Advancing Innovation and Technology through Patent Information: A Case Study of Accra Polytechnic

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Abstract

This paper presents the outcome of a research carried out at the Accra Polytechnic on the role patent information plays in promoting innovation and technology. The study highlighted on some of the usefulness of patent information and explored its efficacy in teaching and learning. The objectives for the development of polytechnic education in Ghana is to create the manpower need for innovations and also to provide the technical expertise on the job market by ways of modifying and implementing ideas.The outcome of the study revealed that, majority of the students had no knowledge about patent Information and those who had knowledge about it find it difficult accessing and contributing to it. Though the various departments of the polytechnic invent ideas, patenting them becomes difficult.The study responses further indicated that, the aim of the polytechnic is to support research to increase in the availability of scientific and technical information yet the diverse ways of innovation and inventions has not gain the needed support. The study revealed that, the use of patent information in teaching and learning would foster development.Despite the enormous advantages patent plays in technology, the study has buttressed a research report by the World Intellectual Property Organization WIPO (2010) that, Africa is the least continent that utilizes patent information and this has resulted in a decline in innovation and invention. Further, the limited usage of patent information among polytechnics students and the idea of intellectual property were new to them.The study adopted the simple random sampling approach, using the structured questionnaires

Keywords: Intellectual property, inventions, polytechnic education

Introduction

According to the World Intellectual Property Organization (2011), patent information represents a vast source of technological and legal information presented in a standardized format and often not reproduced anywhere else. It also comprises all information which has either been published in a patent document or can be derived from analyzing patent statistics. It includes technical information, legal information, business and public policy information.

According to the Access to Research for Development and Innovation (ARDI) program, coordinated by the World Intellectual Property Organization together with its partners in the publishing industry, it's aimed to increase the availability of scientific and technical information in developing countries, but this has not seen much patronage. The reasons though to improve access to scholarly literature from diverse fields of science and technology by: reinforcing the capacity of developing countries to participate in the global knowledge and also to support researchers in developing countries in creating and developing new solutions to technical challenges faced on a local and global level has not seen much patronage.

Patent information according to WIPO (2011) can assist users to:
- avoid duplication of research and development
- determine the patentability of their inventions,
- Avoid infringing other inventors' patents,
- Assist to exploit technology from patent applications that has never been granted
- Assist to gain intelligence on the innovative activities and future direction of business completion in specific technical fields such as health, engineering, environment etc.

WIPO (2011) is of the view that access to scholarly literature is critical in understanding the current state of the art. Access to scientific and technical knowledge contained in patent document becomes indispensable in the area of inventions and innovation. It is said that, innovation is the engine that drives the economy of a country, thus, the space between a technical problem and a solution to the problem. The use of patent information among polytechnic institutions which provides the middle level manpower for the various technical and technological fields is laudable. The objective for the development of polytechnics in Ghana is to create manpower necessary for innovation. The polytechnic institutions are to provide the technical expertise on the job market and at the same time invent ways of modifying and implementing ideas. There are ten polytechnics in Ghana among them is Accra Polytechnic which has been used as the case for this study

History of Accra Polytechnic

Accra Polytechnic started as a technical school in 1949 to train lower and middle level hands on skilled manpower for the industry. Later in 1957, it was upgraded to Technical Institute and in 1963 renamed Accra Polytechnic. This was backed by the Polytechnic law, 1992 (PNDCL 321).

It became fully operational in the 1993/4 academic year. The Polytechnic was then elevated to a tertiary status under the Higher Education Council with an autonomous status.

The polytechnic law in 2007 was reviewed and mandated the institution to award Diplomas as well as to produce middle level manpower with the requisite hands on training for the needs of the industries in Ghana. Currently, Accra Polytechnic run three schools namely; the school of engineering, school of applied sciences and School of Business. The following causes are offered by the schools: Higher National Diploma in Accounting, Marketing, Purchasing and Supply, Management and Secretary Ship, Bilingual Secretary ship, Mathematics and Statistics, Fashion and Design, Hotel Catering and Institutional Management and Laboratory Technology. The others are Mechanical Engineering, Civil Engineering, Building Technology, Furniture and Wood Design.

Purpose of the Study

The purpose of this paper is to investigate the role patent information plays in promoting innovation and technology among polytechnic education in Ghana using Accra Polytechnic as the case study. It is also to study the use of patent information with its accelerated technological changes on innovation and invention in Ghana. This is because managers, researchers and analyst in recent years have become aware of the importance of knowledge for business hence focus has moved to intellectual assets (patent) as strategic asset.

Problem Statement

A research report by the World Intellectual Property Organization WIPO (2011) revealed that of all the continents Africa uses patent data the least and thus, resulting in a decline in innovation and invention, and Ghana is not an exception. Most of our institutions including the Polytechnics scarcely invent new things, though polytechnic education aims to train middle level manpower for technical and industrial fields of which access and use of patent information would foster this development. This awareness has not been created and hence lacks the requisite information for development.

Among the factors of production, information is considered as the fifth factor of production. Generating and creating patent information for use has not seen much awareness. There is limited usage of patent information among our polytechnics of which Accra Polytechnic is one of them.

Over time, researchers get ideas about new and potentially better techniques of production. Ideas arrive to inventors as a poison process which needs to be recorded. According to Chakrabati and Bhaumik (2000), technological developments in China are traced to the use of patent information. This proves the fact that progress and development depends on patent information knowledgeable to a particular country. Many institutions' strategy towards patent is haphazard as a result of scanty guidance offered and Accra Polytechnic is no exception. The researchers therefore would explore these areas and to discuss possible way forward.

Objectives of the Study

1. To investigate the level of awareness on the use of patent information in polytechnic education.
2. To explore in streamlining policies on patent information in Ghana
3. To investigate the role patent information play in the polytechnic education
4. To assist and guide policy makers in Ghana.

Research Questions

1. Is the use of patent information desirable among polytechnic education?
2. Has the necessary awareness been created concerning patent information?
3. Has the polytechnic been exposed to patent information?
4. How can patent information be promoted?
5. How can patent information foster teaching and innovation among the polytechnic education in Ghana?

Significance of the Study

This paper would be significant to policy makers of the vital role patent information could play in the polytechnic institutions in the area of inventions, technology and innovations. It would facilitate in the achievement of the goals and objectives of these institutions. It will also assist to be self employed rather than wasting precious time searching for employment.

Also student would benefit from the awareness that will be created in the use of patent information in which it would go a long way to foster teaching and learning.

Finally, it would expose the modalities for the documentation of patent.

Definition of Terms

Patent: The Cambridge International Dictionary of English (1995) defines patent as "a document given to someone or official legal right to make or sell an invention for a particular number of years".

WIPO: World Intellectual Property Organization

Methodology

The study adopted the simple random sampling method. This was because every member of the population has an equal chance of being selected.(Leedy,P .2010).It enabled the Researcher to determine the incidence about the vital fact of student's perception, beliefs, opinions, attitudes about the role patent information play in their academic endeavors. The use of this method uncovered data and provided information based on sound decision. Structured questionnaires were administered in order to investigate the perception of Accra polytechnic Engineering students on the role patent information play in advancing innovation and technology.

The study Population

A simple random sampling was used in order to make the results representative of the whole population. Sample sizes of 150 students were used, representing 70%of the total engineering students. A simple random was adopted because the various years were captured (1, 2, 3) offering the following engineering causes,mechanical,civil,building technology, electrical and wood design. This made it possible for each member of the population to have an equal chance of being selected.

Data Collection and Analysis

Specific data was collected in the normal course of administration. Questionnaires were administered to respondents before lectures and returned after the close of lectures. The response rate was quit high.

Observations from the Study

From the data collected, it was realized that, most of the students were not even aware of patent information and hence the need to create awareness in order to allow the usage of patent information which will bring about development in the country.

Most of the departments have invented new ideas but because it has not been patently documented, it ceases to be the ownership of those departments. For instance the fashion department attested to the fact of many new styles that they have come out only to see it later being used by other people which no legal action can be taken against them.

The studies revealed that majority of the respondents were aware that patent information covers areas on engineering and applied science that would promote innovation.

The outcome further exposed respondent's limited awareness on documenting invented ideas and where to document them, that is, limited awareness have been created on the organization responsible for that.

The study acknowledged that, the aim of the polytechnic education in Ghana was to promote innovation and inventions.

Finally the study revealed that, patent information would foster technology and innovation and that it is desirable in advancing teaching and learning among polytechnic institutions.

According to the study, the internet has been the main source of information on patent as stated by the Access to Research for Development and Innovation initiative.

Conclusion

From the study, it can be said that, patent information is absent in the life of these students. This calls for awareness creation among all departments in the institution linked with the creation and invention of new ideas. For the development of our country and enhancement of the knowledge acquired by students in these institutions, the need to introduce them to patent information is key. This study will assist students to perform task that will develop and sharpen their skills for self employment.

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