechnology Information's BLAST software.20 89. The results can be ranked by relevance, patent number and application or publication date. 90. Added value features: − Full-text search of Australian patent documents − Biological sequence search including similarities search (BLAST).

II. N UMERICAL RESULTS

A. Case study:1

*1) Invention title:*Novel ultrasonic technique for the distributed temperature measurements with different configurations.

2) Keywords: Ultrasonic, waveguide, multiple, distributed, plural, plurality, sensors, configuration, dimension, shape, transmission, reflection, geometry, material, wave modes.

a) Database : WIPO

b) Keywords used: Ultrasonic waveguide, plural, plurality , one more transducers, distribute, displacement

c) Iteration1

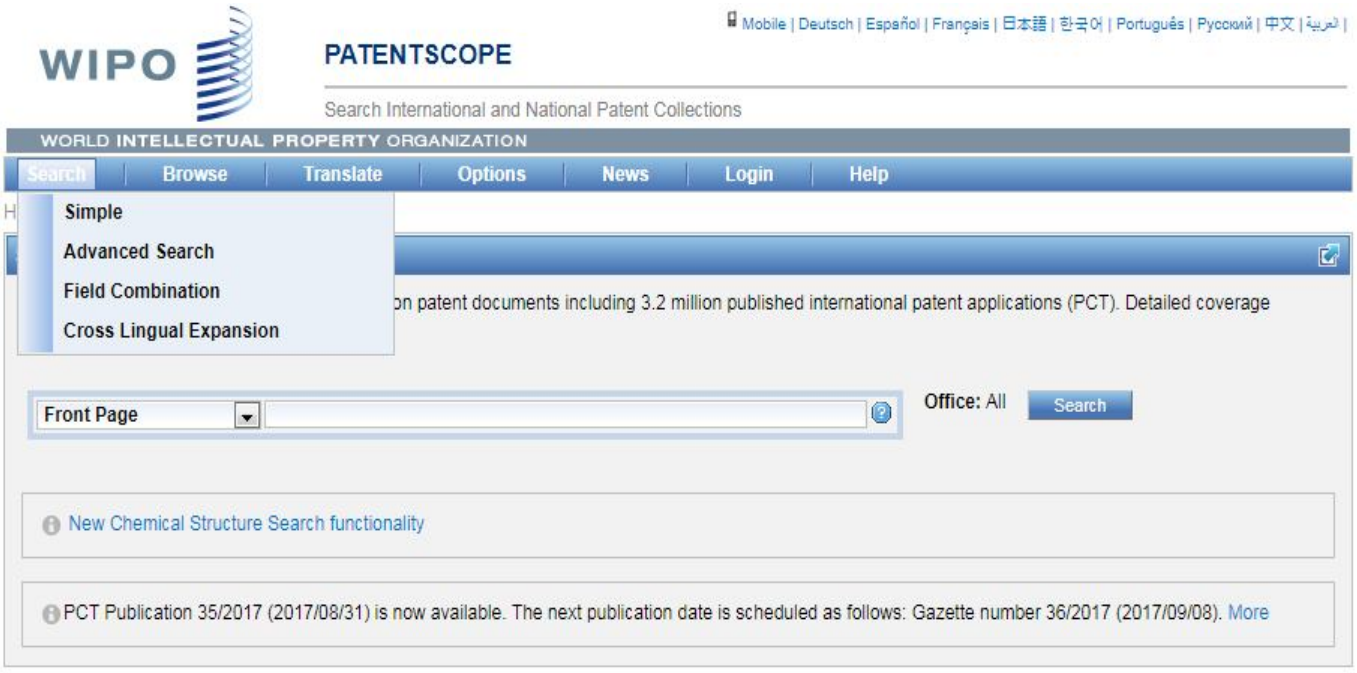


Fig1: Shows the general search windoe of WIPO- Patent scope

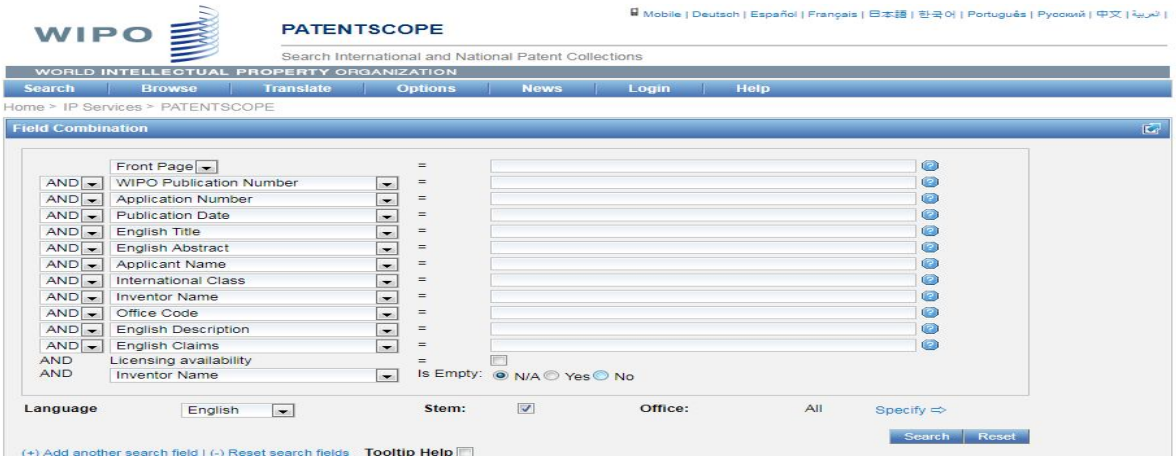


Fig2: Shows the different options of search about patents

Fig3: Shows the filtered options for search about patents

d) Keywords used: Ultrasonic, waveguide, distribute , senso

e) Output: No result

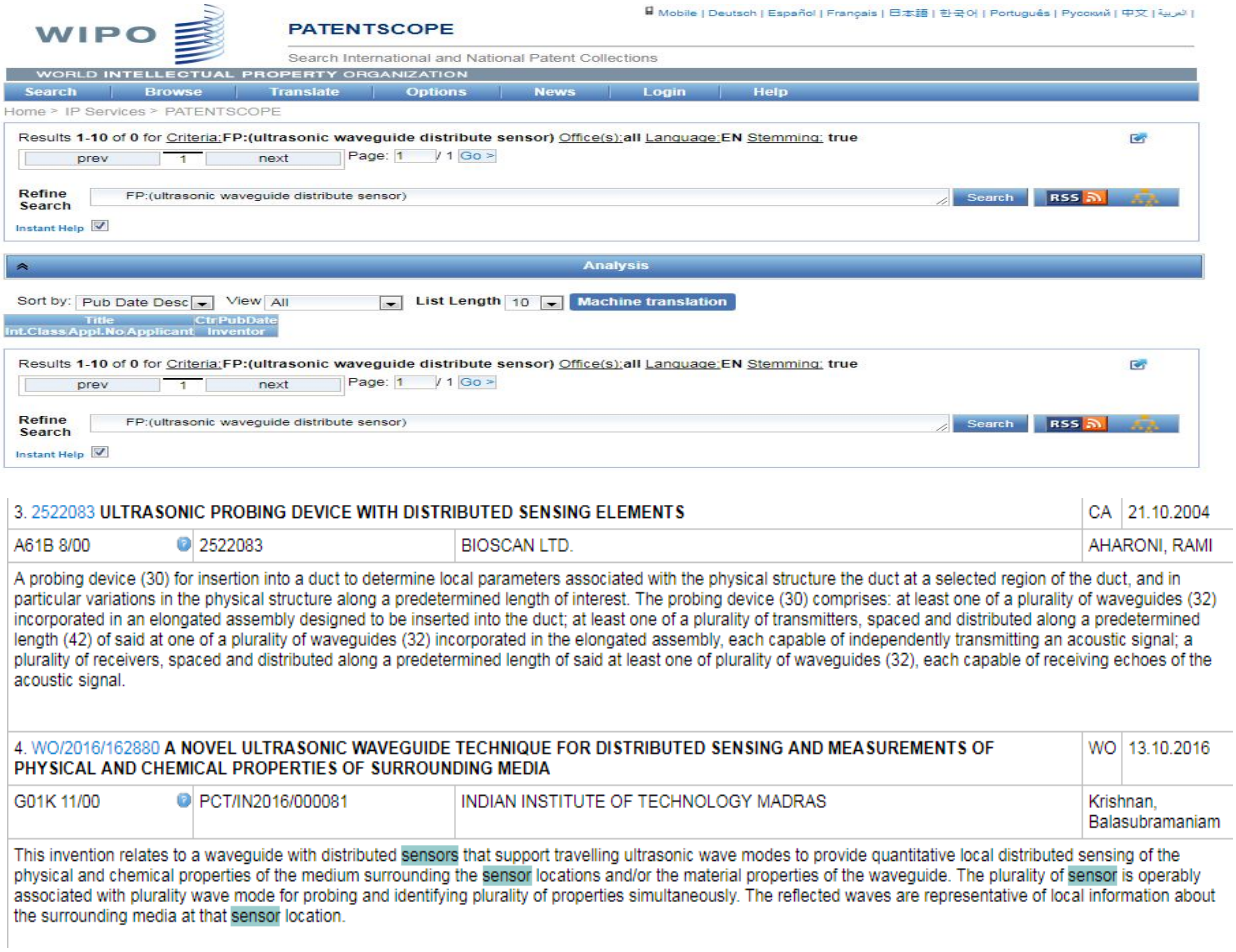


Fig4: Shows the prior art output reference of the novel keywords prescribed in the invention disclosure

III. DATABASE : USPTO

A. Keywords used: Ultrasonic waveguide, plural, plurality , one more transducers, distribute, displacement

B. Iteration1

US PATENT & TRADEMARK OFFICE

PATENT APPLICATION FULL TEXT AND IMAGE DATABASE

Help | Home | Boolean | Manual | Number | PTDLs | Hit List | Bottom | View Shopping Cart | Add to Shopping Cart | Images

(1 of 1)

United States Patent Application	*20070123776*
Kind Code	A1
Aharoni; Rami ; et al.	May 31, 2007

Ultrasonic probing device with distributed sensing elements

Abstract

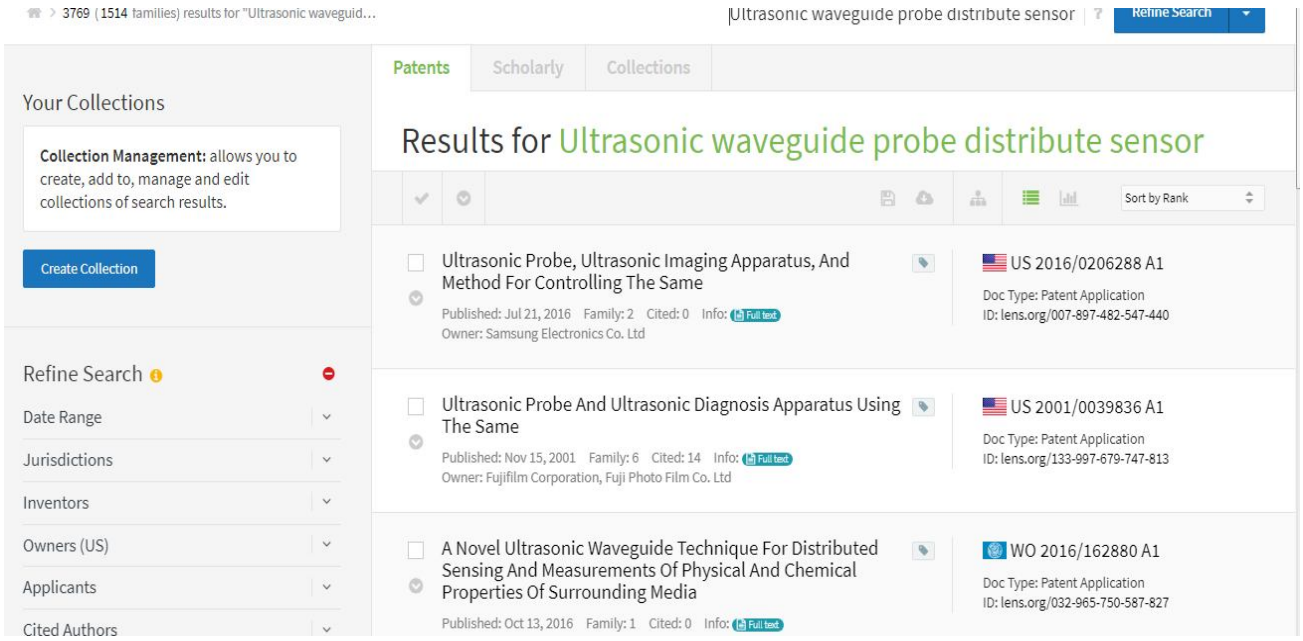
A probing device for insertion into a duct to determine local parameters associated with the physical structure the duct at a selected region of the duct, and in particular variations in the physical structure along a predetermined length of interest. The probing device comprises: at least one of a plurality of waveguides incorporated in an elongated assembly designed to be inserted into the duct; at least one of a plurality of transmitters, spaced and distributed along a predetermined length of said at one of a plurality of waveguides incorporated in the elongated assembly, each capable of independently transmitting an acoustic signal of predetermined characteristics; a plurality of waveguides incorporated in the elongated assembly, each capable of receiving echoes of the acoustic signal, reflected off the structure of the duct; whe when each of said at least one of a plurality of transmitters generates an acoustic signal, echoes of the signal received by the plurality of receivers and received data associated with the echoes is processed by a processing unit to determine parameters of the physical structure at the region.

Fig5: Shows the prior art output reference from USPTO of the novel keywords prescribed in the invention disclosure .

IV. DATABASE : PATENT LENS

A. Keywords used: Ultrasonic waveguide, plural, plurality , one more transducers, distribute, displacement

B. Iteration1:



3769 (1514 families) results for "Ultrasonic waveguid...

Ultrasonic waveguide probe distribute sensor

Refine Search

Patents | Scholarly | Collections

Your Collections

Collection Management: allows you to create, add to, manage and edit collections of search results.

Create Collection

Refine Search

Date Range

Jurisdictions

Inventors

Owners (US)

Applicants

Cited Authors

Results for Ultrasonic waveguide probe distribute sensor

Sort by Rank

Ultrasonic Probe, Ultrasonic Imaging Apparatus, And Method For Controlling The Same

Published: Jul 21, 2016 Family: 2 Cited: 0 Info: Full text

Owner: Samsung Electronics Co. Ltd

US 2016/0206288 A1

Doc Type: Patent Application

ID: lens.org/007-897-482-547-440

Ultrasonic Probe And Ultrasonic Diagnosis Apparatus Using The Same

Published: Nov 15, 2001 Family: 6 Cited: 14 Info: Full text

Owner: Fujifilm Corporation, Fuji Photo Film Co. Ltd

US 2001/0039836 A1

Doc Type: Patent Application

ID: lens.org/133-997-679-747-813

A Novel Ultrasonic Waveguide Technique For Distributed Sensing And Measurements Of Physical And Chemical Properties Of Surrounding Media

Published: Oct 13, 2016 Family: 1 Cited: 0 Info: Full text

WO 2016/162880 A1

Doc Type: Patent Application

ID: lens.org/032-965-750-587-827

Fig5: Shows the prior art output reference from Patent Lens of the novel keywords prescribed in the invention disclosure

Table1: Comparison of WIPO,USPTO and Patent Lens databases for prior art search

SL.NO	PARAMTERS	WIPO (World Intellectual Property organisation-Patentscope)	USPTO (United states patent treaty organization)	Patent lens
1	Keyword strategy	complex	Complex	easier
2	Operators	Boolean Logic, Field combination, Advanced search	Boolean Logic	Boolean Logic
3	Iterations	Less required	Less no. of iterations required	More
4	Prior art references	More	More	Less
5	Compatibility	Claims, description,abstract, drawings,reference, PCT status, ISR	Claims, description, abstract,mosiacs, PCT status, ISR	No
6	In-built tools	Patent scope	USPTO	No
7	Update of patent applications	Published, Pending, Grant from patent office are indexed to higher extent in WIPO	Published, Pending, Grant from patent office are indexed to higher extent in Espacenet.	Published, Pending, Grant from patent office are indexed to Lesser extent in Espacenet.

VII. CONCLUSIONS

From the above results, it clearly shows that WIPO and USPTO optimizes the iterations and gives instant prior art result , ISR, ISA, legal status, patent updation, fees status, assignment change etc. whereas Patent Lens database provides only the prior art result and competitive intelligence analytics called as the marketing intelligence. Hence WIPO and USPTO are a better database than Patent Lens.

REFERENCES

[1] Paolo Federico; Florian Heimerl; Steffen Koch; Silvia MikschA Survey on Visual Approaches for Analyzing Scientific Literature and Patents, IEEE Transactions on Visualization and Computer Graphics, vol. 23, no. 9, pp. 2179-2198, Sept. 2017.
[2] Amy J. C. Trappey; Charles V. Trappey; UsharaniHareeshGovindarajan; John J. Sun; Allen C. ChuangA Review of Technology Standards and Patent Portfolios for Enabling Cyber-Physical Systems in Advanced Manufacturing," IEEE Access, vol. 4, no. 2, pp. 7356-7382, Feb. 2016.
[3] Michel, J., Bettels, B., , Patent citation analysis: A closer look at the basic input data from patent search reports, Scientometrics, vol.51 no.1: 185-201.April 2001
[4] Karki M.M.S.,, Patent Citation Analysis: A Policy Analysis Tool, World Patent Information, vol19,no.4,pp269-272. June1997
[5] Tseng, Y.-H., Lin, C.-J., Lin Y.-I. Text mining techniques for patent analysis, Information Processing and Management: an International Journal, 43/5: 1216-1247,Feb 2007
[6] Yoon, B., Park, Y., A text-mining based patent network: Analytical tool for high-technology trend, Journal of High Technology Management Research, 15: 37-50.June 2003
[7] Wu, M.-C, Lo, Y.-F., Hsu, S.-H., 2006, A case-based reasoning approach to generating new product ideas, The International Journal of Advanced Manufacturing Technology, 30: 166-173. [10]Yoon, B., Park, Y., May 2005,
[8] Cascini, G., Russo, D., 2007, Computer-Aided Analysis of Patents and Search for TRIZ Contradictions, International Journal of Product Development, 4/1-2: 52-6Nov 2007.