

Knowledge Sharing : Collaboration between Universities and Industrial Organisations

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Abstract

Human being while traveling through Pastoral, Agrarian and Industrial Societies has now reached to Knowledge Society. With the advent of Information and Communication Technology, there are now drastic changes almost in every sphere of life. Within a decade, it has absolutely changed the working of traditional libraries. Now the libraries specifically, of higher education have to start changing their role in knowledge management. Not only manage the knowledge but also contribute in the process of knowledge generation & knowledge sharing, should be the working of academic libraries. By collaboration with industrial firms for knowledge sharing, academic libraries can play an important role in the field of knowledge generation & knowledge sharing. This paper reports the Collaboration between universities & Industrial organisations for knowledge sharing. The paper begins with the term knowledge. It then discusses knowledge sharing. For Collaboration between universities & Industrial organisations, collaboration policy, needs for collaboration, Role of university library and benefits of collaborations academic libraries are discussed in detail.

Introduction

In Vedas there is one Shloka:

*Na Chor Haryam, Na Cha Raj Haryam
Na Bratrubhajyam, Na Cha Bharkari
Vyaye Krute Vardhat Ev Nityam
Vidya Dhanam Sarva Dhane Pradhanam*

Vidya means knowledge – As you consume or spend, it increases; as you share, it expands. No one can steal it, not authority can snatch, not divided in brothers, it's the best property among all the properties anyone can have.

Human being while traveling through Pastoral, Agrarian and Industrial societies has now reached Knowledge Society. With the advent of Information and Communication Technology, there are now drastic

changes almost in every sphere of life. Within a decade, it has absolutely changed the working of traditional libraries. Now the libraries specifically, academic libraries of higher education have to start changing their role in knowledge management. Not only manage the knowledge but also contribute in the process of knowledge generation & knowledge sharing, should be the working of academic libraries. By collaboration with industrial firms for knowledge sharing, academic libraries can play an important role in the field of knowledge generation and knowledge sharing.

Recently, the contract for research on production of colorful cotton is done between Khadi Gramodyog board and Dharwad University, Karnataka. This kind of collaborations must be encouraged by government, universities and firms.

Knowledge

Knowledge is defined in the Oxford English Dictionary as (i) expertise, and skills acquired by a person through experience or education; the theoretical or practical understanding of a subject, (ii) what is known in a particular field or in total; facts and information or (iii) awareness or familiarity gained by experience of a fact or situation.

Knowledge sharing

To share knowledge means to learn, understand, extend and repeat the information, the ideas, the views and the resources with each other, connected with, on a specific ground.

If we both exchange 1 Rupee coin, we both have 1 rupee each.

But if we exchange 1 Good Thought, we both have 2 Good Thoughts....

If you share a rupee with me, you will lose something, I will gain something and the Rupee will be divided.

But if you share knowledge with me, we both will gain something and the knowledge of both of us will be increased.

This is knowledge sharing.

“Knowledge sharing... [is] the transfer and communication of knowledge...[it] is connecting people with the knowledge they need – rather than collecting and compiling documents.” (ILO)

Knowledge sharing is an activity through which knowledge (i.e. information, skills, or expertise) is exchanged among people, friends, or members of a family, a community, an organisation or collaborative parties.

Collaboration for Knowledge Sharing between Universities and Industrial Organisations

For policy makers, it is very much essential to invent new ways to establish a proper knowledge sharing system. Collaboration between universities and industrial organisations can play an important role in the field of knowledge sharing.

As we know, the research work is a continuous process, on various levels, at many places, simultaneously. In any subject or any field, day by day knowledge is adding new dimensions from the corners of the world.

Every year, a number of students take admission in universities. Some of them comes in front line & starts research work in their particular subject. Mostly, the research work done at this level, lies in the thesis in university libraries. Most important is to expose these works.

The concept of collaboration for research work is not new. Many countries like U.K., Germany, the US, France and Japan, Canada, Brazil, South Africa are involved in this kind of collaborations on international levels also. However, for India, we have not done much more in this field.

It is very much essential to apply knowledge on practical ground. For that, collaboration of universities and industrial firms is a must. Globalization demands that our society needs to move faster, work smarter and take more risks than at any time in our history. For both firms and universities it is learning and not knowledge that is the primary source of value, because the ability to change knowledge – to learn – is a source of power (Jacques in Prichard *et al.* 2000-2008). One has no option but to partake in this wrenching process.

Every university has its research students and subject experts and every industrial firm has its experts, employees who practically work on projects having working experience of number of years. By collaboration, they all can share the knowledge and can lead the work in particular direction, can add new

dimensions in knowledge and can establish new standards.

Knowledge becomes meaningful when it is utilised on practical ground. Any new invention for example, to make fuel from water. The researcher invents it and the industrial firm puts it in practice.

(Schwartz, 2004) indicates that if firms and universities are observant and are able to leverage research and development (R&D) and convert more meaningful arbitrary occurrences into opportunities, they may change an economy and the world. Firms and universities need to apply thinking strategies to their surroundings, to increase collaborations and knowledge sharing while ensuring that sufficient mutual benefits can be derived.

The manner in which knowledge flows between universities and industry is a complex and diverse process. It is fair to say that the relationship between university and industry (Kenny 1986-73) seems to be blossoming in many forms all over the world. However, a wide gap seems to exist in the expectations and perceptions of both industry partners and universities, probably as a result of a poor understanding of the knowledge transfer mechanisms in their R&D collaborations. Therefore the main research question centers on gaining an understanding of the needs of knowledge transfer between industry firms and universities which can provide some reasons why industry partners approach universities for R&D engagements and what issues industry considers to be of importance in these collaborations. Having this knowledge could better equip and enable universities and industry to make pro-active and appropriate decisions in their future collaborations.

As shown in ‘Lambert Review of Business-University Collaboration’ December 2003 two broad trends are reshaping the way that companies are undertaking research around the world.

The first is that they are moving away from a system in which most of their R&D was done in their own laboratories, preferably in secret, to one in which they are actively seeking to collaborate with others in a new form of open innovation.

The second is that business R&D is going global. Multinationals are locating their research centers in their most important markets, especially if those markets happen to contain centers of outstanding research. Their home country is no longer the automatic first choice for their R&D investment.

These trends have big implications for universities, which are potentially very attractive partners for business. Good academic researchers operate in international networks: they know what cutting-edge work is going on in their field around the world. Unlike corporate or government owned research facilities, university laboratories are constantly being refreshed by the arrival of clever new brains.

It is realized that the quality of the research work has risen in recent years. There has also been a marked change of culture in the past decade, with many universities casting off their ivory tower image and playing a much more active role in the regional and national economy. The main challenge is not about how to increase the supply of commercial ideas from the universities. Instead, the question is about how to raise the overall level of demand from industries for research from universities.

Collaboration with university and other public research organizations seems to have become increasingly important for firms, as the technological interdisciplinary and Complexity and the competitive pressures to shorten product life increased (Hagedoorn, 1996)(Caloghirou (et al) 2003). By collaborating with universities, firms may reduce uncertainty inherent from the innovation process, as well as expand their markets, access to new or complementary resources and skills, keep up with evolution of scientific knowledge, and create new technological learning options on future technologies (Hagedoorn et al.2001). In particular, in the new industrialized countries (NIC), as their economy and their technological capabilities improve, national public research and educational organisations (PREOs) are expected to play an increasing important role in supporting indigenous firms to move into more dynamic and higher-opportunity industries (Mathews and Hu, 2007) (Mazzoleni and Nelson, 2007). Firms (especially small firms) active in high-technology sectors were found to achieve higher Productivity through university-industry collaboration (Motohashi, 2005). Consequently, following the innovation policies of developed countries governments in the new industrialized countries are focused in fostering science-industry interactions and the development of high-technology sectors (Wong et al, 2007) (Gouvea and Kassicieh, 2007).

It is very much essential to understand needs for collaboration and decide collaboration policy to better understand and increase the collaborations.

Needs for Collaboration

- Knowledge which is generated in research works at university level, lies in theses unused in libraries. To pull out the Knowledge from thesis.
- In universities research work goes on and on haphazardly without any specific direction. To give a specific direction.
- To take forward the knowledge from wherever it is.
- Research work is going on and on in every universities without proper co- ordination. To avoid re-inventing and repetition of research work.
- By getting a perfect direction, research work will be done more speedily. Knowledge will grow

faster which is very much essential for knowledge society.

- To get fresh & pure knowledge directly from universities for industries.
- To reduce the time for research at the industrial level.

Knowledge cannot be produced in an unplanned fashion – it needs to be managed well. For that universities & firms who have joined hands for a specific subject or specific purpose should first of all, decide a common frame of work.

Collaboration policy

Universities have research students and subject experts while enterprises have their experts, experienced workers, and mechanism. By collaboration, the knowledge can be shared among both of the parties.

Each organization and university should develop a policy specific to its own needs and objectives. This policy should define the:

Objectives

First of all, it is very much essential to clear the objectives for which both the enterprises & universities have joined hands.

Context

Research should be developed in a context of creation and application of knowledge. Research should be designed to reflect that knowledge is developed collectively and that the 'distribution' of knowledge leads to its continuous change, reconstruction and application in different contexts, by different participants with differing backgrounds and experiences.

Participants

Research students and subject experts at university level and the experts and employees who have practical working knowledge and experience at the other end should be participating in the venture.

Processes

The research work should be developed to support and enhance knowledge intensive processes, tasks or projects, e.g., creation, construction, identification, capturing, acquisition, selection, valuation, organization, linking, structuring, formalization, visualization, transfer, distribution, retention, maintenance, refinement, revision, evolution, accessing, retrieval and last but not least the application of knowledge.

The whole work should be a knowledge life cycle by involving the research students and subject experts as a knowledge generator, the experts of a firms who execute the knowledge and the workes who actually utilise the knowledge on practical ground.

Here, knowledge will flow in both the directions. And at the time of actual execution on practical ground, if

any difficulty derives, the feedback will be given to the researcher and by removing the deficiencies, it will be improved and will be made more perfect and more useful for enterprises.

Privacy and other rights

To keep the matters and materials and the progress of work top confidential between collaborating parties only is a must. All rights should be reserved for enterprises if it is supported financially by firms.

Motivation

Enterprises should encourage researchers to interact, to work together on projects and share their ideas.

Resources

Financial resources

- Some times government supports the research work at university level. Recently, Government of India has allotted grant of Six Hundred Million Rs. to support the research works and to increase five times the no. of researchers in universities in 10 years.
- An industrial firm is interested to develop its production capacity at the lowest cost and develop the product as the most marketable product.
- Research students should be supported financially by firms in the form of stipends, fellowships or scholarships

Human capital resources

- The experts and employees of the firm, and students, subject experts, lecturers, readers and professors of the university will make the key resource..

Physical resources

- Laboratories, Libraries, Departments of the university and plants, equipments, technologies and locations and raw materials of the firm will be utilized for knowledge development.

Organizational resources

- The firm's organizational structure, planning, controlling and coordinating systems and culture will be utilized by researcher.

Role of University Library in Collaboration

The role of university library is much more important in this type of collaboration. The university librarian will be overall in charge of the project. He will act as the link between the university departments and the industrial firms. He will work as the knowledge manager during the process.

First of all, it should be compulsory to deposit one copy of all the research works, papers, thesis, reports etc. in university library.

The librarian will be responsible for maintaining the research works in proper classified way with the help

of latest information and technological instruments.

When any requirement comes from the collaborative party (the enterprise), the available material will be accessed in library and the party will be informed. and for further works, it will inform departments, faculties and research students also. The research work will start a journey. At this stage also the researcher will again come to library to get materials for his work.

After completion of work, a copy of a work will be given to the librarian. He will contact the party and give the materials as per their requirements. The party will apply the knowledge and if, any problem derives, feedback will be given to the researcher through the knowledge manager. Again the research work will start a journey for next destination. All the work will be a continuous process. The wheel of research work will go on and on. The knowledge will be generated and shared between the parties through the university library. The whole work will be a knowledge life cycle centering university library as an axis. This is a design how university libraries can better contribute in collaborations with industries.

knowledge life cycle (Diagram 1) (Pl. click on the space & then drag from corners to see the picture)

Benefits of collaboration

- ✓ Sharing of valuable knowledge.
- ✓ Can avoid re-inventing the wheel, reducing redundant work.
- ✓ May reduce the cost for inventions.
- ✓ Creation of knowledge with the help of experts and experienced persons.
- ✓ By giving a right direction to the enthusiastic intelligent students, making them experts of future.
- ✓ Which kind of change industrial firms wanted? Which kind of problems they are facing and to solve it, which kind of research works they are expecting from the university will be cleared well in advance. Maximum production with the lowest cost is the main aim of all enterprises. If, they were raw materials, or machinery and technology or management deals. By collaborations, the firms will inform university and university will frame the research work as per the needs to fulfill the aim.
- ✓ Any kind of the problem arising, will be solved at the primary level which will save the time, money and man power.

Conclusion

It is our dream to make India a knowledge super power. And it is the responsibility of the academic librarians also to make the dreams come true because the journey starts to that destination from academic libraries. Library is the heart of the university. University

Knowledge Life Cycle



libraries are the treasure house of knowledge. By involving enthusiastic, fresh and intelligent youth in research works, universities and enterprises can contribute in economic, scientific, technical and social development of the country.

All university libraries should be connected with each other through networks. The librarians should take initiatives to join the hands and to share the knowledge they are having in their libraries and should contribute in decision making procedures in collaborations with industrial organizations.

With such collaborations, government, industry and universities, all three parties can sharpen their entrepreneurial skills to effectuate transformation of nation's science and technology landscape. One key strategy is that of responsiveness in the higher education sector. Greater responsiveness implies that universities should take the problems and challenges presented by the societal context in which they operate seriously (HSRC 2003-1). Knowledge sharing appears to work best when it is seen not so much as a relay race, but as a team sport. It is 'a game during which the ball moves continuously between the players and in which all players have to collaborate and share resources to win' (Entrepreneurial Higher Education Institution 2002-10-11).

One significant point of this paper is that there is a distinct need to explore the knowledge lying in university thesis. By involving the industrial organizations, centering university library in collaborations, a knowledge life cycle can be moved on and on.

There is much more to be done. Universities will have to get better at identifying their areas of competitive strength in research. Government will have to do more

to support industry-university collaboration. Industries will have to learn how to exploit the innovative ideas that are being developed in the university sector.

Areas for future research

There are several areas in which research efforts can be focused in future. For example, similar understanding of barriers, challenges and success factors is required. Further research is needed to understand the mechanisms by which universities transfer R&D knowledge in order to increase industry competitiveness and efficiency as well as overall economic and social development. Research on how collaboration with universities influences the decision-making procedures in industry firms may be a relevant topic, as would be research that explores how intellectual property rights are negotiated between universities and industry partners. To frame a network for academic libraries of a country for knowledge sharing is also the area of future work.

It is hoped that this work has contributed to our understanding of knowledge sharing for saving the time, money and man power and contribution of university libraries as providers of scientific R&D knowledge to move the knowledge life cycle faster. In future, to make India a knowledge super power, this kind of collaborations should be increased.

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