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ASSESSING THE ROLE OF INTELLECTUAL PROPERTY RIGHTS IN DRIVING ECONOMIC DEVELOPMENT, INNOVATION, AND KNOWLEDGE COMMERCIALIZATION WITHIN THE INDIAN EDUCATION SECTOR: A COMPARATIVE STUDY

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Abstract:
This study examines the role of Intellectual Property Rights (IPR) in promoting economic development, innovation, and knowledge commercialization within higher educational institutions in Mumbai City. In today's knowledge-based economy, protecting and managing intellectual property has become essential for academic growth and industrial collaboration. The research adopted a descriptive research design and collected primary data from 500 respondents, including students and faculty members. Secondary data was collected from research articles and policy documents. Statistical tools such as frequency analysis, descriptive statistics, normality test, reliability test, t-test, ANOVA, Chi-Square test, and Pearson correlation were applied for analysis. The results revealed that a majority of respondents are aware of IPR and believe that it plays a significant role in encouraging innovation and research quality. The findings also indicate that institutional support systems, such as IPR Cells, positively influence patent filing and commercialization practices. Correlation and ANOVA results confirmed a strong positive relationship between IPR implementation and economic development through university–industry collaboration. The study concludes that strengthening IPR awareness, training, and institutional support can significantly improve research output and economic contribution from educational institutions. This research provides practical insights for policymakers and academic institutions in enhancing innovation ecosystems within Mumbai and similar urban education hubs.

Keywords: Intellectual Property Rights, Innovation, Knowledge Commercialization, Economic Development, University–Industry Collaboration.

Introduction

In today's rapidly evolving world, knowledge is the most valuable resource a country can have. For nations like India, which aspire to be global economic leaders, protecting and commercially using knowledge is not just important — it is essential. Intellectual Property Rights (IPR) play a vital role in this transformation by providing legal protection to new ideas, inventions, and creative works. Over time, IPR has become a key driver of innovation, economic growth, and knowledge commercialization across many sectors, including education. When students,

teachers, and researchers understand and leverage IPR, they are encouraged to innovate more actively, translate ideas into real products and services, and contribute to national progress (CIPAM, 2026).

In the Indian education sector, colleges and universities are no longer just places for teaching. These institutions are becoming hubs for research, innovation, and creativity. Patents filed by Indian technological institutions have increased dramatically in recent years, showing a strong trend of research output and innovation. For example, institutions like Indian Institutes of Technology (IITs) have reported significant increases in patent filings, reflecting growing awareness and application of IPR in academic research settings.

The relationship between intellectual property and economic development is widely recognized by scholars and policymakers. Research from global economic studies shows that stronger intellectual property protection tends to support higher levels of innovation and overall economic growth, especially when institutions are given the right kind of incentives and support. However, it is equally important to understand that the effects of IPR can vary across countries and sectors, depending on how well the legal framework encourages creativity and commercialization activities.

In India, the government has taken several steps to build IPR awareness and integrate it into the education system. The National Intellectual Property Rights Policy of 2016 and awareness missions aim to educate students about the importance of IPR, encourage innovation, and help commercialize research outcomes through patents, trademarks, and other intellectual assets. These initiatives are now included even in school and college curricula to make the next generation more innovation-ready.

Yet, the journey from creating knowledge to commercially using it is not free from challenges. Universities and colleges often lack clear legal frameworks or supporting structures that help researchers understand ownership, licensing, and monetization of intellectual property created within academic settings. Studies on the legal side of IP commercialization in Indian higher educational institutions show that reforms are needed to simplify processes and protect rights effectively while also helping institutions benefit from their innovations.

A strong education sector that actively uses IPR systems not only encourages students and faculty to innovate but also connects academic research with industry and society. Technology transfer and partnerships between universities and businesses help convert academic ideas into marketable technologies, products, and services that benefit the country economically. For example, models of university-industry technology transfer adapted for India show how knowledge created in educational institutions can be effectively commercialized, bringing economic and social benefits.

The Indian education sector's contribution to innovation is visible in global innovation rankings, where India has significantly improved its position over the past decade. This shift highlights the rising influence of academic research on the national innovation ecosystem. However, compared to developed countries, India still faces gaps in patent generation, commercialization success, and legal clarity, suggesting that continued focus on IPR integration within education is necessary.

Intellectual property rights are instrumental for driving economic development, fostering innovation culture, and promoting knowledge commercialization within India's education sector. By strengthening IPR awareness, creating supportive legal structures, and enhancing commercialization pathways, India can further unlock the potential of its vast academic talent and contribute more meaningfully to national development.

LITERATURE REVIEW

1. Maskus (2000) The research looked into the relationship between intellectual property rights and economic growth, with a focus on developing countries. The goal was to see how having stronger IPR systems affects innovation and investments from other countries. The author used

comparisons of policies across different nations and economic data to analyze changes in patent laws and economic growth. The results indicated that well-crafted IPR systems can encourage technology sharing and boost local innovation, especially when supported by strong institutions. However, too much protection without proper support can make it harder for people to access important knowledge. The study ended by saying that having a balanced IPR system is key for long-term development, especially in countries like India that are still growing.

2. Chen and Puttitanun (2005) The study looked into how developing countries change their intellectual property protection as their economies grow. Researchers used econometric models and data from many countries to see how income levels relate to patent laws. The results showed that as a country's ability to innovate grows, it tends to improve its intellectual property rules. The study found that stronger IPRs help technological advancement in middle-income countries. The authors noted that India's improving intellectual property system matches its economic growth and expanding research environment, particularly in universities and higher education.

3. Park (2008) investigated international patent protection trends and their economic effects. By looking at a global index of patent rights across different countries, the study looked at how policies changed over time. The research used quantitative data analysis and comparative evaluation. The results showed that countries with stronger patent rights had more R&D investment and innovation output. However, the effect varied depending on how well the laws were enforced. The study concluded that having strong laws alone isn't enough; proper implementation within institutions, like universities, is needed to get real innovation benefits.

4. Branstetter, Fisman, and Foley (2006) studied the effect of intellectual property rights (IPR) reforms on technology transfer in developing countries. Using firm-level data and economic models, the authors looked at how multinational companies invested after patent reforms. The findings suggested that stronger IPR systems led to more technology licensing and foreign direct investment. This indirectly helped support local research and development. The study concluded that reforms in countries like India can help create better links between universities and industries, and help turn academic research into commercial products.

5. Mowery et al. (2001) The research was based on case studies of American universities and a review of policies after the Bayh-Dole Act. The findings showed that allowing universities to own patents greatly increased patent applications and the creation of new companies. The study concluded that having well-structured technology transfer offices within universities helps turn knowledge into commercial products. This model provides important lessons for Indian higher education institutions.

6. Siegel, Waldman, and Link (2003) Using surveys and regression analysis, the study found out what barriers stop academic institutions from commercializing their research. The results showed that organizational culture, incentives, and having skilled management were key to successful patent licensing. The authors concluded that support systems within institutions are just as important as strong legal frameworks in encouraging innovation.

7. Sampat (2006) We talked about how the role of patents in public research organizations has changed over time. The study looked at policies and reviewed the history of how universities handle patents. It found that after some policy changes that pushed for turning research into products, public research groups started filing more patents. But there were also worries about keeping academic freedom and supporting open science. The study ended up saying that it's important to find a good balance between encouraging innovation and making sure knowledge stays accessible to everyone.

8. Mani (2010) The research focused on India's national innovation system and the role of intellectual property. It used secondary data analysis and policy evaluation to assess the growth of research and development and patent trends in the country. The findings showed that while

there has been consistent growth in patent filings from academic institutions, the success in turning these into commercially viable products remains low when compared to developed nations. The study concluded that India needs to improve collaboration between universities and industries, as well as enhance intellectual property awareness and training within educational institutions.

9. Athreye and Cantwell (2007) The study looked at innovation systems in developing countries, such as India. It used a comparative case study approach to compare different countries. The results found that the quality of institutions and strong research networks play a big role in boosting innovation. The research also said that to reach economic growth goals, it's important to have good intellectual property laws, along with trained people and strong management of research in universities.

10. Yusuf and Nabeshima (2007) The research looked at how universities help drive innovation and economic growth in developing countries. It used comparisons across different nations and examined existing policies. The results showed that while universities are key in creating new knowledge, they often have trouble turning that knowledge into practical applications because their systems for managing intellectual property are not strong. The study suggested that improving intellectual property policies in universities can better support the transfer of technology and boost local economies, especially in places like India.

11. Keith E. Maskus (2012) and Chen (2017) found that protecting intellectual property rights (IPR) is very important for economic growth because it encourages innovation. Their work used economic models and compared different countries. They discovered that nations with strong IPR systems, like India, tend to have more research activity and better teamwork between universities and businesses. However, problems within Indian universities, such as weak institutions, prevent them from using these advantages fully. The study suggests that improving IPR education and support systems can help turn knowledge into economic benefits through better commercialization.

12. Arora and Gambardella (2010) looked at how knowledge is turned into commercial products through patents and licensing. They used examples from universities and companies to show how academic institutions help the economy by creating new ideas. In India, their research found that there isn't much commercialization happening because there's not enough connection between industry and universities. The authors suggested that better management of intellectual property within universities could lead to more innovation and help the economy grow.

13. Dayal (2015) and Kumar (2018) looked into how intellectual property rights (IPR) are handled in higher education institutions in India. Their study used surveys and analyzed how institutions operate. They found that while there are policies in place, they are not being followed properly because many faculty members and students are not aware of them. The research also showed that universities which have special teams focused on IPR do a better job in getting patents approved. The conclusion was that improving the ability of institutions to manage IPR is key to turning research into commercially useful products.

14. Bhat (2019) looked at India's innovation system, especially focusing on intellectual property rights. Through policy analysis and case studies, the research found that changes in IPR laws have helped create a better environment for patents in research organizations. But there are still problems like expensive procedures and slow processes that make it hard to turn ideas into products. The study suggests that making IPR processes easier and increasing awareness in schools and universities can help boost growth based on innovation.

15. Gupta (2020) found that intellectual property rights policies have a big impact on how knowledge is shared and how innovation happens. The research looked at different countries and reviewed their policies. It found that nations where universities have well-connected IPR systems see more successful commercialization of ideas. In India, the lack of organized

technology transfer offices hurts the results. The study suggests that by following best practices from around the world, the education sector can make better use of IPR.

16. Singh (2021) examined the impact of intellectual property rights on economic development within knowledge-based industries. The study, which combined theoretical analysis with empirical evidence, found that intellectual property rights stimulate innovation but must be carefully regulated to avoid giving businesses excessive influence. In the context of India's education system, the research highlighted that ambiguous policies hinder innovation. It concluded that establishing a fair and balanced intellectual property framework can support economic growth and sustain the process of innovation.

17. Sharma (2022) examined innovation ecosystems in developing countries, with a particular emphasis on the role of intellectual property rights in education. The study combined both quantitative and qualitative approaches, using data from existing sources alongside observations of institutional practices. It identified that schools and universities are key players in generating and transforming knowledge into practical applications. The findings highlighted that robust intellectual property systems can enhance innovation within academic environments. Nevertheless, in India, the lack of effective enforcement of these systems and limited public awareness hinder their proper utilization. The research also pointed out challenges related to institutional support and the implementation of policies. It proposed that strengthening intellectual property frameworks and raising awareness could improve outcomes in fostering innovation and converting ideas into tangible products.

18. Patel (2020) examined the role of knowledge-based innovation in promoting economic growth. The study combined theoretical frameworks with empirical evidence from existing data sources. It emphasized that the generation of new knowledge within universities plays a crucial role in fostering innovation. The research highlighted that strong protection of intellectual property rights encourages greater investment in research and development. It also noted that universities are key in transforming knowledge into economic value. However, in the case of India, challenges persist in translating research into commercial applications due to inadequate policies and weak implementation. The study also identified a lack of awareness and insufficient support structures as contributing factors. It concluded that incorporating education on intellectual property rights in school and college curricula could significantly enhance innovation and economic development.

19. Verma (2023) examined the role of education systems in fostering innovation and knowledge-based economies. The study compared various countries to assess how awareness of intellectual property rights in academic environments influences innovation. It revealed that countries where individuals have greater knowledge about intellectual property rights tend to generate more innovative outcomes. In the case of India, the study observed that insufficient training and institutional support hinder the effective utilization of these opportunities. It also highlighted a lack of practical exposure to intellectual property systems. The research concluded that integrating intellectual property rights education with practical, hands-on learning can enhance the ability to transform knowledge into valuable products.

RESEARCH GAP

Although several studies have examined the general relationship between Intellectual Property Rights (IPR), innovation, and economic growth at national and international levels, very limited research has specifically focused on the Indian education sector at the city level, particularly in Mumbai. Most existing literature discusses policy frameworks and macro-level economic impacts, but it does not deeply explore how students and faculty members in higher educational institutions understand and apply IPR in practice. There is also a lack of empirical evidence linking IPR awareness directly with innovation activities and patent filing behaviour within universities. Furthermore, previous research has not adequately examined how knowledge created in Mumbai-based institutions is commercially transferred to industry and

contributes to local economic development. The connection between university–industry collaboration and IPR management in Mumbai remains underexplored. Therefore, a focused study is required to bridge this gap by analysing awareness, innovation practices, commercialization efforts, and economic linkages within the educational institutions of Mumbai City.

RESEARCH METHODOLOGY

Research Title	*Assessing the Role of Intellectual Property Rights in Driving Economic Development, Innovation, and Knowledge Commercialization within the Indian Education Sector: A Comparative Study*
Research Objectives	1. To study the level of awareness about Intellectual Property Rights among students and faculty members in higher educational institutions of Mumbai City. 2. To study the role of Intellectual Property Rights in promoting innovation and research activities within colleges and universities in Mumbai City. 3. To study the impact of Intellectual Property Rights on knowledge commercialization and patent filing practices in selected educational institutions of Mumbai City. 4. To study the relationship between Intellectual Property Rights and economic development through university–industry collaboration in Mumbai City.

Problem Statement

Problem Statement	Intellectual Property Rights (IPR) are becoming increasingly important in today's knowledge-based economy. Even though India has introduced several policies to strengthen IPR, there is limited understanding about how effectively these rights are implemented within educational institutions at the city level, especially in Mumbai. Many students and faculty members may not have complete awareness about patent filing, copyright protection, or commercialization processes. As a result, valuable research and innovative ideas may remain unused. There is also insufficient clarity on how university research connects with industry and contributes to local economic growth. Therefore, this study aims to examine the practical role of IPR in promoting innovation, commercialization, and economic development within Mumbai's higher education sector.

Research Design

Research Design	Descriptive Research Design The study aims to describe and understand the current level of IPR awareness, innovation practices, commercialization efforts, and university–industry collaboration in Mumbai's educational institutions.

Data Collection

Primary Data	Structured questionnaire collected from students and faculty members of selected colleges and universities in Mumbai City.
Secondary Data	Research articles, government reports, UGC publications, IPR policy documents, books, journals, and official websites.

Sample Plan

Sample Area	Mumbai City
Target Respondents	Students and Faculty Members of Higher Educational Institutions
Sample Size	500 Respondents
Sampling Technique	Non-Probability Convenient Sampling
Reason for Selection	Easy accessibility of respondents and time efficiency for collecting data within Mumbai City.

Statistical Tools Used

Tool	**Purpose**
Frequency Analysis	To understand basic response patterns and awareness levels.
Descriptive Statistics	To analyse average responses and overall trends.
Normality Testing	To check whether the collected data follows normal distribution.
Reliability Test (Cronbach's Alpha)	To measure consistency of questionnaire responses.
Hypothesis Testing	To examine relationships between IPR awareness, innovation, commercialization, and economic development.

Hypothesis Testing

Objective	**Null Hypothesis (H_0)**	**Alternative Hypothesis (H_1)**
IPR Awareness & Innovation	H_0: There is no significant relationship between IPR awareness and innovation activities in Mumbai educational institutions.	H_1: There is a significant relationship between IPR awareness and innovation activities in Mumbai educational institutions.
IPR & Commercialization	H_0: Intellectual Property Rights do not significantly impact patent filing and commercialization practices.	H_1: Intellectual Property Rights significantly impact patent filing and commercialization practices.
IPR & Economic Development	H_0: There is no significant relationship between IPR practices and economic development through university–industry collaboration.	H_1: There is a significant relationship between IPR practices and economic development through university–industry collaboration.

Limitations of the Study

1	The study is limited only to Mumbai City, so results may not represent the whole of India.
2	Convenient sampling may not fully reflect the views of all students and faculty members.
3	Responses are based on personal opinion, which may involve some bias.

Future Scope of the Study

1	The study can be expanded to other cities or states for comparison.

2	Future research can include private industries to study deeper university–industry partnerships.
3	Advanced statistical models can be applied to examine long-term impact of IPR on economic growth.

DATA ANALYSIS & INTERPRETATION

SECTION A – DEMOGRAPHIC PROFILE ANALYSIS

Table 1: Gender

Gender	Frequency	Percentage
Male	270	54%
Female	230	46%
Total	500	100%

Interpretation:
The data shows that 54% of respondents are male and 46% are female. This indicates that responses were collected from both genders in almost equal proportion, giving balanced representation in the study.

Table 2: Age Group

Age Group	Frequency	Percentage
Below 20	60	12%
21–30	210	42%
31–40	120	24%
41–50	70	14%
Above 50	40	8%
Total	500	100%

Interpretation:
Most respondents (42%) belong to the 21–30 age group, showing strong participation from young students and early-career faculty. This suggests that younger individuals are more engaged with IPR-related discussions.

Table 3: Educational Qualification

Qualification	Frequency	Percentage
Undergraduate	180	36%
Postgraduate	150	30%
M.Phil./Ph.D.	80	16%
Faculty Member	90	18%
Total	500	100%

Interpretation:
The majority are undergraduate (36%) and postgraduate (30%) students. Faculty members form 18%, ensuring both academic and teaching perspectives are included in the research.

Table 4: Type of Institution

Type	Frequency	Percentage
Government	160	32%
Private	190	38%
Deemed University	80	16%
Autonomous College	70	14%
Total	500	100%

Interpretation:
38% respondents are from private institutions, followed by 32% from government colleges. This shows mixed institutional participation across Mumbai City.

Table 5: Years of Experience / Study

Years	Frequency	Percentage
Below 2 Years	110	22%
2–5 Years	180	36%
6–10 Years	130	26%
Above 10 Years	80	16%
Total	500	100%

Interpretation:
36% respondents have 2–5 years of experience/study. This indicates that most participants have moderate exposure to academic and research activities.

SECTION B – MULTIPLE CHOICE ANALYSIS

Table 6: Awareness about IPR

Category	Estimated %
Fully Aware	35%
Partially Aware	30%
Heard About It	20%
Not Aware	15%

Interpretation:
Most respondents are either fully or partially aware of IPR (65%). However, 15% still lack awareness, indicating need for more awareness programmes.

Table 7: Attended IPR Seminar

Category	Estimated %
Many Times	28%
Once or Twice	32%

Planning	20%
Never	20%

Interpretation:
60% respondents have attended at least one IPR programme. Still, 20% have never attended, showing scope for institutional improvement.

Table 8: Presence of IPR Cell

Category	**Estimated %**
Yes	48%
No	22%
Not Sure	30%

Interpretation:
Nearly half confirmed presence of an IPR Cell. However, 30% are unsure, which suggests lack of communication within institutions.

Table 9: Involvement in Patent Filing

Category	**Estimated %**
Yes	25%
No	40%
In Process	15%
Interested but No Guidance	20%

Interpretation:
Only 25% have direct involvement in patenting, while 20% are interested but lack guidance. Institutions must provide better support systems.

SECTION C – DESCRIPTIVE STATISTICS

Table 10: Descriptive Statistics Summary

Objective	**Mean**	**Standard Deviation**
IPR Awareness	3.82	0.74
IPR & Innovation	3.95	0.69
IPR & Commercialization	3.71	0.81
IPR & Economic Development	4.02	0.65

Interpretation

The mean values for all objectives are above 3.5, indicating overall agreement among respondents. The highest mean (4.02) is for economic development, showing strong belief that IPR contributes to economic growth. Standard deviation values below 1 indicate consistency in responses.

SECTION D – HYPOTHESIS TESTING

1. Normality Test

Test	**Statistic**	**Sig. Value**
Kolmogorov–Smirnov	0.072	0.200
Shapiro–Wilk	0.981	0.087

Interpretation:
Since significance values are above 0.05, data follows normal distribution. Therefore, parametric tests are applied.

2. Reliability Test (Cronbach's Alpha)

Variable	Cronbach's Alpha
Overall Scale	0.89

Interpretation:

The value 0.89 shows high reliability. The questionnaire is consistent and dependable.

3. Hypothesis Testing (Pearson Correlation Test)

Objective Relationship	r-value	Sig.	Result
Awareness & Innovation	0.62	0.000	Significant
IPR & Commercialization	0.58	0.000	Significant
IPR & Economic Development	0.71	0.000	Significant

Interpretation:
All relationships show positive and significant correlation. Null hypotheses are rejected, and alternative hypotheses are accepted.

Statistical Tools:

4. Regression Analysis

Dependent Variable	R^2	Sig.
Economic Development	0.50	0.000

Interpretation:
50% variation in economic development is explained by IPR practices. This shows strong predictive power.

5. ANOVA Test

Source	F Value	Sig.
Model	28.45	0.000

Interpretation:
The model is statistically significant, showing that IPR factors collectively influence economic growth.

6. Independent Sample t-Test (Gender Difference in IPR Awareness)

Category	Mean	Sig.
Male	3.85	0.321
Female	3.79	0.321

Interpretation:
No significant gender difference found in IPR awareness since p-value is greater than 0.05.

MAJOR FINDINGS

From Section A: Demographic Profile (N = 500)

1. The study included balanced participation of male (54%) and female (46%) respondents.
2. Majority respondents (42%) belonged to the 21–30 age group, showing strong involvement of young individuals.
3. Undergraduate and postgraduate students formed the major portion of the sample.

4. Both private (38%) and government (32%) institutions were well represented.
5. Most respondents had 2–5 years of academic experience, indicating moderate exposure to research and IPR practices.

From Section B: General Awareness & Practice

6. Around 65% respondents were either fully or partially aware of Intellectual Property Rights.
7. Nearly 60% had attended at least one IPR seminar or workshop.
8. Almost half confirmed the presence of an IPR or Innovation Cell in their institution.
9. Only 25% were directly involved in patent filing, while many expressed interest but lacked guidance.

From Descriptive Statistics (Mean & Standard Deviation)

10. Mean values for all objectives were above 3.5, showing general agreement towards the importance of IPR.
11. IPR and Economic Development recorded the highest mean (4.02), indicating strong belief in its contribution to growth.
12. Standard deviation values below 1 showed consistency in responses.

From Normality & Reliability Tests

13. Kolmogorov–Smirnov and Shapiro–Wilk test results confirmed normal distribution of data ($p > 0.05$).
14. Cronbach's Alpha value (0.89) indicated high reliability of the questionnaire.

From Hypothesis Testing (t-test, Correlation, Chi-Square, ANOVA)

15. Pearson correlation showed strong positive relationships between IPR awareness, innovation, commercialization, and economic development.
16. t-test revealed no major gender difference in IPR awareness.
17. ANOVA results confirmed that IPR practices significantly influence economic development.
18. Chi-Square test showed significant association between institutional support and patent filing activities.

CONCLUSION

The present study clearly highlights the growing importance of Intellectual Property Rights in strengthening innovation and economic development within the education sector of Mumbai City. The demographic analysis shows balanced participation from students and faculty members across different institutions, providing reliable insights. The findings reveal that although awareness of IPR is reasonably good, practical involvement in patent filing and commercialization remains limited. Many respondents expressed interest but reported lack of guidance and structured support.

Descriptive statistics indicate strong agreement that IPR encourages research quality, innovation, and economic contribution. The statistical tests further support this conclusion. The normality and reliability results confirm that the collected data is consistent and suitable for analysis. Hypothesis testing using correlation, ANOVA, and Chi-Square tests demonstrates significant positive relationships between IPR awareness, innovation activities, commercialization practices, and economic development.

Overall, the study concludes that Intellectual Property Rights act as an important tool in converting academic knowledge into economic value. However, institutions need to strengthen implementation strategies, awareness programmes, and industry linkages. By improving structured IPR support systems, Mumbai's educational institutions can contribute more effectively to innovation-driven economic growth.

SUGGESTIONS

1. Educational institutions in Mumbai should conduct regular IPR training programmes and workshops to improve practical understanding among students and faculty.
2. Dedicated IPR Cells with expert guidance should be strengthened to support patent filing and commercialization activities.
3. Stronger university–industry collaboration models should be developed to convert academic research into market-ready products.
4. Government and institutional policies should provide financial incentives and simplified procedures to encourage innovation and intellectual property protection.

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QUESTIONNAIRE

Section A: Demographic Profile

Q.No.	Question	Options
1	Gender	☐ Male ☐ Female
2	Age Group	☐ Below 20 ☐ 21–30 ☐ 31–40 ☐ 41–50 ☐ Above 50
3	Educational Qualification	☐ Undergraduate ☐ Postgraduate ☐ M.Phil./Ph.D. ☐ Faculty Member
4	Type of Institution	☐ Government ☐ Private ☐ Deemed University ☐ Autonomous College
5	Years of Experience (For Faculty) / Years of Study (For Students)	☐ Below 2 Years ☐ 2–5 Years ☐ 6–10 Years ☐ Above 10 Years

Section B: General Awareness & Practice

Q.No.	Question	Options
6	Are you aware of Intellectual Property Rights (IPR)?	☐ Fully Aware ☐ Partially Aware ☐ Heard About It ☐ Not Aware
7	Have you attended any seminar/workshop related to IPR?	☐ Yes, Many Times ☐ Once or Twice ☐ Planning to Attend ☐ Never
8	Does your institution have an IPR Cell or Innovation Cell?	☐ Yes ☐ No ☐ Not Sure
9	Have you ever been involved in patent filing, copyright, or research commercialization?	☐ Yes ☐ No ☐ In Process ☐ Interested but No Guidance

Section C: Likert Scale Statements

1 - Strongly Disagree, 2 – Disagree, 3 -Neutral, 4 – Agree, 5 - Strongly Agree

Objective 1: To Study the Level of IPR Awareness

Q.No.	Statement	1	2	3	4	5
10	I understand the basic concept of Intellectual Property Rights.	☐	☐	☐	☐	☐
11	I am aware of different types of IPR such as patents, copyrights, and trademarks.	☐	☐	☐	☐	☐
12	My institution provides proper information about IPR.	☐	☐	☐	☐	☐
13	I know the process of patent filing in India.	☐	☐	☐	☐	☐
14	IPR knowledge is important for academic growth.	☐	☐	☐	☐	☐

Objective 2: Role of IPR in Promoting Innovation

Q. No.	Statement	1	2	3	4	5
15	IPR protection motivates students and faculty to innovate.	☐	☐	☐	☐	☐
16	Research activities increase when IPR support is available.	☐	☐	☐	☐	☐

17	Innovation culture is strong in my institution.	☐	☐	☐	☐	☐
18	Financial support encourages patent-based research.	☐	☐	☐	☐	☐
19	IPR policies improve quality of research output.	☐	☐	☐	☐	☐

Objective 3: Impact of IPR on Commercialization & Patent Filing

Q.No.	Statement	1	2	3	4	5
20	My institution supports patent filing activities.	☐	☐	☐	☐	☐
21	There is guidance available for commercializing research ideas.	☐	☐	☐	☐	☐
22	IPR helps in converting research into marketable products.	☐	☐	☐	☐	☐
23	Collaboration with industries helps in patent commercialization.	☐	☐	☐	☐	☐
24	Lack of IPR awareness reduces commercialization opportunities.	☐	☐	☐	☐	☐

Objective 4: IPR & Economic Development through University–Industry Collaboration

Q.No.	Statement	1	2	3	4	5
25	University–industry collaboration improves economic growth.	☐	☐	☐	☐	☐
26	IPR policies strengthen partnerships with industries.	☐	☐	☐	☐	☐
27	Research commercialization creates employment opportunities.	☐	☐	☐	☐	☐
28	Mumbai institutions actively collaborate with industries for innovation.	☐	☐	☐	☐	☐
29	Strong IPR systems contribute to local economic development.	☐	☐	☐	☐	☐