

# The Impact of Patent, Trademark and Industrial Design Applications in Indian Economy

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## **ABSTRACT**

*Creative innovations have been a constant in development and improvement of any economy. There is an abundance of creative and productive energies streaming in India. India has a TRIPS consistent, hearty, impartial and dynamic IPR system. The assertion of National IPR Policy underlines the role of IPRs as an attractive monetary resource and financial aid. A nation-wide promotional programs should be launched emphasizing the advantages of IPRs and their incentive to the rights-holders and the general public. Such a program will create an air where imagination and development are empowered in public and private sectors, R&D focuses, industry and the scholarly community, leading to generation of protectable IP that can be marketed. It is also necessary to reach out to contact the less-obvious IP generators and holders, particularly in country and in regionally remote areas. Intellectual property protection is playing an important role in India's on-going open-door policy and economic reform, which began since early 1970s (India has joined WIPO in 1975). The previous three decades have seen emotional changes Intellectual Property Rights of India both as far as national IPR law framework and universal settlements enrolment. This paper examines the impact of three IPRs indicators such as Patents, Trademarks and Industrial Design in Indian Economy. This paper explains that Patents, Trademarks and Industrial Design are a significant determinant of economic growth.*

**Keywords:** *Patent, Trademark, Industrial Design, GDP, Intellectual Property*

**JEL codes** – *O34*

## **INTRODUCTION**

The concrete measures taken by the Indian Government in the last two decades in consonance with national advancement needs, and similarity with worldwide settlements, shows and understandings to which India is a gathering has made and built up a TRIPS consistent, powerful, impartial and dynamic IPR system. The continuous and endless improvements along with the general and far-located changes at the authoritative and managerial levels have brought about reinforcing the organization, the executives and requirement of IPRs. India has consistently been aware of its commitments in the universal field, and has acquiesced to various worldwide shows to assist the reason for IPRs comprehensively. India was the

principal nation to sanction the Marrakesh Treaty 2013 for Access to Published Works by visually impaired persons. The promotion to the Madrid Protocol in 2013 is a stage towards worldwide arrangement for owners of imprints. The Indian Patent Office has been perceived as an International Search Authority and an International Preliminary Examination Authority. The IPR system in India has satisfactory protects as legal survey and re-appraising arrangements. Indian courts have reliably authorized IPRs, with decisions plainly communicating the aim and reason for our laws.

## LITERATURE REVIEWS

An examination of the literature on IP, advancement and development proposes a majority of perspectives concerning the impacts of IP on development. The literature holds that expanded degrees of IP promotion have both positive and negative consequences for advancement and development (Anette Andersen, Bjørn E.Holstein Mag., & Ebba Holme Hansen, 2006; Hall & Harhoff, 2012; Pakes, 1985) clarify that, while patent rights make motivating forces for innovative work and dispersion, they obstruct the mix of new thoughts and creations and raise exchange costs. As a result of these counterbalancing propensities, they conclude, "the theoretical literature produces questionable outcomes concerning motivating forces gave by patents"(Hall & Harhoff, 2012; Rockett, Eleanor Rockett, & Katharine, 2010). Researchers have documented similar tendencies with respect to different types of IP (Barton, 2007).

For developing countries, this recommends that the direct effect of IP on growth is interceded by various components, including the nation's innovative work limit, per capita wealth, the nature and adequacy of its establishments, its phase of advancement, and monetary unpredictability, to give some examples (Barton, 2007; Bessen & Maskin, 2009; Kakar, 1982). A conclusion is that there is nobody ideal household level of IP security over all nations; rather, the literature suggests that a nation should differ its IP protection relying upon its whole and liquid innovation ecosystem, including the variables simply set out. The impact of this, as Harilal and Minea conclude, is that "we are not, at this point confronted with a constant single ideal degree of IP for every nation, except one which develops" (Harilal, n.d.).

Recognizing that residential optima for IP protection fluctuate as indicated by condition does not clarify which components in the ecosystem are generally significant in setting domestic IP protection. Maskin recommends that creating nations advantage more from expanded degrees of IP protection when they have "appropriate complementary endowments" such as more noteworthy interests in human capital, increasingly open economies, and strategies, such as solid anti-trust laws (Bessen & Maskin, 2009) find that that underlying degrees of IP protection and GDP mutually impact a nation's ideal IP levels. Graham Dutfield and Eterovic Magio (Graham Dutfield, 1999) show that these optima rely upon the two degrees of development and financial intricacy. Jorg (Jorg Thoma & Kilian Bizer, 2013) point out that it is not the degree of IP protection however the form protection takes that is generally important.

Researchers propose that IP likely contributes to growth through at any rate two unmistakable procedures: by urging outside right holders to trade high innovation merchandise into the household economy and by giving incentives to improve domestically (Anuradha, Taneja, Kothari, Swiderska, & International Institute for Environment and Development., 2001; Dagne, 2015; Kanwar & Evenson, 2003; Knauff, 2002; Madhulika Banerjee, 2008). The first of these procedures depends on the proposal that more noteworthy degrees of IP assurance make an ideal situation for creating nations with early stage inventive ability to get technology transfer through foreign IP-intensive goods (Hikkerova, Kammoun, & Lantz, 2014; Jorg Thoma & Kilian Bizer, 2013; Noel & Schankerman, 2013). More advanced developing countries go beyond importation for innovating their own products and services

## **STATEMENT OF THE PROBLEM**

The profile of IP filings and registrations/grants is one of the parameters, however by all account not the only one, to assess the present status and capability of IP creation in a nation. (Munari & Oriani, 2011). In India, the quantity of patent filings has exponentially over the most recent couple of years. On account of trademarks, India is among the main five filers in the world, with the dominant part being recorded by Indians. The number of design applications filed is not even close to India's latent capacity, given its tremendous pool of designers, artisans and artists. India has an enormous ability pool of scientific and technological spread over R&D organizations, enterprises, universities and technical institutes. So there is a need to measure this fertile knowledge resource for stimulating economic growth rate.

## **OBJECTIVE OF THE STUDY**

Due to lack of proper awareness regarding secured property rights system assets in the developing countries cannot be turned into productive capital traded outside, used as collateral for a loan or share against investment. Therefore, it results in retarded economic growth. This study examines how the IPRs elements like patent, trademark and industrial design relates to Indian economic growth.

## **METHODOLOGY**

To examine the long-run relationship between growth rate of real GDP and IPRs indicators, this study apply regression technique based on WIPO statistics for the period 2009 to 2019. For the study, the researcher used the statistics are based on data collected from IP offices or extracted from WIPO's operational databases. The data relating to gross domestic product (GDP) are from the UN Statistics Division and the World Bank. A resident filing refers to an application filed in the India by its own resident; whereas an abroad filing refers to an application filed by this country's resident at a foreign office. The Indian patent office provides total filings without breaking them down into resident and abroad filings. So the researcher based WIPO rule, i.e., WIPO divides the total count using the historical share of resident filings at that office.

**PATENT, TRADEMARK AND INDUSTRIAL DESIGN APPLICATIONS IN INDIA****Patent Applications:**

Companies and inventors in developing countries increasingly are tremendously anticipated to secure their developments by patents. Domestic innovators in developing countries, which often include individuals other small and medium enterprises, themselves see their own patent system as well as other countries as beneficial for protecting and monetizing their inventions. In the patent workplaces of the BRIC nations alone (Brazil, Russia, India and China), for instance, patent applications from locally inhabitant creators and organizations comprise a considerable and developing level of all applications documented. The level of occupant patent applications arrived at 15.8% in Brazil, 18.4% in India, 62.4% in China, and 69.7% in Russia in 2007. The below table 1 shows the patent application status of India from 2009 to 2019.

Table 1

Patent Applications Status of India			
Year	Resident	Abroad	Total
2009	7262	4677	11939
2010	8853	6018	14871
2011	8841	7056	15897
2012	9553	8648	18201
2013	10669	10238	20907
2014	12040	10404	22444
2015	12579	11411	23990
2016	13199	12654	25853
2017	14961	13048	28009
2018	16289	13747	30036
2019	17845	14389	32234

*Notes:*

1. *Resident filing refers to an application filed in the India by its own resident.*
2. *An abroad filing refers to an application filed by Indian resident at a foreign office*

Source: WIPO Database, April 2020

The total number of patent applications in 2009 was 11939, which increased to 32234 in 2019. Indian patent office received more than 25000 applications from 2016 onwards. Similarly, the share of patent applications filed in India, which was increased to 54.17 percent from 2013 to 2019. Similarly, the applications in India (Resident) was reached at 17845 and applications at abroad was reached at 14389 in 2019. So it is essential to check whether there is any association between patent applications in India and patent applications at abroad.

Table 2  
Correlation between Patent applications in India and Patent applications at abroad

	Patent Application in India	Patent Application at Abroad
Patent Application in India	Pearson Correlation	1
	Sig. (2-tailed)	.950**
	N	11
Patent Application at Abroad	Pearson Correlation	.950**
	Sig. (2-tailed)	.000
	N	11

\*\*Significant at the 0.01 level (2-tailed).

The above table 2 measures the relationship between two variables such as resident patent application and patent application at abroad. Pearson correlation coefficient is used to measure the strength of association between these two variables. The result indicate that there is a high strength of correlation ( $r = .950$ ) and highly statistically significant ( $p < 0.01$ ) at 1 percent level of significance. So there is strong positive relationship between resident patent application and patent application at abroad.

### Trademark Applications:

As with patents, the use of trademarks is on rise in developing countries. Domestic organizations comprise a significant piece of the clients of these trademark systems, and even in contrast with developed countries there is a high pace of utilization trademark system in developing countries relative to GDP. The below table 3 shows the trademark application status of India from 2009 to 2019.

Table 3  
Trademark Applications of India

Year	Resident	Abroad	Total
2009	134403	19535	153938
2010	172120	18206	190326
2011	176386	18410	194796
2012	176044	21833	197877
2013	183172	21815	204987
2014	200144	37106	237250
2015	250586	32905	283491
2016	264662	29713	294375
2017	242483	29654	272137
2018	297751	35690	333441
2019	332234	43400	375634

Notes:

1. Resident filing refers to an application filed in the India by its own resident.
2. An abroad filing refers to an application filed by Indian resident at a foreign office

Source: WIPO Database, April 2020

In India, the total trademark application in 2009 was 153938, which increased to 375634 in 2019. Indian trademark office received more than 250000 applications from 2015 onwards. Similarly, the share of trademark applications filed in India, which was increased to 83.24 percent from 2013 to 2019. Similarly, the applications in India (Resident) was reached at 332234 and applications at abroad was reached at 43400 in 2019. So it is essential to check whether there is any association between trademark applications in India and trademark applications at abroad.

Table 4  
Correlation between Trademark applications in India and Trademark applications at abroad

		Trademark Application in India	Trademark Application at Abroad
Trademark Application in India	Pearson Correlation	1	.857**
	Sig. (2-tailed)		.001
	N	11	11
Trademark Application at Abroad	Pearson Correlation	.857**	1
	Sig. (2-tailed)	.001	
	N	11	11

\*\*Significant at the 0.01 level (2-tailed).

The above table 4 measures the relationship between two variables such as resident trademark application and trade application at abroad. Pearson correlation coefficient is used to measure the strength of association between these two variables. The result indicate that there is a high strength of correlation ( $r = .857$ ) and highly statistically significant ( $p < 0.01$ ) at 1 percent level of significance. So there is strong positive relationship between resident trademark application and trade application at abroad.

### Industrial Design Applications:

There has been a developing conviction that putting resources into industrial design is advantageous to a company's performance as well as financial growth. The contribution of industrial design can be reflected in higher turnover and employment for those firms which invest in design compared to competing products or firms which don't have focused on investment in industrial design and this can be connected to economic and financial development. The below table 5 shows the trademark application status of India from 2009 to 2019.

Table 5  
Industrial Applications of India

Year	Resident	Abroad	Total
2009	4267	619	4886
2010	4416	2322	6738
2011	5156	3023	8179

Year	Resident	Abroad	Total
2012	5100	2037	7137
2013	5182	1824	7006
2014	6168	1853	8021
2015	6829	2428	9257
2016	6753	1129	7882
2017	7534	2840	10374
2018	8928	6283	15211
2019	9435	7789	17224

Notes:

1. Resident filing refers to an application filed in the India by its own resident.
2. An abroad filing refers to an application filed by Indian resident at a foreign office

Source: WIPO Database, April 2020

The total industrial design application in 2009 was 4886, which increased to 17224 in 2019. Indian industrial design office received more than 10000 applications from 2017 onwards. Similarly, the share of industrial design applications filed in India, which was increased to 86.06 percent from 2015 to 2019. Similarly, the applications in India (Resident) was reached at 9435 and applications at abroad was reached at 7789 in 2019. So it is essential to check whether there is any association between industrial design applications in India and industrial design applications at abroad.

Table 6  
Correlation between Industrial Design applications in India and Industrial Design applications at abroad

		Industrial Design Application in India	Industrial Design Application at Abroad
Industrial Design Application in India	Pearson Correlation	1	.731*
	Sig. (2-tailed)		.011
	N	11	11
Industrial Design Application at Abroad	Pearson Correlation	.731*	1
	Sig. (2-tailed)	.011	
	N	11	11

\*Significant at the 0.05 level (2-tailed).

The above table 6 measures the relationship between two variables such as resident industrial design application and industrial design application at abroad. Pearson correlation coefficient is used to measure the strength of association between these two variables. The result indicate that there is a high strength of correlation ( $r = .731$ ) and highly statistically significant ( $p < 0.05$ ) at 5 percent level of significance. So there is strong positive relationship between resident industrial design application and industrial design application at abroad.

## PATENTS, TRADEMARKS AND INDUSTRIAL DESIGNS APPLICATIONS IN TERMS OF GDP

Intellectual Property Rights have been acknowledged and protected by Indian citizens since 1975. India has added to the major international conventions on the protection of patent, trademark and industrial design law and also has been established by government legislation, administrative regulation and decree in the area Intellectual property index. This has prompted the making of an exhaustive lawful system to ensure both local and foreign patents, trademark and industrial design.

Table 7

Patent, Trademark and Industrial Design Filings with respect to GDP				
Year	Patent	Trademark	Industrial Design	GDP (Billion US\$)
2009	11939	153938	4886	5064
2010	14871	190326	6738	5494
2011	15897	194796	8179	5782
2012	18201	197877	7137	6098
2013	20907	204987	7006	6487
2014	22444	237250	8021	6968
2015	23990	283491	9257	7525
2016	25853	294375	7882	8140
2017	28009	272137	10374	8723
2018	30036	333441	15211	9332
2019	32234	375634	17224	9882

Notes:

1. Gross Domestic Product (Billion US\$, Constant 2011 US\$ (PPP))

2. Filing Resident + Abroad)

Source: WIPO Database, April 2020

The above table 7 shows the sum total of patent applications, trademark applications and industrial design applications in terms of GDP. India had 11939 patent, 153938 trademark, 4886 industrial design and GDP was 5064 billion US\$ in 2009. After 10 years India showed a marvellous growth in patent, trademark and industrial design distribution, and it led the country to attain a GDP of 9882 billion US\$. It is the first time that Indian patent application (Resident + Abroad) crossed 30000, trademark application crossed 350000 and industrial design crossed 95000 in a year. Such a strong growth was reported due to large number of filing in different sectors. Similarly, GDP reached more than 9500 billion US\$ in a year 2019, which is 5.89 per cent more than the year 2018.

## REGRESSION ANALYSIS: PATENTS, TRADEMARKS AND INDUSTRIAL DESIGNS APPLICATIONS IN TERMS OF GDP

At this stage, it is essential to test the three IP index like patent, trademark and industrial design whether have any relationship with Gross Domestic Product of the country. The



regression analysis was conducted to establish the relationship between the three IP (Intellectual Property) index and GDP of the country.

Table 8  
Model Summary (b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.977 <sup>a</sup>	.954	.934	.44166	.954	48.311	3	7	.000	2.803

Note:

'a' Predictors: (Constant), Industrial Design Application, Patent Application, Trademark Application

'b' Dependent Variable: GDP of India

The above table 8 shows the model summary which expresses the relationship between dependent variables and independent variables (predictors). In this situation, GDP is dependent variable patent, trademark and industrial design applications are independent variables. The model summary 'R' expresses the simple correlation between the independent variables i.e. predictors. Here, the R value is .977 which indicates that there is high degree of correlation between the variables. The R square value represents how much of the total variation in GDP (dependent) can be explained by the independent variables like patent, trademark and industrial design applications. In this situation, 95.4 per cent of variation can be explained with the help of independent variables

Table 9  
ANOVA through Dependent and Independent Variables  
ANOVA<sup>b</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	28.271	3	9.424	48.311	.000 <sup>a</sup>
	Residual	1.365	7	.195		
	Total	29.636	10			

Note:

'a' Predictors: (Constant), Industrial Design Application, Patent Application, Trademark Application

'b' Dependent Variable: GDP of India

The above table 9 shows that the regression model predicts the dependent variable is significantly well. The p value is less than .05 and it indicates that, the regression model is statistically significant to predict GDP of the country.

Table 10  
Coefficients<sup>a</sup>

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
	B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
(Constant)	3.286	0.584		2.200	.004	.096	2.668		
1 Patent Applications	2.173	0.076	0.654	2.288	.006	.006	.353	.081	8.415
1 Trademark Applications	2.008	0.009	0.314	1.877	.002	.013	.029	.051	6.448
1 Industrial Design Applications	1.010	0.092	0.021	1.105	.009	.208	.227	.175	5.708

Note:

<sup>a</sup> Dependent Variable: GDP of India

The above table 10 shows that GDP of the country increases for increase in Patent Applications, Trademark applications and Industrial Design applications. The p-value of B coefficient is less than .05. So the coefficients are statistically significant for the variables. The Durbin-Watson test showed a strong autocorrelation, thus, the regression equation of these variables are constructed in below.

$$\text{GDP of India} = 3.286 + 2.173 (\text{Patent Applications}) + 2.008 (\text{Trademark Applications}) + 1.010 (\text{Industrial Design Applications})$$

The equation is constructed with the help of dependent and independent variables. Here, Y represents GDP of India. The regression analysis suggests that the Patent Applications, Trademark applications and Industrial Design applications are positively related with the GDP of India. At last the researcher concludes that there is an association between Indian patent, trademark and industrial design applications to their GDP.

## FINDINGS

Intellectual Property Rights (IPRs) is now perceived as an important source of economic growth and development in India. India is one of the signatories of WTO, which means that the country is committed to comply with the Trade Related Intellectual Property Rights (TRIPs) agreement. Therefore, she cannot ignore this agreement or otherwise she would be isolated from rest of the world. The empirical result of this study gives that protected innovation framework does fundamentally add to financial development process in India. A developing economy like India is well prepared to accept this challenge at present era of economic and infrastructural development. A modern, effectively managed, intellectual property system is required for the innovation based monetary turn of events. National Intellectual Property enactment ought to be refreshed and refined to stay up with universal turns of events. Similarly institutions should be developed to strengthen intellectual property

rights. Targeted by ‘highly focused’ awareness building campaign is necessary to emphasise the role of intellectual property rights and economic development in India.

## CONCLUSION

In this article the researcher interprets how strengthening of IPR application is related to national economy in an evidence-based manner. Intellectual property applications have been playing an important role in India’s on-going open-door policy and economic reform. While the trend of patent, trademark and industrial design applications show that these indicators influence the economic growth. This study show that resident application filings of patent, trademark and industrial design grew along with abroad filings. The model in this study suggests that, domestic and abroad IP applications activity follows GDP growth and have significant impact on economic growth. So the researcher could conclude that vibrant national economic growth coupled with strengthened IPR applications can attract domestic players to seek IP filings in the hope of controlling and profiting from the national and international market.

## References

- Anette Andersen, Bjørn E. Holstein Mag., & Ebba Holme Hansen. (2006). *Is Medicine Use in Adolescence Risk Behavior? Cross-Sectional Survey of School-Aged Children from 11 to 15*. *Journal of Adolescent Health*, 39(3), 362–366.  
<https://doi.org/10.1016/J.JADOHEALTH.2005.12.023>
- Anuradha, R. V., Taneja, B., Kothari, A., Swiderska, K., & International Institute for Environment and Development. (2001). *Experiences with biodiversity policy-making and community registers in India*. London: International Institute for Environment and Development. Retrieved from  
[https://books.google.co.in/books?hl=en&lr=&id=dbsqUVZ8JpIC&oi=fnd&pg=PA5&dq=133.%09Anuradha,+R.+V.,+Bansuri+Taneja,+and+Ashish+Kothari+\(2001\).+Experiences+with+Biodiversity+Policy-Making+and+Community+Registers+in+India.+London:+International+Institute+fo](https://books.google.co.in/books?hl=en&lr=&id=dbsqUVZ8JpIC&oi=fnd&pg=PA5&dq=133.%09Anuradha,+R.+V.,+Bansuri+Taneja,+and+Ashish+Kothari+(2001).+Experiences+with+Biodiversity+Policy-Making+and+Community+Registers+in+India.+London:+International+Institute+fo)
- Barton, J. H. (2007). *New Trends in Technology Transfer Intellectual Property and Sustainable Development Series ICTSD Programme on IPRs and Sustainable Development Implications for National and International Policy (No. 18)*. Stanford. Retrieved from [http://mait.camins.cat/ET2050\\_library/attachments/new-trends-in-technology-transfer.pdf](http://mait.camins.cat/ET2050_library/attachments/new-trends-in-technology-transfer.pdf)
- Bessen, J., & Maskin, E. (2009). *Sequential innovation, patents, and imitation*. *The RAND Journal of Economics*, 40(4), 611–635. <https://doi.org/10.1111/j.1756-2171.2009.00081.x>
- Dagne, T. W. (2015). *Intellectual property and traditional knowledge in the global economy : translating geographical indications for development*. New York: Routledge, Taylor and Francis. Retrieved from  
<https://books.google.co.in/books?hl=en&lr=&id=EnlsBAAAQBAJ&oi=fnd&pg=PP1&>

- dq=Wipo+report+on+fact+finding+missions+on+Intellectual+property+and+Traditio  
nal+Knowledge,+page+98-99.&ots=-F4t-cCUa8&sig=qFP-tP1s15WQSBMv\_k-  
LLWbN8Rw#v=onepage&q&f=false*
- Graham Dutfield. (1999). *Protecting and revitalising traditional ecological knowledge: Intellectual property rights and community knowledge databases in India*. (Michael Blakeney, Ed.) (6th ed.). Michigan: Sweet and Maxwell. Retrieved from <https://scholar.google.co.in/citations?user=3rzgBAcAAAAJ&hl=en&oi=sra>
- Hall, B. H., & Harhoff, D. (2012). *Recent Research on the Economics of Patents*. *Annual Review of Economics*, 4(1), 541–565. <https://doi.org/10.1146/annurev-economics-080511-111008>
- Harilal, M. S. (n.d.). “Commercialising Traditional Medicine”: *Ayurvedic Manufacturing in Kerala*. *Economic and Political Weekly*. *Economic and Political Weekly*. <https://doi.org/10.2307/40279155>
- Hikkerova, L., Kammoun, N., & Lantz, J. S. (2014). *Patent life cycle: New evidence*. *Technological Forecasting and Social Change*, 88. <https://doi.org/10.1016/j.techfore.2013.10.005>
- Jorg Thoma, & Kilian Bizer. (2013). *To protect or not to protect? Modes of appropriability in the small enterprise sector*. *Research Policy*, 42(1), 35–49. <https://doi.org/10.1016/J.RESPOL.2012.04.019>
- Kakar, S. (1982). *Shamans, mystics and doctors: A psychological inquiry into India and its healing traditions*. United Kingdom: University of Chicago Press.
- Kanwar, S., & Evenson, R. (2003). *Does intellectual property protection spur technological change?* *Oxford Economic Papers*, 55(2), 235–264. <https://doi.org/10.1093/oep/55.2.235>
- Knauft, B. M. (2002). *Critically modern : alternatives, alterities, anthropologies*. Indiana University Press. Retrieved from [https://books.google.co.in/books?hl=en&lr=&id=rBVrgauHzlQC&oi=fnd&pg=PR7&dq=103.%09Knauft,+Bruce+\(2002\).+Critically+Modern:+An+Introduction.+In+Critically+Modern:+Alternatives,+Alterities,+Anthropologies,+edited+by+Bruce+M.+Knauft,+1-54.+Bloomingt](https://books.google.co.in/books?hl=en&lr=&id=rBVrgauHzlQC&oi=fnd&pg=PR7&dq=103.%09Knauft,+Bruce+(2002).+Critically+Modern:+An+Introduction.+In+Critically+Modern:+Alternatives,+Alterities,+Anthropologies,+edited+by+Bruce+M.+Knauft,+1-54.+Bloomingt)
- Madhulika Banerjee. (2008). *Ayurveda in modern India: standardization and pharmaceuticalisation*. In Dagmar Wujastik & Frederick Smith (Eds.), *Modern and Global Ayurveda: Pluralism and Paradigms* (pp. 204–215). New York: State University of New York Press. Retrieved from <https://scholar.google.co.in/citations?user=smFYzdgAAAAJ&hl=en>
- Munari, F., & Oriani, R. (2011). *The economic valuation of patents : methods and applications*. United Kingdom. Retrieved from [https://books.google.co.in/books?hl=en&lr=&id=ztq5BNFnIDUC&oi=fnd&pg=PA56&dq=50.%09Munari,+F.+Sobrero,+M.+\(2011\),+Economic+and+management+perspectives+on+the+value+of+patents,+in+Munari,+F.,+Oriani,+R.+\(Eds.\)+The+Economic+Valuation+of+Patents,+Methods+and+](https://books.google.co.in/books?hl=en&lr=&id=ztq5BNFnIDUC&oi=fnd&pg=PA56&dq=50.%09Munari,+F.+Sobrero,+M.+(2011),+Economic+and+management+perspectives+on+the+value+of+patents,+in+Munari,+F.,+Oriani,+R.+(Eds.)+The+Economic+Valuation+of+Patents,+Methods+and+)
- Noel, M., & Schankerman, M. (2013). *Strategic Patenting and Software Innovation*. *The Journal of Industrial Economics*, 61(3), 481–520. <https://doi.org/10.1111/joie.12024>
- Pakes, A. (1985). *On Patents, R & D, and the Stock Market Rate of Return*. *Journal of*

*Political Economy*, 93(2), 390–409. <https://doi.org/10.1086/261305>

Rockett, K., Eleanor Rockett, & Katharine. (2010). *Property Rights and Invention*. In Bronwyn Hall & Nathan Rosenberg (Eds.), *Handbook of the Economics of Innovation* (Vol. 1, pp. 315–380). Amsterdam: Elsevier. Retrieved from [http://econpapers.repec.org/bookchap/eehaechp/v1\\_5f315.htm](http://econpapers.repec.org/bookchap/eehaechp/v1_5f315.htm)

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Vipin Benny is an Assistant Professor at St.Thomas' College (Autonomous), Thrissur, Kerala specializing in the field of Finance. He has currently submitted his PhD thesis at Mahatma Gandhi University, topic on “A Study on Patented Ayurvedic Drugs in Kerala. He has over seven year experience in teaching and industry. He has earlier worked as an internal auditor in ESAF Micro finance, now it is ESAF small finance bank. He has eighteen publications in various national journals and also presented fifteen papers in UGC sponsored national and international seminars.