Employer vs Employee Inventions: IPR Issues in R&D Organizations

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The laws of different countries vary in assigning rights between employers and employees. Knowledge of these laws is essential in the context of internationalization of R&D. This paper examines the salient features of the laws in different countries on employee inventions and, in the light of their experiences, suggests the updating of Indian laws relating to employee inventions. The model terms and conditions for defining the ownership rights that can be included in an employment agreement have been described. The importance of balancing the interests of the employer and ex-employee in keeping information confidential by ex-employees and keeping of records has been stressed.

A sufficient stock of trained scientists and engineers is required to serve as receptor for new knowledge and creator of new ideas while the process of innovation is best facilitated by the institutional environment of R&D organizations. The employer, thus, depends on the competence and skills of its employees while the employees depend on the employer to provide resources to upgrade and strengthen one's skills. This growing dependence of R&D organizations and firms on their employees is re-defining the relationships between them and has forced many countries to explicitly consider the issues of intellectual property rights of the inventions made by the employees.

Who is to own what kinds of inventions? Whether all inventions made by employees essentially belong to the employer? Under what conditions employees can retain rights over the inventions made by them? What are the rights of the employer in inventions made by employees? How best to ensure the protection of inventions made by the employees? What kinds of incentives are essential for the employees who make the invention? These are some of the key intellectual property rights (IPR) issues that need to be considered for making best use
of the innovative talent in the R&D organizations. This paper attempts to provide insights into their salient features with a view to developing an understanding for R&D organizations to deal with such issues.

Employee Inventions

The laws of different countries have interpreted the scope and nature of employee inventions differently. In German laws, the employee inventions are of two kinds — tied or free. Tied inventions result during the term of employment either from the employee's tasks in the public or private organizations or are essentially based upon the experience or activities of these organizations. All other inventions are considered free inventions. An employer can claim the intellectual property in the inventions made by an employee during the employment for an unlimited period wherein he has all the rights. The inventions made by professors, lecturers and scientific assistants at universities and higher schools of science are considered free inventions. The intellectual property rights of free inventions essentially belong to the employee.

In the UK, an invention made by an employee belongs to his employer if it was made in the course of the normal duties of the employee or in the course of duties falling outside his normal duties, but specifically assigned to him, and the circumstances in either case were such that an invention might reasonably be expected to result from the carrying out of his duties; or the invention was made in the course of the duties of the employee and at the time of making the invention he had a special obligation to further the interests of the employer's undertaking. Any other invention made by an employee belongs to the employee.

In the US, the employees have the inherent right of ownership to their inventions. Ownership follows inventorship. The federal government obtains all domestic right, title, and interest to an invention made by any government employee during working hours or with a contribution by the government facilities, equipment, materials, funds or information. In case, on these grounds if it is determined that the contribution of the government is insufficient to justify the requirement of the assignment to the government or the government has an insufficient interest in the invention, then the employees own the rights in the inventions. The government retains the royalty free licence.

In principle, an employer owns the inventions made by researchers who are 'hired to invent'. A scientist is said to be hired to invent if he is employed or assigned some specific tasks, namely, to invent or improve or perfect any art, machine, design, manufacture, or composition of matter; or to conduct or perform research and development work or both; or to supervise, direct, coordinate, or review government financed or conducted research, development work, or both; or to act in a liaison capacity among governmental or non-governmental agencies, or individuals engaged in such research or development work. If an employee owns the invention or discovery, the employer may have a “shop right”; i.e. the right to practise the discovery in its business on a non-transferable, royalty-free basis. The “shop right,” arises as a matter of equity when the employee has made use of the employer's resources in developing his invention or discovery.

In Japan, in case an employee made an invention while working within the scope of business functions of an employer and obtained the patent, the employer is entitled to
a non-exclusive licence to the patent right. An employer has no claim over the inventions unless it is an invention in service. In France, all inventions are deemed to belong to the employer that are made by an employee in the execution of his inventive mission, corresponding to his effective functions as defined by his employment contract, or in the execution of studies and research which have been explicitly entrusted to him. In this case, the employee is entitled to receive an additional remuneration. All other inventions are deemed to belong to the employee. If an invention is in the field of activity of the company or which has used specific resources or data of the company then the employer may claim assignment of the ownership rights of the employee invention. The employee in that case is entitled for a due remuneration.

In China, the right to apply for a patent in respect of a service invention (an invention made by a person in execution of the tasks of the entity to which he belongs or made by him mainly using the material means of the entity) belongs to the entity and the right to apply for a patent in respect of a non-service invention belongs to the inventor. For any non-service invention-creation, the right to apply for a patent belongs to the inventor. No entity or individual may prevent the inventor from filing an application for a patent for a non-service invention-creation. Any entity holding a patent right for such inventions is required to award a sum of money as prize to inventors.

The laws are similar in Malaysia, Republic of Korea, Sri Lanka and Thailand wherein if the invention is made by an employee in the performance of his duties or in the field of activities of the employer or using means or information put at the employee’s disposal by the employer the right to the patent for that invention belongs to the employer in the absence of provisions to the contrary. The employee-inventors are entitled to the remuneration when the right to the patent is assigned to, or the patent is worked by, the employer.

Principles and Practices

The practices in different countries in respect of employee inventions indicate that employee inventions are, in principle, owned by the inventors. The employer has the right over the invention made by the employee during the normal working hours under the employment. The inventions made during the course of implementation of specifically assigned tasks also belong to the employer. There are initiatives in some countries by which an employee is given the rights over the inventions if the same are:

- made outside the normal working hours of the employment; or
- outside the business activity of the employer; or
- outside the scope of the specifically assigned tasks; and
- made without using the resources or information of the employer.

The above review of the principles and practices, in respect of the employee inventions in other countries, also indicates that the trend is to re-define the relationship between the employers and employees giving greater flexibility to the employees in determining the ownership rights over the inventions made by them.

Indian Law Needs Updating

In India, one of the terms and conditions of appointment in public-funded research institutes is that all research work for which
patent protection has to be sought must be assigned to the employing R&D organization. In this respect R&D personnel are governed by Fundamental Rules which read as follows:

- a government servant whose duties involve the carrying out of scientific or technical research shall not apply for or obtain, a patent for invention made by such government servant.

- if a question arises whether a government servant is a government servant to whom the above rule applies, the decision of the local government shall be final.

For example, all inventions made by the employees of the Council of Scientific and Industrial Research (CSIR) belong to the employer in all circumstances. They are the property of the employer until a period of three years from the date of the termination of the services of the R&D employee. No investigator can make commercial use of the results of his work, whether by patent or otherwise, unless permitted to do so by the CSIR. The employees of the Indian Council of Agricultural Research (ICAR) are required to give an undertaking to the effect that the patent rights in respect of the discoveries and innovations that are made by them and the technical and engineering know-how of processes that are developed during the course of their service with the ICAR shall vest in ICAR.

One observes that in case of public-funded R&D organizations, there is no freedom to employees to claim rights over the inventions made by them outside the normal working hours and in which no time or resources of the employer are involved. For example, if a scientist working in a chemical research laboratory makes an invention in a desert cooler in his own time at home without using any resource of the institute he cannot at present claim intellectual property rights to such an invention. A scientist in a chemical research laboratory may make an invention of a new design of a lipstick case or a scent bottle, which may not be within the scope of his normal duties or belong to the tasks specifically assigned to him. In such cases, it is essential that the intellectual property rights belong to the employees and if the employer has an interest in owning such rights then the employees should be suitably compensated. The experiences of other countries indicates that the Indian laws should be suitably updated so that the scientists working in public-funded R&D organizations are given the freedom to own such inventions.

There is no specific law to guide the ownership of employee inventions in case of private enterprises as well. The problems are much more complicated in case of private sector enterprises. There have been instances wherein the employees in the private enterprises have taken away the intellectual property of the company, by resigning from the company and claiming patents on the work done during the period of the employment in the company. Most companies have found it difficult to protect their interests. Contrary to this situation, there have also been instances wherein the private enterprise may bind the employees not to make use of certain information and skills even after termination of the services leading to exploitation of the employees. The law should balance both these interests and provide guidelines both to the employers and the employees in claiming their rights over the inventions in a fair manner.

The law in many countries like USA, UK, Japan, Germany, and France and even in
China are flexible wherein employees retain rights for such inventions. The IPR laws in India, therefore, need updating so that the employee’s rights and incentives are protected and the innovative activities are given fillip towards greater effectiveness.

**Independent Contractor**

An independent contractor means a person who contracts with another to do something for him but who is neither controlled by the other nor subject to other’s right to control with respect to his physical conduct in performing the undertaking. The relationship of a researcher with the R&D organization or S&T funding agencies is likely to be that of an independent contractor if:

- the individual hires or supervises pursuant to a contract whereby the individual is responsible only for the attainment of a result;
- an inventor is free to work any time and for whomsoever he or she chooses; and
- the individual is working for more than one firm at the same time.

The US government passed the Bayh-Dole Act in late 1980, which determined the rights of independent contractor in the invention under a funding agreement. In case of an independent contractor, the intellectual property belongs to the inventor (contractor) who undertakes the R&D work but the party who gives the contract may have rights to the non-exclusive, worldwide, royalty free licence to the invention. With respect to any invention in which a contractor elects to retain title, the federal government retains a non-exclusive, worldwide, royalty-free licence to the invention.

In India, the Department of Science and Technology (DST) has recently issued guidelines to share intellectual property rights with scientists. These instructions apply to those institutions receiving funds for research projects from the Department of Science and Technology and the Department of Ocean Development. The instructions aim to encourage the institutions to file patent applications on their innovations, motivate them to transfer their technologies for commercialization, and facilitate them to reward their inventors. An “Inventor” means an employee of the institution whose duties involve carrying out of scientific or technical research.

Under the guidelines the institutions are encouraged to seek protection of intellectual property rights that result from implementation of R&D projects funded by them. While the patent may be taken in the name(s) of inventor(s), the institutions are required to ensure that the patents are assigned to them and they get their names entered in the Register of Patents as the proprietor of the patent. The institutions are permitted to retain the benefits and earnings arising out of the IPR and are made responsible to determine the share of the inventor(s) and other persons from such actual earnings.

The Department of Biotechnology (DBT) requires that any patent or industrial property rights on the inventions arising out of the projects funded by it should be taken in the name of the DBT. The Department has the sole option for including the name of the others in such patents/industrial property right. Investigators / Institutes wishing to publish papers based on the research work done under projects, supported by it, are required to acknowledge the financial support received from the Department. The know-how generated from the project would
be the property of the Department and any receipt by way of sales of know-how, royalties, etc. shall accrue to it. The Department may at its discretion allow a portion of such receipts to be retained by the institute. The Department may at its discretion allow a portion of such receipts to be retained by the institute.

The Government of India should take initiatives to establish uniform guidelines for the ownership of the intellectual property between the R&D organizations or funding agencies and the independent contractors as more and more research is likely to be performed by scientists as independent contractors.

Compensation for Employee Inventions

The knowledge of an employee is considered as his chief means of earning a living. As a result, an employer cannot make such stringent restrictions on the employee as to prevent him supporting himself. Employees are entitled to compensation from their employers arising from the exploitation of patent rights in two circumstances:

(i) where the employee is the inventor but the patent rights belong to the employer, and

(ii) where the patent rights belonged to the employee but have been transferred to the employer and the benefit, the employee has received is inadequate.

The German law unequivocally states that inventions made by employees belong first and foremost to the employee, and that only by a special act and for a special remuneration can become the property of the employer. The German law guarantees compensation to an employee for his inventions, which are claimed by the employer. In assessing compensation due consideration is given to the commercial applicability of the invention, the duties and position of the employee in the enterprise and the enterprise’s contributions to the invention. The nature and amount of compensation is fixed by agreement between the employer and the employee within a reasonable time. The provisions of the law are mandatory and cannot be modified by contract to the detriment of the employee.

In UK, the law lays down the basic principles for the calculation of the amount of the compensation that gives the employee a fair share in the benefit derived or expected to be derived. An employee might devise an invention that is of outstanding benefit to his employer. The benefit of the invention may far exceed the employee’s salary for the period of time he has been involved with the invention. Even though the employee has been given consideration for his work, that is his salary, the employee may apply for compensation, which allows the Controller or a court to award compensation where the invention is of outstanding benefit to the employer.

In US, the forms of consideration for the assignment by the employee of the inventions or discoveries made by the employee are determined by the terms and conditions of the employment agreements. The employees are generally entitled to a royalty payment as a result of the assignment of the invention to the employers. In Japan, for an invention in service, an employee has the right to receive the payment of a reasonable consideration, in case an employer succeeds the right to obtain a patent or an exclusive licence for that invention. The amount of consideration is fixed by taking into consideration the amount of profit the employer may obtain from such invention and the extent of contribution the employer has given in bringing out such
invention. The researchers can share the patent rights of an invention in which they have been involved on half-half basis with the State. A preferential licence can be given to the researchers who achieve the invention.

In China, any entity holding a patent right is required to award to the inventor or creator remuneration in respect for exploiting the patent for invention made by the employees. The remuneration is not to be included in the normal bonus fund of the entity, nor subject to the bonus tax. The inventor or creator is required to pay tax for his income. In Republic of Korea and other countries like Malaysia, Sri Lanka, the employee has the right to obtain reasonable remuneration when the right to obtain a patent with respect to an employee’s invention has been transferred to the employer or has given the employer an exclusive licence in accordance with a contract or service regulation. The amount of the remuneration is to be calculated in accordance with the profits realized by the employer from the invention and in accordance with the amount of the employer’s contribution to the creation of the invention.

The experiences of different countries indicate that the key factors to be considered while taking a view on compensation include:

- the employer’s contribution — by the provision of advice, facilities and other assistance; and
- the provision of opportunities and managerial and commercial skill and activities.

In India, the practice of sharing the benefits of employee inventions with the employees varies between organizations. The public-funded R&D organizations like CSIR have mechanisms in place to provide compensation to employees for their invention assigned to the employer. There is no law to bind the private enterprises to extend incentives to employees for inventions, which are assigned to the employers. The Indian approach requires to be updated in the context of the experiences of other countries and necessary guidelines worked out for providing compensation to the employees.

The growth of knowledge-based organizations and competition in technology development have enhanced the global interactions among R&D organizations wherein skills are outsourced worldwide both as an employee and as independent contractors. The determination of the nature of relationship between R&D scientists and the employing R&D organizations becomes of crucial importance.

**Defining the Relationship**

One of the key aspects in determining the rights of employees or employers in the inventions is to determine the true nature of relationships between the R&D organizations and the inventors. In principle, the relationship between the R&D organization and the inventor may be that of an employer and an employee or that of an employer and an independent contractor. How does one know whether the relationship between
R&D organizations asking a researcher to undertake specific tasks is that of an employee hired to invent or of an independent contractor? In R&D Organizations like CSIR this has been a major problem.

There are various ways to analyse a situation to determine a true relationship of employee or an independent contractor. In principle, the relationship is likely to be that of an employee if:

- the problem solved by the inventor was originally posed by the employer; or
- the employer had agreed to pay royalties to the employee; or
- the employer paid fees for the prosecution of the patent; or
- the employer did not fail to express interest in the invention or discovery when it was first presented by the employee; or
- previous inventions by the employee have been assigned to the employer; or
- the organization has a customary practice for other similarly situated employees to assign inventions; or
- the inventor had the authority in the organization to choose the individual who would attempt to solve the problem; or
- the hiring party has the right to require compliance with instructions; or
- the requirements are imposed that the individual work with an experienced employee, attend meetings, use particular methods, and correspond with the hiring party, thereby indicating that the services are to be performed in a particular manner or method; or
- the services are to be rendered personally by the individual, presumably the hiring party is interested in the methods used to accomplish the work as well as the result; or
- the work is performed on the employer's premises, thereby suggesting control; or
- the individual is required to submit regular or written reports to the hiring party, thereby indicating a degree of control; or
- the individual is paid by the hour, weekly, or monthly, and not on by the job or on a straight commission; or
- the hiring party pays the individual's business and/or travel expenses, thereby indicating control over expenses.

The relationship between R&D scientists and R&D organizations - public or private is best formalized in terms of an employment agreement.

**Employment Agreement**

In principle, the law recognizes the ownership interest in the individual who makes a patentable discovery or who authors an original writing. The invention will be the property of the employee unless by the terms of an employment agreement or as a matter of equity, the employee agreed to transfer ownership of such discovery to the employer. If an inventor is hired to invent, then the common terms and conditions of a written agreement becomes important in defining the nature and scope of the relationship between an employer and the employee. The salient features of such terms and conditions are described below.
Assignment

The most effective assignment from the employer's point of view is one that assigns all inventions and discoveries, whether patentable or not, that are related to the employer's business or that the employee makes as a result of his employment. An employer can go too far in drafting such a provision. In order to avoid conflicts with employees' interests some countries have enacted statutes that prohibit the employer from obtaining the rights to all of their employee's discoveries or inventions. A blanket provision assigning all the inventions to the employers should therefore be avoided.

It is essential that any assignment condition in the employment agreement should not cover discoveries or inventions made before the employment. The best way to retain ownership of such inventions by the employees is to identify any inventions that have already been made while executing the employment agreement.

Temporal Scope of Assignment

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Disclosure of Discoveries

The employer may require the employee to disclose promptly to the employer in writing all inventions and discoveries, whether patentable or not in order to facilitate the exploitation of a discovery or invention.

Disclosure allows management to evaluate the discovery and reduce the chance that a valuable discovery will go unnoticed and unexploited. To facilitate such disclosures, employers often have invention disclosure clause by which an employee agrees to disclose fully and promptly to employer all inventions made or conceived by employee, in whole or in part, during the term of the employment agreement. The invention is held in confidence by the employee on behalf of the employer.

Confidentiality

One of the conditions in the employment agreement may relate to the disclosure of the confidential information. A typical confidentiality provision might read as follows:

Employee recognizes that during the term of employment, Employee will receive, develop or otherwise learn various types of information that are secret and confidential. Except as authorized by Employer, Employee shall not disclose or use, directly or indirectly, either during or subsequent to employment with Employer, any confidential information of the Employer that Employee obtains during the course of the employment relating to the business of Employer of Inventions.

Cooperation Regarding Execution of Documents

An employee is required to cooperate in the execution of all documents necessary for the employer to apply for and obtain patent protection in the country and abroad and to protect ownership in the employer. Generally, this provision will also provide that the employer will bear all expenses related to the prosecution of the patent rights.
**Royalty Payments**

The employees are suitably rewarded for the fruits of their intellectual labour by making a provision relating to royalty payments in employment agreements. A common royalty provision might read as follows:

Employer agrees to pay Employee a royalty of two per cent (2%) on all Net Sales of Patented Products, whether manufactured by Employer, an assignee or a sublicensee of Employer.

Patents cannot protect all R&D results. A large amount of R&D information of commercial importance is to be kept confidential. This aspect brings in another important dimension of the relationship between R&D scientists as employees and R&D organizations as employers.

**Confidential Information**

Every employee owes the employer an obligation to act in good faith during the period of employment even though nothing may be expressly agreed, orally or in writing. This includes keeping confidential information confidential. An employee can be obliged to keep information confidential

- impliedly by law during the period of employment;
- expressly by contract for the duration of employment; and

expressly by contract for the period following termination of employment.

A contract of employment may contain terms, which expressly prevent an employee from disclosing information learned in the course of their employment. A contractual term explicitly imposing a duty of confidence is more likely if the employee has access to secret information whether about R&D, technology or trade practices. The employee’s duty of confidence lasts for the whole period of employment. It covers all information learned in the course of employment. Even after the end of employment, the obligation of confidence continues. However, if the employment contract does not deal with the question of confidentiality after employment has ceased then the employee will be free to make use of all general skill, experience and knowledge acquired by him while in service.

There is a need to establish a proper balance between the interest of an employer, i.e. not to lose confidential information to its competitors and those of the employee, i.e. to earn a living based on his skills, experience and knowledge gained during the course of his employment. The employment contract of an employee may contain terms trying to restrict use of confidential materials after the termination of employment. In such case, the retired or ex-employees have obligations with regard to keeping the information confidential that has been acquired during the course of employment. The ex-employee should not use or disclose know-how or confidential information of a previous employer. The ex-employee should not carry away copies of records for future use.

In India, most R&D organizations have provisions in the employment contract, which provide for keeping the information confidential. The practice varies in different organizations.

An employee always has a duty to act in his employer’s best interests together with a duty of good faith and this will obviously include a duty not to divulge confidential information about his employer’s business to others without the consent of the employer. In disclosing information, the infor-
information is to be put in writing or some other permanent form of record. A copy of what is disclosed, and a record of when and to whom is to be kept. If an oral disclosure is made in confidence, the same is to be confirmed in writing what was disclosed and that it was given in confidence.

Keeping Records

This is one of the most important requirements for effectively managing relationships between employer and employees. The potential of conflicts between employers and employees can be reduced if at all stages an acceptable record of events is kept concerning who instituted research, the making of the invention, and its subsequent development and commercial exploitation.

An employer should conduct a regular inventory of the patents it uses and those developed by its employees. An evaluation should be done of the circumstances surrounding the creation of an invention and records kept noting the use of company materials, time and co-workers in the creation of the patented device or process. If circumstances are such that a shop right could exist, an intellectual property law expert should be consulted to ensure that valuable rights do not go untapped.

Summary and Conclusions

One should recognize that in science and technology, human skills soon become obsolescent and is in constant need of replacement or upgradation. The skill of an individual researcher is a mean of his livelihood. The interests of researchers in this sense differ from those of the employing organizations who would like to benefit from the investments made in human resources and, therefore, not encourage them to leave the organization with the intellectual property generated within their workplace and with their resources. These interests should be suitably balanced.

The paper highlights that the relationship of employer and employee arises out of a contract, which may be express or implied. Employer and employee both are free human beings and the only equitable basis is to place the relationship on the basis of contract freely entered into by both sides. In principle, an invention made by an employee, whether it is ultimately patented or held in confidence as a trade secret, will be the property of the employee unless by the terms of an employment agreement or as a matter of equity, the employee agreed to transfer ownership of such discovery to the employer. The fact of merely taking a patent is unlikely to incite the employed inventors to greater efforts. They should be suitably rewarded for the fruits of their intellectual labour. A provision relating to royalty payments in employment agreements may be made for this purpose.

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