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IP Policy Framework- A Tool for IP Policy Development

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Innovation and scientific developments are the bases for economic growth. Academic and research organizations are key contributors to this development. These are the intellectual capital hubs rich in innovation capital. Innovation capital is responsible for inventions and innovations that can be protected by using the legal instrument to create intellectual property (IP). These IP rights creation and management is smooth if there is an organisational IP Policy which will address various IP-related issues. Hence, careful drafting of IP Policy is an indispensable activity of an organization. However, this is usually ignored by academic and research organisations in developing nations may be due to unawareness about its importance and unavailability of IP experts for drafting IP Policy. There are various earlier efforts to push these organisations to develop their own IP Policy including IP Policy guidelines developed by Government bodies. However, in spite of these efforts, IP Policy is not created by most of the academic and research organisations in the country till date. After examining the reasons for the non development of IP Policy, a new "IP Policy Framework" is proposed to overcome these problems. The IP policies have been analysed through exploratory research methodology for various organizations in the India and across various organisations from developed nations.

Keywords: Intellectual Property, IP Policy, India, Research, Developing country, Academic and Research Institutes

Intellectual property (IP) system is one of the core systems for capturing the value of innovations.The main objective of an IP system is to provide legal certainty, promote scientific research, technological development, and to encourage stakeholders for inventions thereby increase the potential benefits to society. It provides an environment that supports and encourages innovation, and balances the conflicting interests of organization, It ensures compliance with applicable national laws and regulations. An institutional IP Policy is the very foundation of IP management of the organization. It paves the way for an academic or research organization to deal with the ownership and disposition of its IP.[1]

The policy sets out the rules on how to identify, evaluate, protect, and manage IPs resulting from their R&D activities. It provides a transparent framework for collaboration with third parties and guidelines for the sharing economic benefits arising from the commercialization of IP. Like industrial organisation, academic and research organizations require strategies that can leverage IP assets and emphasize on how research and the resultant IP address a variety of socio-economic challenges such as health, energy, and food security.[2]

There are various research papers, white papers, guidelines available to help academic and research organization to build their IP Policy. Cell for IPR Promotion & Management (CIPAM), unit of department for the promotion of industry and internal trade (DPIIT) has provided detailed guidelines for IP Policy development. IP policies of leading academic institutes in the country are available publicly on their website. Although such documents are available, still the observation is that more than 90% academic institutes do not have IP Policy. The reason may be i) lack of IP awareness; ii) lack of awareness about importance of IP policy; iii) difficulty in development of IP policy; iv) the fear of legal implications if IP Policy fails.

Hence, in this paper authors are sharing i) comparative analysis of IP policies of leading academic organizations in the country; ii) comparative analysis of leading academic organizations in the world; and proposes the "IP Policy Framework" which can be easily adopted. The reference to leading organization's IP Policy analysis and the customizable framework for IP Policy will help policy makers to easily appreciate the need of their institute against a particular point in the IP

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Policy Framework, compare it with the guidelines/points followed by national and international academic institutes as depicted in the comparative analysis table shared in this paper and adapt a suitable model which will be best fit for their institute. So with the "IP Policy Framework", academic & research organizations can develop the IP Policy and before adapting can compare it with IP Policy of leading academic organizations shared here. Thus, this "IP Policy Framework" will help institutes and organizations to build their IP framework without being dependent on any IP or legal expert. With changing regimes of IPs with reference to fee structure and easy application processes, academic institutes can contribute more in IP creation by developing encouraging IP Policy which will provide stakeholders conducive environment for research and creativity and assure the recognition and due consideration of the efforts.

IP Policy: A Need

An IP Policy constitutes an understanding that is binding on the institution, its staffs, and students. Therefore, it can help mitigate several IP related issues. A few scenarios can help to appreciate the need of IP Policy.

Scenario 1

A faculty member develops an innovative product while working at the laboratory in the institute. The faculty files an IP application without informing the institution. Although the institute resources were used, the institute did not get any recognition. If an IP Policy is in place, the ownership shall be clearly mentioned in that. Consequently, faculty members will be aware of the fact that institute will take care of the IP application including all fees and the IP will be owned by the institute. This will be hassle-free scenario for faculty of the institute. Thus will be win-win situation for both creators and the institute.

Scenario 2

An IP has been commercialized by the institute. There is now dispute regarding how much revenue shall be shared by the inventors. If an IP Policy is in place, the revenue sharing norms shall be clearly mentioned in that. Therefore, there will be no confusion in future regarding how much shall be shared by the inventor. Also, there will not be fear in mind of creator about no recognition of his/her efforts.

Policy, statutes, rules, and regulations are the important pillars of governance. IP Policy is indispensable for organizational governance regarding innovation, IP, and technology transfer. The IP Policy and contracts are the main important processes for IP management of an organization.[3,4] Various countries created their IP policies based on the World intellectual property organization (WIPO) guidelines. India published its first national IP rights (IPR) Policy in 2016 to 'stimulate a dynamic, vibrant, and balanced IP rights system in India'.[5] One of the main objectives of such a policy is to create IP awareness in the country. Under the slogan of 'Creative India and Innovative India', it recommends the introduction of IP in the academic curriculum starting from the school level. Other objectives include the generation of IP, legal framework, administration and management, commercialization of IP, enforcement, and human capital development.[6]

The policy encourages openness in innovation and puts an effort to prevent the misuse of traditional knowledge. Traditional knowledge of India is vulnerable and there have been several attempts to exploit them for industrial and commercial benefit in India and outside.[7] Therefore, to stop biopiracy, Council of Scientific and Industrial Research (CSIR) took up the project of creating a digital library to store the vast traditional knowledge of India that was available in Sanskrit, Hindi, Arabic, Persian, Urdu, and Tamil.[8]

The national IPR Policy also provides special support to micro, small and medium enterprises (MSME) and Startups in India to encourage innovation at the grass-root level. It further recommends all researchers in publicly funded research organizations to file IP before publishing it in journals. It is observed that the IP policies of the academic institutions studied by authors are in line with the national IPR Policy. Recently, a model guideline has been published for implementing IP Policy in academic organizations in India.[9] This guideline has been prepared by CIPAM based on the guidelines provided by WIPO and other academic organizations available on the WIPO site. It also provides a guideline for the IP cell development. Further, it declares that all academic organizations are free to adopt and implement the policy in their organizations and propose further strategies.

It is expected that the IP Policy of an organization should be consistent with its mission.[10] Stanley P.

Kowalski also gave an overview of the Massachusetts Institute of Technology's (MIT's) IP Policy, saying that the foremost mission of the organization is the dissemination of knowledge, education and research. However, the organization is also committed to public service that involves technology transfer. Anselin *et al*. examined geographic spillover between academic research and high technology innovation.[11] Oboh and Okwilag we investigated the role of IP Policy in creating IP in the academic organizations of south-west Nigeria. They found that IP Policy (β= 0.78) made a significant impact (correlation level r=0.67) on the creation of IP. In general, the research organizations and industry are engaged in innovations to find solutions to problems as they arise. It is on the governments and research funding agencies that play a role in providing guidelines on academic patenting and licensing.[2]

It is also important to note that although traditionally academic organizations are mainly focused on teaching, they are also conducting research and technology transfer. Philip Mendes addressed the issue of IP ownership in the case of a visiting faculty to an academic organization.[12] He argued that it should depend on whether the project is funded by the employer academic organization or the host academic organization. Gargate and Jain studied the role of the IP Policy of an academic institution for the development of innovation and entrepreneurship.[13] They found that a well-documented visionary IP Policy results in the generation of more IPs and the creation of new start-ups based on those IPs. Consequently, it helps the academic or research organization to sustain in the competitive environment.

It also should be remembered that not all R&D output of an organization qualifies for IP protection. Certain cases and provisions in contract law and common law suffice to manage the ownership rights and technology transfer. There are many such examples where without IP protection academic and research organizations have achieved great technology transfer with an abundance of revenue generation.[13] Hence, organizations need to identify areas where there is an absolute need for IP protection and where there isn't. This balance should be reflected in the organizational IP Policy.

The current study aims to provide a simple and easy-to-adapt policy framework that may help academic and research organizations to develop their IP policies. It can be inferred from the review above that IP Policy is one of the important components which shape the future of an academic/research organization.

Research Methodology

The study was conducted through exploratory case study method with five Institutes of Eminence (IoE) and two Institutes of National Importance (INI) from India.[14,15] These are Indian Institute of Science (IISc), IIT Bombay (IITB), IIT Kharagpur (IITKGP), IIT Madras (IITM), IIT Kanpur (IITK), IIT Delhi (IITD), and IIT Roorkee (IITR).The IP Policy of each academic organization under consideration was procured from their respective websites. Among various aspects of IP policy, the focus was on the major aspects based on their organizational IP culture and stakeholders' interests.

IP Policy Framework Development

The major aspects which need attention by policy makers of academic and research organizations are very crucial may be: i) considering legal implications which may include ownership, revenue sharing, technology transfer process, NOCs as required etc., ii) for developing conducive environment in the organization for science and technology development, iii) boost entrepreneurial approach

Ownership of IP

In general, any IP created in the organization is owned by the organization when a significant amount of institution resources has been used. However, there can be different scenarios as the following:

(i) No significant use of organization resources: The creator is the sole owner of an IP when there is no significant use of organizational resources in creating that IP.

(ii) For sponsored and/or collaborative activity: In this case, memorandum of Understanding (MoU) of such a project will determine the ownership, mostly joint ownership between the organization and the sponsor.

(iii) If the sponsor does not claim: When the sponsoring agency is not interested in filing joint IP applications, the organization at its discretion may file the application with absolute ownership and will carry the entire cost of filing and protection of IP.

(iv) If IP is generated during consultancy: Generally, IP arising from consultancy is assigned to the organization in the interests of transparency and fair negotiation with consulting firms.

(v) For unprotected Intellectual property: Only IITD has a specific guideline for this case. Such unprotected IP mostly results when the scientific work has not reached a stage of the disclosure. The decision to part with such disclosure outside the organization will rest with the faculty/researcher/ staff concerned.

(vi) Copyright: The protection of copyrightable material also gives rise to various scenarios, like:

a) Significant use of organization resource: Material which can be commercialized by the organization- For commercializable copyright, the institute will be the owner of the copyrighted work. Besides, the institute shall retain a non-exclusive, free, irrevocable license to copy/use IP for teaching and research activities.

b) Teaching material- The organization shall be the copyright owner of all teaching materials developed by faculty. Interestingly, IITKGP says that the organization will not own the rights in copyrightable works.

c) Books and publications- Generally, institution does not claim the copyright ownership of books and publications authored by their personnel.

d) Thesis- Copyright in thesis, dissertations, term papers, laboratory records, and other documents produced by students in the course of study will belong to the student. However, they will grant a non-exclusive, non-transferable, and royalty-free license to use the data generated in the course of the student's research for non-commercial academic activity.

e) Work produced during deputation, official leave, or sabbatical- The IITK policy has a special provision for such cases. It thereby mandates that the concerned IITK personnel should officially communicate the IP to IITK. If the IP involves ideas/software developed, fully or in part, using significant organization resources, then the IP will also be owned by IITK fully or partially, as the case may be. Any IP generated when an Inventor from the organization works in a university or other organization abroad/in India will be jointly owned by IISc and the University/ other organization.

f) Organization's right to update and maintain course materials- The organization will be at liberty to update, revise, and/ or translate (hereinafter revise) a course material in which it owns the right through an assignment of copyright, provided that such revision does not damage the reputation or honor of the original creation.

(vii) Trade Mark(s) / Service Mark(s): IITM prohibits the use of the IIT Madras logo or any insignia without written consent from IIT Madras.

Disclosure Policy

The invention disclosure is a confidential document that an inventor uses to provide the detail of the invention to their IP department. The department then examines whether the invention needs to be protected and whether it has commercial value or not. There exists proper Invention Disclosure Form in every organization for disclosing the invention.

Confidentiality

Confidentiality shall be maintained as demanded by the relevant contract or unless the knowledge is in the public domain.

Filings of IP Applications in Foreign Countries

The organization shall decide on the suitability of protection of an invention in foreign countries within six months of filing the complete IP application in India. If the organization does not wish to file for protection in any specific country requested by the inventor(s), it will assign the IP rights in that country to the creator.

Obtaining IPR

When the organization is interested in protecting the IP, it shall provide an IPR advisor/patent attorney for drafting the IP application.

Renewal of IP Rights

The decision on the annual renewal of IP rights shall be taken by the organization. In general, the organization pays the patent renewal fees for the first seven years. If the patent is commercially exploited within the first seven years, the organization pays the patent fees for the remaining period of the patent life. If it has not been commercialized the organization and creator(s) share the subsequent instalments of renewal fees on a 50:50 basis. However, if the creator is not interested in such renewals, the organization

decides whether it will continue to pay the fees for its full term or not.

Contracts and Agreements

All agreements undertaken by their personnel and students need to be approved by the organization. The categories of agreements include but are not limited to the following: i) confidentiality agreement/non-disclosure agreement, ii) consultation agreement, iii) evaluation agreement, iv) research and development agreement (R&DA / MoU), v) license agreement, vi) technology transfer agreement, vii) alternative dispute resolution agreement and viii) collaborative MoU with university/organization.

Technology Transfer

Technology transfer is the process of transferring or disseminating a technology from the organization that owns or holds it to another person or organization for the business. The organization shall strive to market its IP and identify potential licensee(s). If it is unable to commercialize the IP in a reasonable time, then it may reassign the rights of the IP to the creator(s) of the IP.

Revenue Sharing

Generally, the inventor shares a greater amount of revenue than the institution. So, in order to encourage inventors, any organization that is starting to implement IP policy, can share 70% to the inventor and 30% to the institute. However, if there are other awards given to inventors for their IPs, the revenue can be shared on 50:50 basis.

Infringements, Damages, Liability, and Indemnity Insurance

The organization shall ensure that its personnel have an indemnity clause built-into the agreements with the licensee(s) while transferring technology or copyrighted material to licensees. Moreover, it shall retain the right to engage or not in any litigation concerning patents and license infringements.

Dispute Resolution

Any decision of the head of the organization regarding dispute resolution would be final and binding.

Right to Regulate Policy

Every organization's IP committee shall have the responsibility for interpreting the policy, resolving disputes, the application of the policy and recommending changes to the policy from time to time to the senate. The senate shall consider such changes/recommendations and take such decision thereon as it deems fit. The IPR Policy may be reviewed after three years or earlier if a major change in the same takes place at the national level.

Jurisdiction

All the policies are governed by the appropriate laws in India.

Development and Validation of IP Policy Framework

Considering the major aspects, a broad framework is proposed for drafting the IP Policy of academic and research organizations (Fig. 1) and can be customized according to an individual organization. Research organizations can omit the teaching-related aspects included in our framework. The most significant benefit of policy-based management is that it makes it simple to define and adjust system behavior by relying on policies rather than direct program instructions. This reduces the load on the management. However, if the policy contains flaws, the system may not work properly the way that the administration intended. Therefore, it is important to validate the framework proposed here.

We have chosen the case study approach to validate our framework. For this, we studied one of the oldest universities in India. Although, the university is research intensive one, there was no IP awareness and IP management process in the university. As a result, the faculty members and student communities were not clear about how to file IPs out of their research outcome. After the implementation of IP Policy, the research ecosystem benefitted in every possible way. The IP Policy clearly mentions about all IP related issues e.g., who will own the IP created in the university, how to file an IP from the university, who will keep track of the IP throughout the IP lifecycle, what will be the benefit sharing between inventor and university after commercialization, etc. All these processes streamlined the IP filing and maintenance processes from the university. Most importantly, it brought out proper IP awareness among the student and faculty members and enabled them to understand the value of IPs in academia.

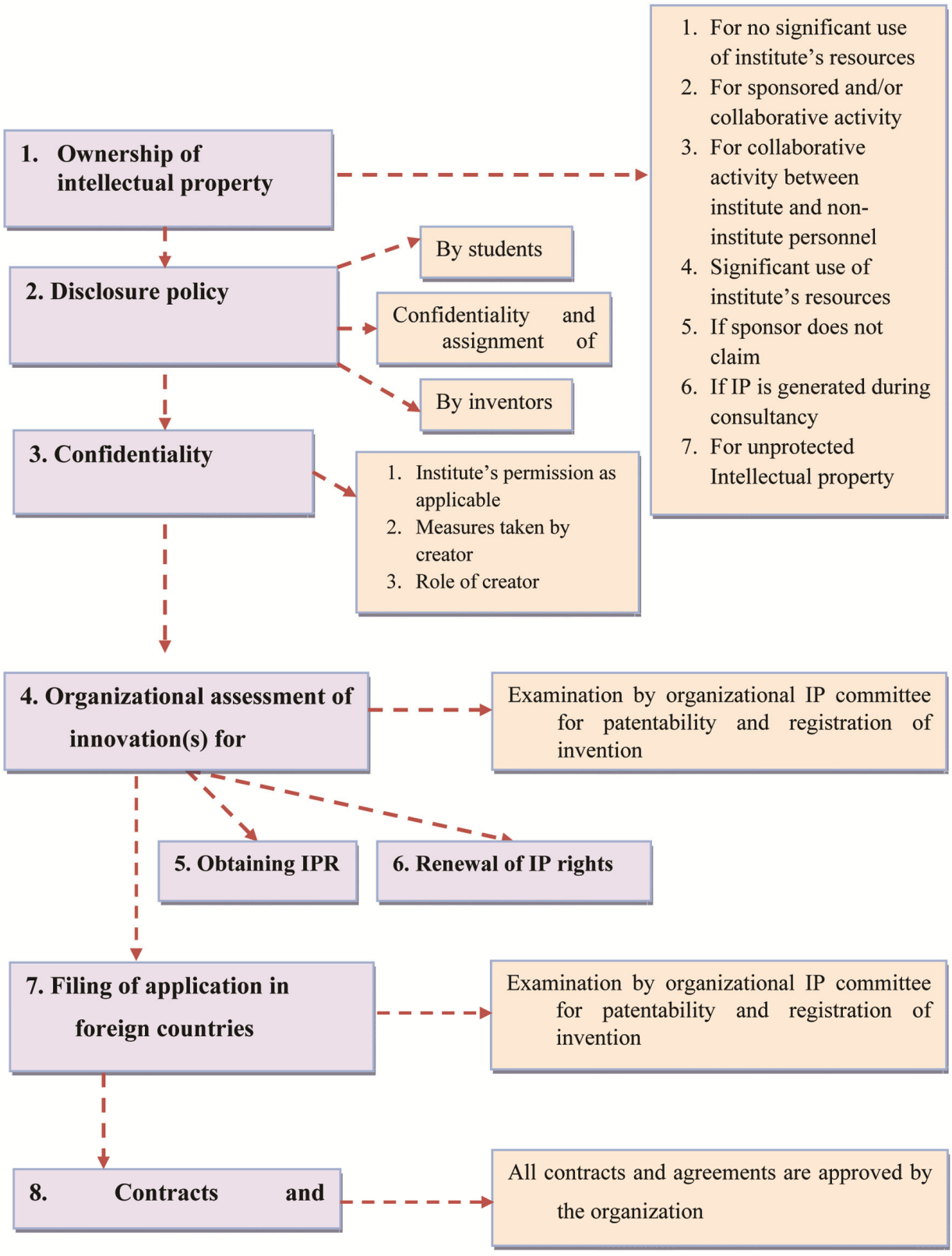

Fig. 1 — IP Policy Framework

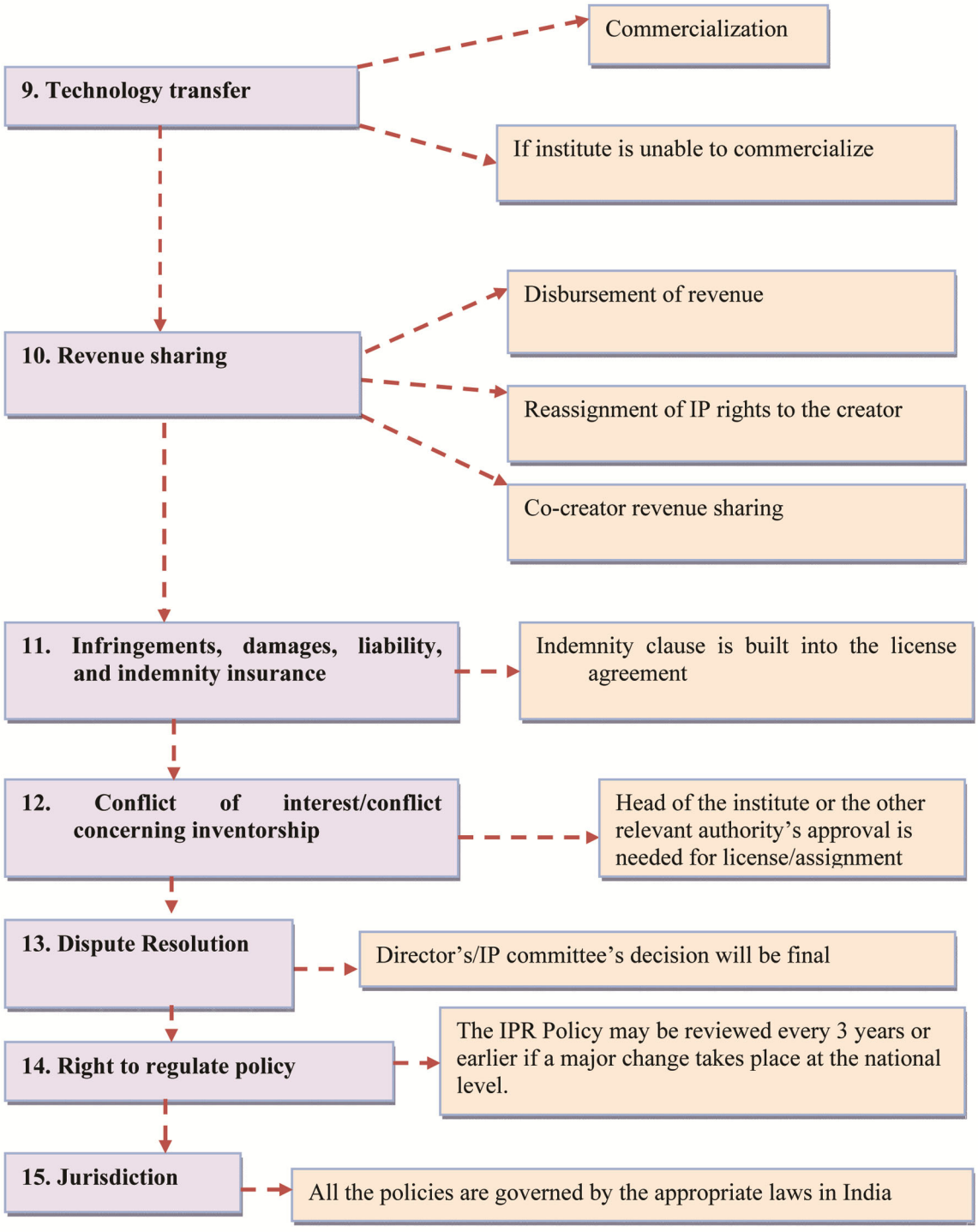

Fig. 1 — IP Policy Framework (continued)

Results and Discussion

An IP Policy Framework has been proposed hereafter analyzing the IP policies of seven premium academic institutions of India. This framework will be suitable for academic and research organizations from developing countries and will ensure that important aspects are considered while drafting the IP Policy. However, an IP Policy is a unique and organization-specific affair and is shaped by the vision and mission of the organization. Consequently, minor

customization will be required to fit the "IP Policy Framework" to a particular organization and can be done by discussions with stakeholders. Lastly, in this era of knowledge-economy where technology lifecycle is smaller than the legal one, an IP Policy must be amended from time-to-time to keep the organization blooming in the competitive market where institutional ranking plays major role.

Conclusion

Global innovation index and academic institutional ranking provide a dedicated weightage for IP. Within IP category too further, application, granted/registered etc. status of IP is determining the score of the section dedicated to IP. The institutional ranking is the subject of pride and survival to sustain in this competitive environment. The ranking has direct effect on student admissions, funding, attracting good faculty and so on. As IP is playing major role not only such above mentioned ranking and indexing, IP have main role to encourage human capital of the organization to generate and commercialize IP. Hence, it is mandatory to focus on creation and protection of IP by organization. IP Policy plays major role in this. Therefore, the proposed IP Policy Framework may be of use to academic and research organizations for quick and customizable IP Policy.

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