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FROM THE DESK OF EDITOR-IN-CHIEF

Dear Readers,

The Indian Enterprises have been playing a crucial role in employment generation in various sectors. MSMEs are generating more employment since long. The Government of India initiated the policy of Startup India to encourage and motivate youngsters towards becoming job providers than job seekers. It raised the importance of startup revolution, which has potential to successfully alter the employment scenario in the country along with the structural change in business environment. Government still has to boost the environment by creating more institutions, supporting infrastructure technical expertise and seed capital etc. to budding entrepreneurs. Our educational institutions must lay emphasis on entrepreneurship related programs to motivate the young students to start their own ventures.

In the above background, we present this special issue (Volume-6, Issue-II, and July-December 2016) of GGGI Management Review: A bi-annual refereed international journal of management. It is based on a specific theme- "Startup India- A new era for unleashing the potential of youth". It comprises select papers contributed for the 'Startup India Summit' organized by Galaxy Global Group of Institutions, Dinarpur, Ambala in collaboration with PHDCCI, New Delhi on 12th November, 2016 focusing on understanding the financing challenges faced by Startups in India, studying the perception regarding Startup India initiative among youth, Startup as an effective instrument for transformation and studying stress levels experienced by the stake holders, startup accelerators, venture capitalists, mentors, experts, educationists, academicians and upcoming innovative students of Ambala region.

Further, we got opportunity to become Publishing Partners during a National Conference on Intellectual Property Rights (IPR) organized by PHD Chamber of Commerce and Industry (PHDCCI) in collaboration with University of Delhi held on 16-17 December 2016. As IPR is directly related to innovations, it embraces Startup India ventures too. Hence, some of the papers of IPR are being published in this issue of GGGI Management Review. The researchers have contributed their work on IPR policy in various countries, intellectual property rights protection for technology transfer in developing countries, domestic technological capabilities, protection for public Health and pharmaceutical industry, online plagiarism among students pursuing higher education and R & D – production linkages.

I am sure that this big volume of GGGIMR containing high quality of papers will sustain the interest of academicians, researchers, managers and entrepreneurs to conduct research in various fields of management. The journal has become successful in creating shelf-space in libraries of renowned B-schools of India. Let me hope that this journal will bring together leading academicians, researchers and budding entrepreneurs to appraise the world about it. I also request all the readers to encourage the institutions they are associated with, to subscribe the journal. The journal is already available in more than 50 renowned institutions on exchange basis. The PDF copy of GGGIMR is also available on our institute website i.e. galaxyglobaledu.com.

Your comments and feedback will be guiding force to us.

With warm regards,

(Prof. R.R. Azad)
Editor-in-Chief

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A BIRD'S EYE VIEW 'STARTUP INDIA SUMMIT – A NEW ERA OF UNLEASHING THE POTENTIAL OF YOUTH'

Dr. Monika Gupta Vashisht*

As a part of endeavor to contribute to Indian Startups in the society, Galaxy Global Group of Institutions (GGGI), Dinarpur, Ambala organized 'Startup India Summit – A New Era of Unleashing the Potential of Youth' in collaboration with PHDCCI, New Delhi on 12th November, 2016. The Startup India Summit was organized keeping in view attainment of the objectives mentioned below:

- To provide a platform to budding entrepreneurs to listen and interact with startups, Incubators/Accelerators, Angel Investors, Venture Capitalists, Mentors and Technology Corporations
- To encourage young students to become job providers rather than job seekers
- To unleash the immense potential of youth still lying untapped in Haryana
- To motivate aspirant young generation to grasp innovation, inclusion and sustainability
- To exploit the best resources available from various segments

The **Keynote Session - Startup India Vision** started with **Welcome address** by **Prof. R. R. Azad**, Director Administration, GGGI, Ambala. He discussed the above mentioned objectives of the Startup India Summit. GGGI is enthusiastic to search for educational ventures having the best avenues for Startup India. **Dr. Jatinder Singh**, Sr. Secretary, PHDCCI, New Delhi delivered Opening Address. He was deeply impressed by vibrant community at GGGI with positive aura. Startup is a noble, unique, innovative idea that can actually change business scenario including conduct of business. **Dr. Rishi Raj Singh**, Program Director, NIESBUD, Noida shared Entrepreneurship Theme. Hardwork is the key to alter failures and rejection into limitless success. One should take ideas, link with business people, understand problems of industry, develop a program for them and charge accordingly. **Sh. V. K. Mishra**, Chairman, International Affairs Committee, PHDCCI, New Delhi delivered **Key Note Address**. He shared his views on Startup, Technology Transfer & Innovation Case Study. The person should remain connected with people of past life. During development phase, incentive (by charging less) should be given to customer in order to encourage the customer to come back. Chalosartkare.com reflects how small ideas are getting converted. According to NASSCOM, India is likely to be at No. 1 or No. 2 among Startups. Real Ideal Startup Situation is Management People with Technology. **Prof. Sunil Dhingra**, Director IT, Chairman Deptt. of Instrumentation, KUK shared experiences with Startups. KUK has first activity on startup just one month after launch of startup on Jan 2016 by Sh. Narendra Modi, PM of India. GGGI is the first affiliated college having activity related to startup. Institutes should create Entrepreneurship Development Cell. Institutes should be able to identify genuine Incubation Centres. Huge scope exists in IT sector for startups. Job opportunities are more in manufacturing sector. We can create 2.5 lakh jobs if we continue the way we are doing. University should have provision to take affiliated colleges along for such initiatives. **Sh. Ankur Gupta**, IAS, Principal Secretary, Govt. of Haryana and Chief Guest paid thanks to all teachers for timely guidance. The major factors favouring Startup in India are presence of youngest working population in the age group of 25-40 years belonging to middle class with no financial funding from parents; and consistent economic growth during past few years. Mentors (not financers) can be from industry too. Higher Education Department is likely to come up with a proposal of having Incubation Centres in selected colleges in Haryana. The infrastructure should remain open to be used 24 hours a day. Programmes can be segregated District-wise. Big startup opportunities lie in agriculture and agriculture processing category. **Sh. Vinod Goel**, Chairman and MD, GGGI honoured the Chief Guest. **Prof. Raj Kumar**, Director, GGGI Ambala proposed **Vote of Thanks**.

During **Panel Discussion 1** on **Issues, Challenges and Opportunities for Start-ups, Welcome address** was delivered by **Dr. Monika Gupta Vashisht** wherein she introduced esteemed panelists and highlighted their contributions in achieving the dream of Sh. Narendra Modi, PM of India. **Sh. Raman Chadha**, Founder, Webworld Experts, Chandigarh (TIE Chd.) and Session Chair agreed that failures are a part of life. There are only 76 unicorns in the world including 13 in India. One should assess the idea whether the Idea makes a business sense. The idea needs to be translated into a plan that is saleable and that has customers i.e. business. Then, the person should think of money, resources and capabilities. Now, one should create a business plan. The person should think of an idea, think

*Editor, GGGI Management Review

out of the box, and think about customer as well as business plan. Even today, very few parents encourage entrepreneurship. **Dr. Sudesh**, Chairperson, USM, KUK and Co-Session Chair stated that Startup has come up with aim to boost employment with advent of new ideas, technology and economy. Team work and blend of Marketing and Technology are pre-requisites for startup. As technology tie-ups are very costly, some mechanism must be developed for technical support. **Sh. Rajiv Gulati**, Sr. Engineer, HARTRON discussed initiatives on startup by policy makers for the state. Instead of procuring components from other countries, we need to manufacture ourselves. 40% of the startup founders fall in the age group of 30-39 years and only 1% fall in age group below 20 years. 39% were previous CEOs/ founders and 4% were previously consultants. Gurugram is going to act as Hub (Hub and Support Model) i.e. an Ecosystem starting with Universities, reaching colleges, followed up by Mentoring and leading to Startup in Gurugram. Government is charging nominal fees for using Ecosystem (space). **Sh. Ekant Agarwal**, Executive Director, Startup Accelerator Chamber of Commerce, Chandigarh emphasized on Thinking Different, Positivity and Teamwork. **Sh. Sumeer Walia**, Director, Centre for Entrepreneurship Education and Development, Chitkara University discussed the role of a startup in cost reduction during manufacturing. He emphasized on Value Creation as basis of survival. Sanskrit language is useful for computer software programming. Patents should be made Open Source. Hyderabad wants 140 startups to go due to space shortage and want to replace with hardware startups. **Sh. Manish Kumar Sinha**, Regional Head Sales, Business Loan Group, ICICI Bank is lending to small and medium enterprises. Startup is lacking in manufacturing sector. Standup India is to address the problems faced by First Generation Entrepreneurs especially women and SC/ST category. He discussed about Collateral Free Loans under Startup India Scheme, Smart Business Loan (SBL) and CGTMSE scheme. Prof. R. R. Azad, Director Administration, GGGI, Ambala interacted and Er. Rajiv Gulati, Sr. Engineer, HARTRON responded stating more schemes will come. They discussed about Solar Training Programme in GGGI and Skill Development Scheme adopted by AICTE and then by GGGI. Prof. R. R. Azad, Director, GGGI Ambala proposed **Vote of Thanks**.

Panel Discussion 2 on **Academia-Industry Integration in Startup Ecosystem** was welcomed by **Er. Saurabh Mittal,** Associate Professor & Head, CSE Deptt. welcomed esteemed panelists. **Dr. Dixit Garg**, Prof. and HOD, Mechanical Deptt., NIT Kurukshetra and Session Chair stated that feasibility is important. Right marketing skills and right attitude, aptitude, values and ethics are the basic requirements of an entrepreneur. 80% of youth are employable. In other countries, culture is to work from home. **Dr. Usha Arora**, Chairperson, Deptt. of Management Studies, GJU, Hisar and Co-Session Chair discussed how Value Addition can be done. Industry experts and academicians sat together during the Summit to find the way to bridge the gap between what industries want and what academicians are delivering. In case, students come up with very good ideas, there occur constraints with policy makers. Effective strategy implementation must be duly taken care of. **Sh. Ajay Gupta**, CEO, Learning Curve, Chandigarh (TIE Chd.) narrated his own success story owing the credit to his learning habit. If anyone can train his/ her mind to be innovative (a by-product of knowledge and innovation) and can find an innovative solution, s(he) is able to explore business opportunity. **Sh. Tarun Kumar Sachdeva**, Chief Manager, Canara Bank, Ambala shared his views on Funding startups. He discussed about products offered for MSMEs such as Canara MSE Vijeta (for women) and Mudra. Under Standup India, Canara Bank Credit Scheme for women and SC/ST category for financing Greenfield Projects in manufacturing, services and trading sector and Canara Unnati Startup Scheme. He discussed about Business Facilitation Centres also. **Dr. Amit Gupta**, Director, Narayana Business School, Ahmedabad discussed the importance of change in life, thinking, attitude and study bsides communication, presentation, IT, soft skills and Intellectual IQ. He emphasized on using social media and designing unique concept. He discussed the concept of Crowdfunding to overcome dependency on loans. Data Analytics has multiple applications such as analyzing NSEs live data. **Dr. Sandeep Kumar**, Associate Professor & Head, Faculty of Computer Applications proposed **Vote of Thanks**. **Dr. Jatinder Singh**, Sr. Secretary, PHDCCI, New Delhi, **Sh. V. K. Mishra**, Chairman, International Affairs Committee, PHDCCI, New Delhi and **Sh. Ekant Aggarwal**, Executive Director, Startup Accelerator Chamber of Commerce (SACC), Chandigarh ensured us to take us under their umbrella and will provide continual support and guidance.

The following **Issues and Challenges** were observed during the Summit:

- Public Private Partnership remained untouched to develop the Startup.
- State and Central Government are neglecting the private institutes those which are having world-class infrastructure.
- The programmes declared under MHRD and AICTE are not implemented directly. These are implemented through mediocre and hence, target-filling remains confined to paper only.

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Accordingly, major **Recommendations** could be focused on:

- Public Private Partnership should also be considered while developing the Startups.
- State and Central Government are should also take into consideration private institutes with world-class infrastructure while assigning projects.
- The programmes declared under MHRD and AICTE should be implemented directly.
- Online Updates about new opportunities.
- To focus on developing the awareness and skills in individual, so that individual can come forward with creative ideas.

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DIVIDEND PRACTICES IN PUBLIC SECTOR UNDERTAKINGS: A CASE STUDY OF INDIA

Dr. B.S.Bodla*
Jitender Singh**
Suman***

Abstract
Dividend decision has been a subject of sincere concern for researchers and financial experts for more than five decades. The questions of "how much dividend should be paid and what factors determine dividend payout decision" have puzzled the researchers and decision makers. The present paper is the outcome of a study of public sector undertakings belonging to mining industry in India. The study is aimed to bring out the dividend pattern of the public sector firms. It also examines the variance in dividends over the years and across the various industry groups by applying ANOVA test. The study involves a period of ten years (i.e 2005-2014). The findings indicate that around one fourth of the profits after tax is distributed as dividend by the sample companies. The study further showed that DPS and EPS vary significantly across the time period and across various industry groups.

Keywords: *Dividend, Lintner model, Dividend Determinants, DPR, EPS*

1.0 INTRODUCTION

Dividend policy is one of the important areas of a company's financial decision making. The dividend decision has always been a subject of interest to financial analysts, academicians and researchers, for a long time [for instance-Lintner John (1956); Britain (1967); Fama and Babiak(1968), etc.]. It is one of the most debated topics in the finance literature and still keeps its prominent place. In fact the questions of "Why do companies pay dividends" and "why do investors pay attention to dividends" have puzzled both academicians and managers for many years. Many researchers have devised theories and provided empirical evidences regarding the determinants of a firm's dividend policy e.g Alli (1993), Manoj Anand (2004), Amidu Mohammed (2007) etc. The dividend policy issue however is yet unresolved. Black (1976) hinted that, "*The harder we look at the dividend picture, the more it seems like a puzzle, with pieces that don't fit together".* Similarly, Brealey and Myers (2005) list dividends as one of the top 10 important unresolved problems in finance.

Dividend decisions involve 'deciding how much dividend should be paid (payout ratio) and in what form should it be paid to the shareholders'. The underlying objective of all financial management decisions is to maximize shareholders wealth. It may be said that dividend policy of a firm should be made keeping in view the fact that it may influence value of firm. The dividend decision of a firm has always been studied in relation to a firm's financing and investment decisions. The inter-relation amongst these two decisions has raised various questions: How much should firm pay as dividend? How does a dividend payout policy influence the valuation of firm? What factors have influence on the dividend decision of a firm? Does a firm's decision to distribute cash correspond to its financing and investing decision? What is the outcome of changes in the dividend policy assuming steady financing and investment decisions of firm?

Dividend policy of a firm has implication for investors, managers, lenders and other stakeholders. For investors, dividends – whether declared today or accumulated and provided at a later date are not only a means of regular income, but also an important input in valuation of a firm. Similarly, managers' discretion and flexibility to invest in projects is also dependent on the amount of dividend that they can offer to shareholders as more dividends may mean fewer funds available for investment. Lenders may also have interest in the amount of dividend a firm declares, as more the dividend paid less would be the amount available for servicing and redemption of their claims. The dividend payments present an example of the classic agency situation as its impact is borne by various stakeholders. Accordingly, dividend policy can be used as a mechanism to reduce agency costs. The payment of dividends reduces the discretionary funds available to managers for perquisite consumption and investment opportunities and requires managers to seek financing in capital markets. This monitoring by the external capital markets may encourage the managers to be more disciplined and act in owners' best interest.

2.0 REVIEW OF LITERATURE

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Lintner John (1956) concludes that dividends are adjusted to changes in earnings only with a lag. He studied the association between earnings and dividend behavior by conducting interviews with the employees of numerous large and well established firms of USA.

Brittain (1967) model uses these factors along with cash flow instead of profit to explain changes in dividend. The study found that profits are not as good a measure of ability to pay dividends as are cash flows. A sizable part of the rise in payout ratios between 1947 and 1960 can be attributed to increased depreciation liberality. Depreciation and capital expenditure did not have and significant impact on dividends paid.

Fama and Babiak (1968) examines the causal factors of dividend payments by individual firm during 1946-64 and concluded that net profits provides a significant measure of dividend than either cash flows or net profit. Depreciation was also included as separate variable in the model.

Mahapatra and Sahu (1993) analyze the determinants of dividend policy using the models developed by Lintner (1956), for a sample of 90 companies for the period 1977-78 to 1988-89. According to the study, cash flow is a major determinant of dividend followed by net earnings. Further, their analysis shows that past dividend and not past earnings is a significant factor in influencing the dividend decision of companies.

Pandey (2003) examines corporate dividend policy and behavior of the Kuala Lumpur Stock Exchange (KLSE) companies, the Malaysian evidence. The Lintner framework and panel data regression methodology by over viewing eight year period of study from 1993 to 2000 was used for the analysis. The study found that the model is in favor of regular, but less stable, dividend policies being pursued by the KLSE companies.

Robinson (2006) studies the Lintner model and dividend policy among public seector firms in Barbados. The findings indicated that the computed target payout ratio is 33 percent, which is somewhat lower than the sample dividend payouts over the sample period. The speed of adjustment is 0.48 indicating that is significant level of dividend smoothing. The results therefore suggest that publicly traded firms in Barbados engage in a dividend smoothing and follow stable dividend policies along the lines suggested by Lintner (1956).

Bodla et al (2007) examines the application of Lintner's Dividend Model. They carried out a cross-sectional analysis from the year 1996 to 2006 in banking sector in India. The results indicate that the major determinants of current dividend are lagged dividend and the current earnings. The results are found in-line to the Lintner model. The study is also found giving support to argument of 'information content of dividend' in the context of dividend proceeds.

Gupta Amitabh and Banga Charu (2010) bring out the determinants of corporate dividend policy using factor analysis and the multiple regressions. Results of factor analysis indicate that leverage, liquidity, profitability, growth and ownership structure are the major factors. Regression on these factors shows leverage and liquidity to be the determinants of the dividend policy for Indian companies.

Gill Amarjit, Biger Nahum (2010) perform a study on the determinants of dividend payout ratios of American service and manufacturing firms. The study finds that in the services industry the dividend payout ratio is the function of profit margin, sales growth and debt to equity ratio. For manufacturing firms it finds that dividend payout ratio is the function of profit margin, tax and market-to-book ratio.

SinghaniaMonica,GuptaAkshay (2012) aims to find the validity of the different views on determinants of dividend policy in India and empirically prove their significance using Tobit regression model. The study focuses on and seeks to answer the question: What are the significant determinants of dividend decision as far as Nifty 50 Index companies in India are concerned? The firm-level panel data of NSE companies from 1999-2000 to 2009-2010 is taken for this purpose. The findings suggest that firm's size(market capitalization) and firm's growth and investment opportunity are significant determinants of corporate dividend policy in India. The firm's debt structure, profitability and experience are found to be not significant determinants in the Indian scenario and in this way the results do negate some theories.

Mistry S. Dharmendera (2012) focuses on dividend payment decision of Indian two wheelers industry. The model has been developed using data of Indian two wheelers industry for a period of 8 years from 2001-02 to 2008-2009 based on multiple linear regression consisting of one dependent variable (the dividend payout ratio)and five independent variables(profitability, liquidity, operating activities, turnover and capital market activities). The study finds that profitability and liquidity have been found favorable to boost dividend payout ratio in Indian two wheeler industries; while operating activities, turnover and capital market activities affected dividend payment decision of Indian two wheeler industries adversely.

Parasuraman and Nusrathuunisa(2013) investigate whether Lintner model of dividend payout holds good? The study tested the hypotheses if the dividends paid depended on basic earnings, lagged dividend, cash earnings and capital expenditure. The result and finding of the study support the prevalence and relevance of Linter model of dividend policy.

Zameer Hashim, Rasool Shahid(2013) identify the determinants of dividend policy of Pakistani banking sector. The coverage is restricted to the period of 2003-

2009.The stepwise regression analysis is conducted. The study finds that Profitability, last year dividend and ownership structure show positive impact on the dividend payout and liquidity show negative impact on the banking industry. Size, leverage, agency cost, growth and risk show insignificant relationship and have no impact on the dividend payout.

Badu, Ebenezer Agyemang (2013) examines the factors influencing dividends payout policy of listed financial institutions in Ghana using fixed and random effects. Panel data (regression analysis) covering 2005-2009 from the selected companies is used for the study. The results shows statistically significant and positive relationship between Age and liquidity but saw statistically insignificant relationship between profitability, collateral and dividend payment. Therefore, the major determinants of dividend policy of financial institutions in Ghana are age of the firm, collateral and liquidity.

Nasrin Alinghian (2014) undertakes a study with the aim to determine the factors and indices which are used in evaluating the capability of the company in dividend payment. The author identified a number of factors which influence the probability of dividend payment by conducting a review of literature. These factors include earning, cash flow uncertainty, cash flow, agency costs, investment opportunities, and life cycle.

Christopher & Rim (2014) research aims at investigating the factors determining the dividend payout policy in the Lebanese banks listed on the Beirut Stock Exchange. This study considers the impact of seven variables, namely, profitability, liquidity, leverage, firm size, growth, firm risk and previous year's dividend payout on the dividend payout ratios by using an unbalanced panel dataset of listed banks. The authors used data between the years of 2005 and 2011.The results of the study show that the dividend payout policies are positively affected by the firm size, risk and previous year's dividends, but are negatively affected by the opportunity growth and profitability. The results also indicate that firms pay dividends with the intention of reducing the agency conflicts. It is further found that managers take into consideration the stability of dividends while determining the dividend policy. The findings suggest that the Lebanese listed firms prefer to invest their earnings to grow rather than to pay more dividends.

Mishra(2015) attempts to analyse the factors which influence the dividend policy of Indian banking firms. He used panel data of 121 Indian banks and applied two regression models, one showing dividend payout ratio and the other showing dividend rate as a dependent variable. The study considers both bank specific internal variables as well as macroeconomic variables as explanatory variables influencing the dividend policy of Indian banks. The results of the study about determinants of dividend payout ratio of Indian banks show that the growth rate of real GDP affects dividend payout ratio positively and significantly.

By reviewing the existing researches related to the topic under study some gaps are found. First, the majority of the previous studies related to dividend policies have covered only to private sector companies. Only a few researches in India have focused on dividend decisions of Public sector undertakings. Second, the majority of the research studies concentrate on determinants of dividend. The first issue i.e. how much dividend or what proportion of profit is distributed as dividend has negligible research work. Third, the sample size as well as time period by previous studies was small. Next, there is a lack of uniformity in the findings of various studies and still there is a debate about whether to pay dividend or to retain earnings.

The above mentioned gaps indicated a need to conduct intensive study of various industries by taking long period data. Keeping in view the above issues the present study titled "Dividend Practices in Public Sector Undertakings: A Case Study of India" was conducted. The study has an edge over the previous one's because it gives insight to the dividend practices in public sector undertakings in various industrial sectors. The study is based on relatively large size sample and covers 10 years period.

3.0 OBJECTIVES OF THE STUDY

This research work was aimed to achieve the following objectives:

1. To bring out the dividend practices of Public Sector Undertakings in India;
2. To examine the variance in the dividend practices over time and across industry groups in India.

The following hypotheses were tested in this study:

H_1: There is no significant difference in dividend practices of various industries of public sector.

H_2: There is no significant difference in the dividend payout ratios of various years under study.

4.0 SCOPE OF THE STUDY AND SOURCE OF DATA

The scope of the present study is limited to the firms belonging to public sector in India. This covers the companies pertaining to eight broad industries. These are: Banking & Financial Services, Wholesale & Retail Trading, Metal & Machinery, Chemical, Electricity, Construction & Real estate, Mining and Miscellaneous Services (Animation, Health, Consultancy and Communication). The reference period of the study is 10 years period from 2005 to 2014. This research is empirical in nature and makes use of secondary data.

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The data has been sourced primarily from Prowess database of Centre for Monitoring Indian Economy (CMIE). The chosen period covers a complete business cycle i.e. both recessionary and booming phases of the industries. This would highlight whether the dividend payment patterns and determinants vary or remain consistent during recession and boom periods.

4.1 Sample Size and Tools of Data Analysis

The analysis has been done by taking sample of 100 undertakings, out of target population of 530. It needs mention that only those companies in each industry have been included in the analysis those have declared dividends in each year under study. All those observations where the companies have not declared dividend got eliminated. The number of companies selected from each of the sector is given below Exhibit-1).

Exhibit :- 1 Industry-wise Sample Units

Sr. No.	Industry Name	Total PSUs	No. of Sample Units
1.	Banking & Financial Services	152	30
2.	Wholesale & Retail Trading	66	9
3	Metal & Machinery	27	10
4	Chemical	62	9
5	Electricity	75	8
6	Mining	34	14
7	Construction & Real estate	39	6
8	Miscellaneous Services	75	14
	Total	530	100

To achieve the first objective of the study (i.e. Patterns of dividend payments), descriptive statistics namely Mean, median, standard deviation, have been calculated to find out the pattern of average dividend payout ratio, amount of equity dividend and dividend per share. Descriptive were computed at the overall, year wise and industry wise. Anova (F-test) was applied to know the significance of differences of means.

To analyze the pattern of dividend payout ratio, EPS & DPS frequency distribution is also made. The **mean** is obtained by summing all elements in a set and dividing by the number of elements. The mean, or average value, is the most commonly used measure of central tendency. **Median** is measure of central tendency above which half of the values fall and below which half of the values fall. The median of a sample is the middle value when the data are arranged in ascending or descending order. The median is an appropriate measure of central tendency for ordinal data.

The mean squared deviation of all the values from the mean is called variance. And the square root of the variance is standard deviation. The variance can never be negative. When the data points are clustered around the mean, the variance is small. When the data points are scattered, the variance is large.

Skewness is a characteristic of a distribution that assesses its symmetry about the mean. Distributions can be either symmetric or skewed. In a symmetric distribution, the values on either side of the center of the distribution are the same and the mean, mode, and median are equal.

Kurtosis is a measure of the relative peak or flatness of the curve defined by the frequency distribution. The kurtosis of a normal distribution is zero. If the kurtosis is positive, then the distribution is more peaked than a normal distribution. A negative value means that the distribution is flatter than a normal distribution. Measure of shape are important, because if a distribution is highly skewed or markedly peaked or flat, then statistical procedures that, normality should be used with caution.

Frequency distributions a mathematical distribution whose objective is to obtain a count of the number of responses associated with different values of one variable and to express these counts in percentage terms.

Anova is a Statistical technique used for determining the significance of differences among means for two or more populations. Analysis of variance and analysis of covariance are used for examining the differences in the mean values of the dependent variable associated with the effect of the controlled independent variables, after taking into account the influence of the uncontrolled independent variables. The null hypothesis, typically, is that all means are equal. In case of dividend payout study the analysis of variance is carried out across industry and year to know the differences of means of each variable used for analyzing dividend patterns and also to understand the variations across the industry.

5.0 RESULTS OF DATA ANALYSIS

At the outset, the dividend payout ratio which is computed by dividing the amount of dividend per share by the earnings per share has been analyzed. Table 1 shows the average dividend payout ratio during 2005-2014. This table indicates that mean DPR has varied in a very narrow range i.e. 24 to 27 percent. The average DPR during the entire study period for the PSUs worked out 25.41 percent which implies that on an average one-fourth of the earnings is distributed as dividend by the companies belonging to public sector.

The median DPR for the study period is found 22.19 percent meaning thereby half of the PSUs distribute below 22.19 percent of PAT and the remaining half distribute above it. The standard deviation of the ratio was found the highest during 2005 (25.90%) and the lowest during the year 2008 (13.12%). The table also indicates that dividend series were skewed during the study period.

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Table:-1 Descriptive statistics pertaining to Dividend Payout Ratio of PSUs in India(In percentage)

Year	Mean	Median	SD	Skewness	Kurtosis
2005	24.73	20.37	27.16	6.119	49.678
2006	25.48	21.97	23.23	5.226	39.947
2007	24.46	23.36	15.04	0.588	0.830
2008	25.90	24.08	13.12	0.435	0.595
2009	24.50	22.17	13.39	1.246	2.527
2010	25.09	23.00	14.02	0.998	2.098
2011	25.46	22.03	15.28	1.078	1.781
2012	25.12	23.00	15.11	0.879	1.604
2013	25.90	22.89	16.11	1.319	2.841
2014	25.45	21.34	17.94	1.138	1.737
2005-14	25.41	22.19	17.52	3.896	39.781

Table:-2 Frequency Distribution Related to Dividend Payout Ratio of PSUs in India(In percentage)

DPR (%)	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
0-10	16.0	15.0	14.0	12.0	11.0	11.0	15.0	15.0	11.0	15.0
10-20	29.0	17.0	15.0	16.0	22.0	23.0	18.0	18.0	20.0	17.0
20-30	27.0	40.0	32.0	34.0	41.0	34.0	36.0	36.0	37.0	37.0
30-40	17.0	19.0	24.0	26.0	17.0	21.0	21.0	21.0	20.0	15.0
40-50	7.0	4.0	9.0	7.0	3.0	4.0	3.0	3.0	2.0	3.0
Above 50	4.0	5.0	6.0	5.0	6.0	7.0	7.0	7.0	10.0	13.0
Total	100	100	100	100	100	100	100	100	100	100

Table:-3: Industry Wise Average Dividend Payout Ratio (%) of PSUs in India

Year	Banking	Wholesale & Retail trade	Metal & Machinery	Chemical	Electricity	Mining	Const. & Real estate	Misce. Services	Mean	Anova
2005	18.00	21.25	20.46	29.50	12.54	25.20	22.32	41.79	24.73	1.175
2006	21.23	17.96	24.35	31.49	16.56	24.83	57.06	20.74	25.48	2.069**
2007	22.10	22.41	22.71	30.92	23.16	37.70	20.24	22.59	24.46	1.888***
2008	22.12	19.88	23.15	30.07	21.90	31.32	19.77	27.98	25.90	0.978
2009	20.86	14.18	23.46	19.90	22.70	35.50	23.41	26.20	24.50	2.402*
2010	20.77	15.23	25.84	22.23	21.90	36.19	26.78	23.49	25.09	2.059**
2011	21.02	19.24	26.51	27.60	20.87	34.67	26.14	21.52	25.46	1.123
2012	20.95	12.36	29.01	23.02	20.71	35.27	28.30	23.48	25.12	1.971***
2013	22.05	13.89	30.16	34.62	21.82	38.13	22.91	15.94	25.90	3.521*
2014	22.03	7.53	29.06	28.75	21.28	41.25	24.87	17.93	25.45	3.671*
Mean	22.62	18.44	25.47	27.81	25.43	34.00	27.18	24.01		
Median	20.37	20.05	21.02	30.26	29.99	31.90	23.09	22.16		
S.D	13.36	14.02	10.99	16.06	10.32	18.40	28.50	23.44		
Anova	27.94*	6.985*	5.829*	5.209*	20.928*	14.904*	1.883*	1.890*		

Table:-4 Results of Analysis of Variance (ANOVA) for difference in Dividend payout Ratio across various industries

Source of Variation	*SS*	*Df*	*MS*	*F*	*Sig.*
Between Groups	17383.259	7	2483.323	8.528	.000
Within Groups	280127.896	962	291.193		
Total	297511.155	969			

Table:-5 Dividend per Share (DPS) and Earning per Share (EPS) of PSUs in India

	DPS (in Rs.)		EPS (in Rs.)	
Year	Mean	SD	Mean	SD
2005	3.81	10.84	18.97	25.13
2006	4.97	6.70	20.59	24.58
2007	5.17	7.61	20.57	28.75
2008	6.21	7.33	24.67	27.02
2009	6.52	8.86	27.55	30.40
2010	6.17	8.54	25.91	32.92
2011	7.66	10.69	30.5	38.71
2012	4.66	8.39	22.33	34.32
2013	4.71	6.98	18.82	37.71
2014	6.47	9.53	22.30	43.50
ANOVA(F)	9.081(significant at 1 per cent level)		7.362(significant at 1 per cent level)	

Table:-6 Industry Wise Average Dividend per Share (Rs) of PSUs in India

Year	Banking	Wholesale & Retail trading	Metal & Machinery	Chemical	Electricity	Mining	Const. & Real estate	Misce. Services	Mean	ANOVA
2005	3.11	1.14	3.34	8.80	0.44	5.95	8.58	1.01	3.81	0.813
2006	3.01	1.46	4.91	7.54	0.55	9.08	5.53	6.84	4.97	2.325*
2007	3.25	1.93	5.98	5.55	0.69	11.02	5.66	5.84	5.17	2.116**
2008	4.13	1.85	8.05	4.38	0.68	10.07	6.25	8.17	6.21	2.415*
2009	5.00	2.40	8.81	4.39	0.82	12.18	7.15	8.12	6.52	1.885**
2010	5.83	2.73	6.93	3.33	0.94	11.05	7.27	6.60	6.17	1.409
2011	8.11	2.49	8.19	6.54	0.90	13.99	8.44	5.80	7.66	1.543
2012	6.99	1.18	6.34	6.60	0.84	4.68	4.90	0.56	4.66	1.481
2013	7.15	1.26	4.79	5.34	0.96	3.72	4.82	3.15	4.71	1.455
2014	8.30	1.61	4.86	5.51	1.14	9.66	4.99	7.13	6.47	1.074
Mean	5.88	2.03	6.19	6.26	1.00	9.07	6.36	5.32		
Median	3.50	1.45	3.60	2.94	0.42	3.68	1.10	3.40		
S.D	7.34	2.40	6.40	6.41	1.13	12.50	9.19	11.58		
ANOVA	14.029*	7.436*	21.436*	14.400*	51.05*	18.138*	52.006*	9.083*		

*Significant at 1 percent, ** Significant at 5 percent

To make in-depth analysis of dividend pattern of Indian PSUs, frequency distribution has been given in table (2) by classifying the dividend payout ratio in various classes like less than 10, 10 to 20, 20 to 30, 30 to 40, 40 to 50, and above 50 percent of net profits. Table 2 offers clearly that the percentage of companies having dividend payout ratio up 20 percent remained 30 to 35 percent in various years except year 2005 when it stood at 45 percent. The highest percentage of companies, in each of the year, is seen having DPR between 20 to 30 percent between 10 to 15 percent of the firms are seen paying dividends above 40 percent of their earnings.

An inter-industry position, regarding dividend payout ratio at overall and year wise, can be seen from table 3. It is clear from this table that among PSUs overall mean dividend payout ratio is the highest in case of 'Mining' (34.0%) followed by 'Chemical' industry (27.81%). DPR is found the lowest (18.44%) in case of 'Wholesale and Retail trading' firms. The above mentioned pattern also holds well in case of majority of the years understudy. The table also indicates that the dividend payout ratio has been fluctuating considerably over the years. The above mentioned phenomenon is supported by the results of ANOVA, as the F values are found significant at 1 percent level in each industry. Hence, we conclude that the dividend payout ratios of various industries vary significantly during the study period. Moreover, F values are found significant during six years out of 10 of the study in so far as the year-wise the pattern of dividend payment is concerned. Thus, there is a significant variance in DPR across time period. Table 4 presents the results of application of ANOVA for examining the significance of variance in DPR across industry for the entire study period. F value (8.528) results significant at 1 percent level. So, there is significant variance in DPR across the industry group.

Earnings Per Share and *Dividend Per Shares* are important variables considered by investors in equity capital of a firm. Also these two variables are used to determine 'Dividend Payout' which is computed by dividing the dividend per share by earning per share. Keeping in view the importance of these variables, the pattern of these ratios has been studied. Table 5 presents year on year mean and standard deviation of DPS and EPS, whereas table 6 presents industry wise DPS.

Table 5 indicates that the average DPS and EPS have been found increasing from the year 2005 to 2011, but declined during 2012 and 2013 and increased in 2014. DPS was Rs3.81 in 2005 which stood at 6.47 in 2014. EPS was Rs. 18.97 in 2004 which rose to Rs 22.30 in 2014. F test which was applied to test the significance of variance in DPS and EPS across the various years of study indicated significant variance at 1 per cent. Table 6 indicates that the average DPS has increased in each industry except 'chemical' and 'construction & real estate' industry during the study period. On the whole, the highest average DPS is found in 'Mining' followed by construction and chemical industry during the study. ANOVA was applied to examine significance of variance in the amount of dividend per share and earnings per share by various industry groups in various years. The F value has turned significant irrespective of years. Hence, there is significant variance in EPS as well as DPS during the various years of study as well as across the industries in different years.

6.0 CONCLUSION

The investigation into the dividend practices of PSUs in India belonging to various industry groups has offered that, on an average, one fourth of the earnings are distributed as dividend by the firms under study. The PSUs belonging to various industrial groups could not ensure stability in their dividends as a significant variance was observed in so far as year-wise DPR is

concerned. The above finding is also found true across the industry as both EPS and DPS varied significantly across various industry groups. However, the amount of dividend per share and amount of earnings per share have increased tremendously over the years which give indications of ever improving profitability performance of corporate sector in India even in public sector.

The results of this study, however, can't be generalized for the entire industry because these are based on the analysis of single sector, i.e. Public. Hence, future researchers must conduct comprehensive works representing various industrial sectors including both public sector and private sector companies. But still the findings of this study emphasise on the need to consider past trend of dividend practices while declaring the dividends. The financial managers should also take initiatives to frame stable dividend policy which might help the investors to take buying and selling decisions related to equity shares particularly. Recently, SEBI, the regulatory body, has also desired for declaring dividend policy in advance by the listed companies.

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PLAGIARISM IN THE HIGHER EDUCATION RESEARCH

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Abstract
Plagiarism is an act of fraud. It involves thieving someone else's effort and untruthful about it later. This practice is gaining momentum especially among students. A study has been conducted to determine online plagiarism among students pursuing higher education in the field of management in selected institutes in Haryana. Factor Analysis has been applied on identified attributes. These have been reduced to five factors as copying, penalty, unethical conduct, peers and perception. It has been observed that most of the students are unaware of intellectual property rights. Suggestive measures have been discussed to face the problem effectively.

INTRODUCTION

Internet changed entire communication scenario globally. Though it facilitated searching of information, it also boosted the act of plagiarism. Besides being lethargic in conducting actual research, one of the reasons might be ignorance of intellectual property laws especially among students (**Cheema, Z. A., Manhood, S.T., Mahmood,** Dr. **A. and Shah, M. A., 2011**). Sometimes they might be doing it unintentionally. The aptitude of students to plagiarize coursework assessments has drawn attention of everyone concerned. The affect on students' experience at university and later on career might be predicted due to their failure to learn and use of appropriate study skills **(Dawson, M. M. and Overfield, J. A., 2006)**.

With reference to study undertaken, plagiarism can be defined the act of taking another person's writing, conversation, idea and passing it further as ones' own. The information could be retrieved from various sources such as web pages, articles, books, interviews or any other medium. An internal citation is necessary to indicate the source of the information within the paper while paraphrasing or taking words from another person's work. Mere listing the source in a bibliography is not just sufficient. Thus, plagiarism is failing to properly quote, cite or acknowledge someone else's words or ideas with an internal citation. According to the **Merriam-Webster online dictionary**, to "plagiarize" means 'to commit literary theft'. Plagiarism is perceived to be a rapidly increasing problem seeking universities to spend extra time and resources to face it. Confusion, fear, perceived sanctions, perceived seriousness, academic consequences and resentment have been revealed as themes of perceptions of plagiarism during a thematic analysis by **Gullifer, J. & Tyson, G. A.,** in **2010**. It is essential to have thorough knowledge intellectual property laws especially with reference to copyrights (**Lakhan, S. E. and Khurana, M. K., 2008)**. This will encourage fair use practices, and create awareness among users regarding their responsibility towards their source material as well as towards the creators or owners of that material.

It has been observed by **Fish, R. and Hura, G. (2013)** that plagiarism by college students must be addressed as a serious problem. The students generally over valuate the frequency of plagiarism at their schools and blame students for not knowing such incidents. This motivated the researcher to undertake the current study.

OBJECTIVE OF THE STUDY

To determine awareness about online plagiarism among students pursuing higher education in the field of management in selected institutes in Haryana.

Recent studies have shown an increasing propensity among students to entrust plagiarism, especially from online sources of information **(Baruchson-Arbib, S. & Yaari, E., 2004)**. This obnoxious happening has a far-reaching impact on the scientific world as well as the information providing society. Cheating, plagiarism, and other forms of academic misconduct are major area of concern in higher education (**Wilkinson, J., 2009)**. According to staff, lack of understanding of the rules by students was the main reason of occurrence of cheating whereas students felt that desire for a better grade and having too many assessment work were the major reasons. Students also considered warning, resubmission etc. as penalties for plagiarism.

LITERATURE REVIEW

Scanlon, P. M. and Neumann, D. R. (2002) surveyed on internet plagiarism. The students use the internet to copy and paste text without citation. If students perceive that a majority of their peers are going online to plagiarize, they might be more pertinent to plagiarize themselves.

Park, C. (2003) reviewed the literature on 'plagiarism by students' in order to find out the lessons for institutional policy and practice within institutions of higher education in the UK. It is concluded that plagiarism is becoming common and getting increased access to digital sources, including the internet, due to which students plagiarize and rationalize their cheating

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behaviour and show importance of plagiarism by themselves and their peers.

Dawson, M. M. and Overfield, J. A. (2006) tried to investigate undergraduate bioscience students' perceptions of constituents of plagiarism. Analysis of scenario-based questionnaires showed students' ambiguity about numerous aspects of plagiarism such as downloading of material from the internet. Students had no clarity about the difference between collusion, plagiarism and permissible group work. The guidelines must be provided early in the programme as penalties for plagiarizing might be severe.

Cheema, Z. A., Manhood, S.T., Mahmood, Dr. A. and Shah, M. A. (2011) found that most of the students had general notion of plagiarism but no awareness about the consequences of plagiarism whereas research students were unaware of the types of plagiarism.

Saini, D. K. and Prakash, L. S. (2012) attempted to analyze plagiarism in the academic world; a universal problem and integrated it in the Web Based System of the university called SULMS (Customized Moodle).

Fish, R. and Hura, G. (2013) looked at students' judgment of the occurrence of plagiarism at a large urban college and explored types of plagiarism. Analysis revealed that they believed other students to be likely to commit each type of plagiarism; and recognized that some types of plagiarism are more serious than others.

Kokkinaki, A., Demoliou, C. and Iakovidou, M. (2015) focused on students' awareness and perceptions towards academic plagiarism in Cyprus. The study revealed the need to define, minimize and develop mechanisms to communicate the terms 'plagiarism' and 'academic dishonesty' to students and faculty.

Nisha, F., Senthil, V. and Bakhshi, S. I. (2015) provided an overview about plagiarism, plagiarism in research, and various commercial and free plagiarism detection tools available. Further the paper presented the latest plagiarism cases reported from India and abroad; and initiatives taken by academic and research institutes in India to detect and prevent plagiarism.

RESEARCH METHODOLOGY

Data has been collected using structured questionnaire from students pursuing higher education in the field of management in selected institutes in Haryana. 242 students have been approached. 215 duly filled responses have been selected.

Instrument Development

Items 1-11 have been taken from 'Handout: Plagiarism Attitude Scale' and remaining 15 items have been taken from en taken from research conducted by **Dawson, M. M. and Overfield, J. A. (2006)**. The responses of management students pursuing higher education in various colleges in Haryana were gathered on 5-point Likert Scale (5 being highest). Judgement sampling method has been used to gather primary data. Secondary data has been collected via internet, research papers from renowned journals, related articles and websites.

FINDINGS, ANALYSIS AND INTERPRETATION

The empirical data gathered using 5-point scale on various attributes has been factor analysed to obtain manageable number of factors so as to facilitate interpretation. 5 factors have been obtained during 'extraction', the first stage to a factor analysis. *In the second stage of 'rotation'*, a clearer view of the factors has been obtained thus making these factors more interpretable. 5 factors have been chosen to be interpreted from the extraction so as to place meaningful interpretations on the set of factors produced (Refer Table 1).

The Bartlett test of sphericity is found to be significant at $p < 0.05$ (being .000) and the Kaiser-Meyer-Olkin measure of sampling adequacy is greater than 0.6 (being .754) (Refer Table 3 below), we consider that the correlation matrix is factorable. The factor analysis performed in this study used a Principal Axis Factoring extraction and a Varimax rotation with Kaiser normalization.

DISCUSSIONS

As a result of findings, the 26 attributes taken under study converge broadly into 5 factors discussed below:

Factor 1: Copying *(bad as stealing, no big deal being words, using others' words, using others' ideas, dishonest act, steal others' ideas, copy assignment, passing others' work as own)*

It has been observed that the constructs such as 'plagiarism is as bad as stealing the final exam ahead of time and memorizing the answers', 'because plagiarism involves taking another person's words and not his or her materials goods, plagiarism is no big deal', 'using someone else's words as if they were your own', 'using someone else's ideas as if they were your own', 'it is dishonest', 'it steals other people's ideas', 'copy a completed assignment that your friend has emailed to you', 'pass off someone else's work as your own, for your own benefit' converged on a particular dimension with factor loadings equal to or more than 0.5 labeled as 'Copying' by the researcher.

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Table 1: Acceptability of Plagiarism: rotated factor matrix

Rotated Component Matrix[a]					
Scenario	**Component**				
	1	2	3	4	5
Sometimes I feel tempted to plagiarize because so many other students are doing it					
I believe I know accurately what constitutes plagiarism and what does not				0.705	
Plagiarism is as bad as stealing the final exam ahead of time and memorizing the answers	0.579				
If my roommate gives me permission to use his or her paper for one of my classes, I don't think there is anything wrong with doing that				0.604	
Plagiarism is justified if the professor assigns too much work in the course	0.578				
The punishment for plagiarism in college should be light because we are young people just learning the ropes		0.591			
If a student buys or downloads free a whole research paper and turns it in unchanged with his or her name as the author, the student should be expelled from the university	0.727				
Because plagiarism involves taking another person's words and not his or her materials goods, plagiarism is no big deal	0.83				
It's okay to use something you have written in the past to fulfill a new assignment because you can't plagiarize yourself			0.561		
If I lend a paper to another student to look at, and then that student turns it in as his or her own and is caught, I should not be punished also			0.68		
If students caught plagiarizing received a special grade for cheating (such as XF) on their permanent transcript, that policy would deter many from plagiarizing					
Using someone else's words as if they were your own			0.601		
Using someone else's ideas as if they were your own		0.617			
Using someone else's results as if they were your own					0.827
Sharing work with someone else and pooling ideas		0.599			
Getting your ideas from a text book	0.626				
You may get caught and lose marks		0.749			
It is dishonest	0.734				
Assignments that are plagiarised fail to demonstrate your knowledge of the work		0.724			
You don't learn anything by copying someone else's work					
It steals other people's ideas			0.688		
Submit an assignment produced as a joint effort, under your name only			0.721		
Copy a completed assignment that your friend has emailed to you		0.783			
Work in a group as instructed to produce a poster as a joint effort	0.726				
Lend a completed assignment to a friend, who then copies any part of it		0.714			
Pass off someone else's work as your own, for your own benefit	0.748				

Extraction Method: Principal Component Analysis
Rotation Method: Varimax with Kaiser Normalization[a]
[a]Rotation converged in 5 iterations.
Source: For Items 1-11: Handout: Plagiarism Attitude Scale; and for Items 12-26: Dawson, M. M. and Overfield, J. A. (2006)

Factors loadings with value more than .49 and Eigen value more than one have been taken into consideration.

Table 2: Total Variance Explained

Total Variance Explained			
Component	Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %
1	4.268	16.417	16.417
2	3.777	14.528	30.945
3	2.543	9.782	40.726
4	1.612	6.199	46.925
5	1.475	5.673	52.598

Extraction Method: Principal Component Analysis

As five components explain more than fifty percent (52.598%) of total variance, only five factors have been chosen for further discussion.

Copying can be defined as the duplication of information based only on an instance of that information, and not using the process of generated it originally (**Wikipedia**). Copying has become perfect with digital forms of information.

Table 3: KMO and Bartlett's Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.754
Bartlett's Test of Sphericity	Approx. Chi-Square	1900.906
	df	325
	Sig.	0

Copies can also be refereed as 'duplicate' i.e. a copy of a computer file **(Merriam-Webster dictionary). Ashworth, P., Bannister P., Thorne, P. & Students (2006)** attempted to discover the student perception of cheating and plagiarism. They found a strong moral basis focusing on values of friendship, interpersonal trust and good learning behind this act. It indicated that some punishable behaviour can be regarded as justifiable and some officially approved behaviour can become doubtful. Further, the concept of plagiarism is extremely unclear besides hostility from the university due to lack of contact with staff, the impact of large classes, and the greater emphasis on group learning. These factors were perceived by students as facilitating and as an excuse for cheating.

Factor 2: Penalty *(expulsion for using unchanged work, no punishment for lending, special grade for cheating, using others' results, get caught, plagiarized assignments fail, punishment should be light.* Penalty can be described as a punishment for violating rules of procedure (**Wiktionary**). The constructs 'if a student buys or downloads free a whole research paper and turns it in unchanged with his or her name as the author, the student should be expelled from the university', 'if I lend a paper to another student to look at, and then that student turns it in as his or her own and is caught, I should not be punished also', 'if students caught plagiarizing received a special grade for cheating (such as XF) on their permanent transcript, that policy would deter many from plagiarizing', 'using someone else's results as if they were your own', 'you may get caught and lose marks', 'assignments that are plagiarised fail to demonstrate your knowledge of the work' and 'the punishment for plagiarism in college should be light because we are young people just learning the ropes' loaded on one particular dimension labeled as 'Penalty'. **Throckmorton-Belzer, L., Keith-Spiegel, P. and Wrangham, J. (2001)** observed an instructor's decision to assign a penalty to all students and to drop an exam score as they showed unwillingness in identifying the students who allegedly cheated; who later on, blamed the cheaters responsible for their penalties.

Factor 3: Unethical_conduct *(feel tempted seeing others, I believe I know accurately, too much work assigned, using own past work, joint assignment as ones').*Unethical Conduct reflects actions and behaviour that violate the standards of a person's profession (**Black's Law Dictionary**). Unethical behavior is an action that falls beyond all that considered morally right for a person, profession or industry. Individuals, businesses, professionals and politicians can behave unethically (**Oregon Legislature**). Of the constructs taken under study, the constructs, 'sometimes I feel tempted to plagiarize because so many other students are doing it', 'I believe I know accurately what constitutes plagiarism and what does not', 'plagiarism is justified if the professor assigns too much work in the course', 'it's okay to use something you have written in the past to fulfill a new assignment because you can't plagiarize yourself', 'submit an assignment produced as a joint effort, under your name only' converged on a particular dimension, labeled later on, as 'Unethical Conduct' by the researcher. It has been found that 'education' remains the sole rescue anchor to guide the new generation towards a rehabilitation of moral values. The certainty is that moral reasoning is deeply connected to the academic preparation level and the importance of teachers as role models might be able to inspire values and moral principles (**Iorga, M., Ciuhodaru, T. and Romedea, S-N, 2013**).

Factor 4: Peer *(lending completed assignment, friends' permission to use).* Peer refers to the person belonging to the same societal group based on age, grade, or status and have equal reputation with another (**Merriam-Webster Dictionary**). The constructs 'lend a completed assignment to a friend, who then copies any part of it, 'if my roommate gives me permission to use his or her paper for one of my classes, I don't think there is anything wrong with doing that' converged on a particular dimension labeled as 'Peer' by the researcher. **Rettinger, D.A. & Kramer, Y. (2009)** explored the causes of students' academic dishonesty behavior by surveying the sample respondents about their own cheating behavior, neutralizing attitudes, performance/mastery orientation and perceptions of peer attitudes and behavior.

Factor 5: Perception *(sharing own work).* Schiffman defines it as the process by which an individual selects, organizes, and interprets stimuli into a meaningful and coherent picture of the world. The construct of 'sharing work with someone else and pooling ideas' reflected a particular dimension referred to as 'perception'. **Baruchson-Arbib, S. & Yaari, E. (2004)** indicated that students perceive plagiarism offences from online sources as significantly less dishonest than similar offences using printed sources.

Attributes: Dropped *(getting ideas from textbook, don't learn anything, producing poster as joint effort).* Some of the attributes such as 'getting your ideas from a text book', 'you don't learn anything by copying someone else's work' and 'work in a group as instructed to produce a poster as a joint effort' exhibited factors loading less than 0.5 on either of the factors selected for further discussion. Hence, these have been 'dropped' here only, though these have contributed in collecting the data from sample respondents under study and thereafter in further analysis and interpretation of the findings.

SUGGESTIONS

Computer-assisted peer assessment is an emerging growth area **(Topping, K., 1998)**. It is becoming essential to address ethical issues concerning uses of both online and offline information sources **(Baruchson-Arbib, S. & Yaari, E., 2004)**. The digital content, research publications and assignments need to be verified for non-violation of IPR issues and compliance to institutions' academic plagiarism policies (**Saini, D. K. and Prakash, L. S., 2012)**. The accurate information about plagiarism should be provided to students at their schools (**Fish, R. and Hura, G., 2013)**.The provision could be made to punish a plagiarist. **Shahabuddin, S., 2009)**. An open, in-depth discussion about academic dishonesty might help students (and teachers) develop ethical approaches. Real classroom talk should be closely examined and suggestions for discussing plagiarism should be offered (**Thomas, E. E. and Sassi, K., 2011**). Educators should emphasize the use of anti-plagiarism software to decrease in Internet plagiarism and to award lower grades in peer reviews (**Ledwith, A. & Rísquez, A., 2008)**. The strategies should be designed for addressing cyber-plagiarism and faculty should act as educators, rather than as detectives (**Scanlon, P. M., 2010)**. **Ashworth, P., Bannister P., Thorne, P. & Students (2006)** suggested that understanding the student perspective on cheating and plagiarism could significantly assist academics in their efforts to communicate appropriate norms.

CONCLUSION

It is observed that students have little or no awareness of plagiarism, copyrights, patents. They might be educated in the field concerned. Further, they should be encouraged to cite the sources during assignments. Detailed information of Intellectual property laws may be provided **(Cheema, Z. A., Manhood, S.T., Mahmood, Dr. A. and Shah, M. A., 2011)**. A case study approach is more likely to engage the students than issuing them with a set of penalties in case, caught. Future work is planned to adapt the exercise to an interactive format within a managed learning environment **(Dawson, M. M. and Overfield, J. A., 2006)**. There is a growing need for institutions to develop cohesive frameworks for dealing with student plagiarism based on prevention supported by robust detection and transparent and consistently applicable penalty systems (**Park, C., 2003)**.

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IPR POLICY IN VARIOUS COUNTRIES; A COMPARATIVE STUDY

Dr. Aruna*

Abstract
Intellectual Property Rights (IPR) are the monopoly rights given for the set of intangible asset to the creator. They can be of different types ranging from industrial property to copyright. In the context of global economy IPR has greater importance in the business growth apart from the innovation growth. Whereas Policy is a set of ideas or a plan of execution in certain conditions that has been agreed to officially by a group of people, a business organization, a government, or a political party. In current scenario when IPR has become important IPR policies have become equally important if not more. On May 12, 2016 India National IPR policy was unveiled with the slogan of 'Creative India Innovative India' by the Department of Industrial Policy & Promotion, Government of India. Aim of this review is to provide an overview of IPR policies of different countries and their impact in the light of current IPR policy of India.

Keywords: *IPR Policy, History and evolution of IP, agreements*

Summary: In the view of the approved National IPR Policy 2016, this paper is an attempt to assess the history and evolution of IPR in India and world over, how far we have come and how much we have to cover for coming at par with the world.

HISTORY AND EVOLUTION OF INTELLECTUAL PROPERTY POLICIES

When we go back to the history of modern Intellectual Property System we come across the patents origin as the first Intellectual property. The origin of patents starts from the Greece period. Though it was not a matter of public policy but it provided an incentive or a right by the Government to individuals, however, it was much of aesthetic in nature rather than utilitarian.

The Venetian patent statute (1474): it is considered as the first statute or Patent related law of the world which had description of newness or novelty of the work, a protection of 10 years and a process similar to examination procedure of nowadays in it. British system encouraged foreign technologies to be introduced and bringing it into public knowledge (Sell, 2004). Therefore, monopoly privileges were given to those who brought inventions into public knowledge and not to the inventors. US Origins: - US Constitution Article 1, section 8 was made to promote progress of Science and arts for securing for limited time the authors and innovators the exclusive right to their respective writings and discovery. Based on this law Patents Act 1790 was created by the national Government. Earlier USA patent system was made in such a manner so that the domestic innovation can flourish and foreigners can be restricted. The Patent system went under several amendments and came up with 1793 Act, 1836 Act, 1952 Act .Recently the change of first to file to first to invent to match the procedure followed by rest of the world.

Copyright: Copyright (or author's right) according to the WIPO definition is a legal term used to describe the rights that creators have over their literary and artistic works. Works covered by copyright range from books, music, paintings, sculpture, and films, to computer programs, databases, advertisements, maps, and technical drawings. Different countries had system of printing privileges before the copyright system came into being. Britain built the first modern copyright law in 1709 - "the Queen Anne Act." This was the era of industrial revolution hence forth this led to the spreading of patent and copyright laws in various European countries.

Trademark As per WIPO, trademark is a sign capable of distinguishing the goods or services of one enterprise from those of other enterprises. Though the protection of marks for business purpose was reported several centuries back in India. But the modern days Trademarks protection came into being in a very late stage. Trademarks originated in Spain. The trademark system in the modern sense began in the 19th century. In 1857, France set the first legal system to protect trade marks in world. Subsequently, the trademark system rapidly developed in the world.

At the same time, new types of intellectual property rights have and continue to be gradually integrated into the system of intellectual property rights.

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GLOBAL IPR POLICIES

In the period of Globalization it was impossible to do business and IPR protection remaining in isolation therefore the need of uniform rules and laws across globe was felt. So that the MNCs could do their work seamlessly and wider protection of IPR could be ensured. This need gave rise to Standard International organization and multipartite treaties and agreements.

World Intellectual Property Organization (WIPO) with 189 member states, became first of its kind International organization with the objective 'to promote the protection of intellectual property throughout the world through cooperation among States and, where appropriate, in collaboration with any other international organization. India became the member in 1975.

Few of the important multipartite treaties are as below;

The Paris Convention treaty (1883) with 176 member states: for the Protection of Industrial Property was one of the first intellectual property treaties. It is administered by WIPO. India became the signatory in December 07, 1998.

The Berne Convention (1886) with 172 member states: for the Protection of Literary and Artistic Works. India's membership into the convention came into force on April 1, 1928.

Rome Convention 1961 with 92 member states: for the Protection of Performers, Producers of Phonograms and Broadcasting. India became the signatory in October 26, 1961.

UPOV Convention 1961 with 74 member states: International Convention for the Protection of New Varieties of Plants

TRIPS Agreement with 162 member states: The Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS) is an international agreement that sets minimum standards for intellectual property applicable to the contracting states. It is administered by World Trade Organization. India became the signatory in March 26, 2007.

The Patent Cooperation Treaty 1970 with 151 member states: It is administered by WIPO. PCT makes it possible to have patent protection for an invention simultaneously in a large number of countries by filing a single application. India became the signatory in December 07, 1998.

The Madrid Agreement 1891 with 98 member states: For the International Registration of Marks. India became the signatory in July 08, 2013.

Strasbourg Agreement 1971 with 62 member states: For the International Patent Classification.

This is how the Intellectual Property System started as Privileges given to the nationals and outsiders by the King or the state, thereafter formulation of national laws in different countries to globalization leading to multipartite treaties.

MAJOR EVENTS IN THE HISTORY OF IP PROTECTION IN CHINA AND US

China is a good example of adopting the IPR and developing fastly with the global scenario.In the above given table we can clearly see that China has completed making law related to IPR in a very short span of time.

Table 1: comparative table of IP laws in China and USA [Wang Hanpo]

Year	USA	China
1790	Enact patent law and copyright law	
1980	Passed and applied Bayh –Dole Act	Joined the World Intellectual Property Organization
1982		Enact trademark laws
1984	Renewed copyright law and revised patent law	Enact patent law
1985		Reform of the Science and Technology Management System Entered The Paris Convention Treaty
1986	Passed Technology Transfer Act	
1988	Passed Omnibus Trade a competitiveness Act Joined the Berne Convention	
1989		Joined the Madrid Agreement
1990		Enact Copyright law
1993	Made Anti–unjust Competition law, protecting trade secret	
1997	Passed No electronic theft Act	Implemented regulations on the protection of New Varieties of plants and signed the Int convention in 1999
2005	Est. the Office of US IP enforcement co ordinator	White paper on new progress in China's protection of IPR
2011	Pub the latest version of A strategy for American Innovation: Securing Our economic growth and security	Pub IP protection action plan of 2011

China took around three decades to achieve the legislature related to IPR where the developed country took centuries .From following the dates we can see that China came up with Trademarks law as its first IPR law in 1982, succeeded by Patents law in 1984 and Copyright law in 1990.

China started entering into International organization and Agreements quite late, if we compare to India also. Till 2005 joined all major international IP treaties .China joined the WIPO in 1980 and Madrid agreement

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in 1989.Since 2007 China is in a practice of publishing the IP protection Action plan on yearly basis.

HISTORY AND EVOLUTION OF INDIAN IP POLICIES

Though we have laws in relation to Intellectual Properties since 1857 onwards but modern days laws to different types of Intellectual Properties are as following. This gets amended time to time.

1. **The Patents Act, 1970**
2. **The Trade Marks Act, 1999**
3. **The Designs Act, 2000**
4. **The Geographical Indications of Goods Act, 1999**
5. **The Copyright Act, 1957,**
6. **The Semiconductors Integrated Circuits Layout-Design Act, 2000**
7. **The Protection of Plant varieties and Farmers' Rights Act, 2001**
8. **The Biological Diversity Act, 2002**

Before the National IPR policy was approved different Intellectual Property Rights were handled by different ministries of Government. Patents, Trade Marks, Designs and Geographical Indications of Goods were under Ministry of commerce and industry; Department of Industrial Policy and Promotion, while Copyright under Ministry of Human Resource Development, The Semiconductors Integrated Circuits Layout-Design under ministry of Information Technology, The Protection of Plant varieties and Farmers' Rights under ministry of Agriculture and The Biological Diversity under Ministry of Environment and Forestry. Once the policy is approved all six IP rights are now in Ministry of commerce and industry; Department of Industrial Policy and Promotion. Rest two rights The Protection of Plant varieties and Farmers' Rights Biological Diversity are still under their respective ministeries.

Department of Science and Technology, in March 2000, issued guidelines in the form of "Instructions for Technology Transfer and Intellectual Property Rights". This was used for the projects funded by the Department of Science and Technology and Department of Ocean Development . This policy has guidelines for commercialisation, benefit sharing, revenue generation, government rights etc. (Saha, 2005).

Science and Technology Policy 2003 released by Department of Science and Technology gave emphasis on protecting our indigenous knowledge systems, primarily through national policies, supplemented by supportive international action. (Saha,2005).

STI Policy 2013: The Science Technology and Innovation policy, 2013 talks about an innovative project -Public Private Partnership ("PPP").

IPR Policy of universities: The famous Bayh Dole Act 1980 of USA gave permission to a university, small business, or non-profit institution to elect to pursue ownership and licensing of an invention for federal funded work. This gave a boost in US universities for technological inventions and other IPR's.

Similarly in India many IIT's, NIT's, IISc, BHU and few other universities made their IPR policies. Basic features of these policies deal with the Ownership of any inventions, copyright, trademarks; commercialization, licensing, revenue sharing .

So we can see that India already had a strong legal system and various policies available in ministry of Science and technology as well as in universities being amended and changed as per the need of the time. National IPR policy 2016 is first of its kind comprehensive one which not only talks about traditional knowledge but trade secret also. It covers all IPR's, having a system of review of legislature and policy as per the need of time.

NATIONAL IPR POLICY INDIA (2016)

Vision Statement An India where creativity and innovation are stimulated by Intellectual Property for the benefit of all; an India where intellectual property promotes advancement in science and technology, arts and culture, traditional knowledge and biodiversity resources; an India where knowledge is the main driver of development, and knowledge owned is transformed into knowledge shared.

Mission Statement Stimulate a dynamic, vibrant and balanced intellectual property rights system in India to:

• foster creativity and innovation and thereby, promote entrepreneurship and enhance socio-economic and cultural development, and

• focus on enhancing access to healthcare, food security and environmental protection, among other sectors of vital social, economic and technological importance.

Seven Objectives: The Policy has mainly seven objectives which are as mentioned below.

1. **IPR Awareness: Outreach and Promotion**
2. **Generation of IPRs**
3. **Legal and Legislative Framework**
4. **Administration and Management**
5. **Commercialization of IPR**
6. **Enforcement and Adjudication**
7. **Human Capital Development**

These seven objectives could be broadly divided into three categories i) those dealing with the generation and commercialization of IPR's- Objectives 2 and 5

ii) Those dealing with legal aspects, enforcement and

adjudication – objectives 3 and 6
iii) Popularization and strengthening the administrative machinery for dealing with IPR issues objectives 1, 4, and 7. (Mani 2016)

Conclusion: In this era of creativity, knowledge based growth and globalization, no state can remain isolated and develop. Therefore to grow along or ahead of other states; there is a need of protection of IPR. For the protection of IPR strong legislature and dynamic policies are one of the essential requirements. India already had a robust legal and legislature framework in relation to the Intellectual Property Rights. With the approval of National IPR policy on May 13, 2016 by the cabinet the much awaited policy came into being.
From the history we can see that how this modern IPR system started germinating in Europe. Later on USA become the hub of successful patenting and other aspect of IPR. In last two decades China started making laws and policies; picked up the momentum and is at a good position. Similarly we may hope that the advent of new era in Indian IPR regime with National IPR policy will shortly lead us to a very good position globally.

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TRIPS-PLUS PROVISIONS IN FREE TRADE AGREEMENTS (FTAs) VIS-A-VIS PUBIC HEALTH: ISSUES AND CHALLENGES FOR DEVELOPING

Akanksha Jumde*

Abstract
This paper is concerned with the issues surrounding the recent trend by developed countries to introduce TRIPS-plus regime in international IPR and trade law and challenges that could be faced by India in this regard. As has been observed recently, developed countries with rich IP portfolios are in the process of advocating and implementing a TRIPs-plus era in the various Free-Trade Agreements (FTAs) concluded between various countries that may have detrimental effects on the public health interests of the developing countries. The paper begins by giving a background of TRIPs; the second part of the paper deals with development of TRIPs-plus era and the related public health concerns and its effects on access to medicines in India. Lastly, the paper concludes with the suggestion that the legislature and the judiciary may play a key role in balancing the conflicting interests of the developing countries and the industrialized nations while implementing TRIPs-Plus IP clauses in FTAs under domestic law.

Keywords: *FTAs, TRIPs, TRIPs-plus, public health, developing countries, developed countries*

Extended Summary: The Trade-Related Aspects of Intellectual Property Rights (TRIPs), signed in 1995, administered by the World Trade Organization (WTO) is to date the most comprehensive treaty for the protection of intellectual property rights across the world. This treaty lays down the minimum standards to be adhered to by the signatory countries in their domestic Intellectual Property Rights (IPR) protection regime. Further, it lays down the minimum enforcement and infringement standards in case of infringement and counterfeiting, including the enforcement of cross-border measures. Keeping in mind the needs of the developing nations with respect to issues such as public health, transfer of technology, socio-economic development, promotion of innovation and access to knowledge, TRIPs' in-built flexibilities allows them to enact provisions that protect the interests of the public at large.

Doha Declaration, on the TRIPs Agreement and Public Health adopted by the WTO Ministerial Conference in 2001, allows developing countries to adopt measures that protect public health, even though it may be detrimental to the individualistic interests of the IP rights owners. It reaffirmed the flexibility of the TRIPs member states in circumventing the patent rights for better access to essential medicines.

India's Section 3(d)[1], of the Patents Act, 1970, inserted by the Patents (Amendment) Act, 2005, permits any improvement over an existing product or an invention, only when "enhanced therapeutic efficacy" may be shown. This provision has been inserted after India acceded to TRIPs, which mandates both product and process patents.

Recently, the IP-rich countries, such as Japan, USA, and the EU wish to push the envelope by enforcing standards that go beyond the TRIPs regime by signing multilateral, bilateral and pluri-lateral Free-Trade Agreements (FTAs)[2] treaties with developing countries that enforce standards more stringent than TRIPs. This is possible because TRIPs itself permits the countries to exceed TRIPs standards. Generally, TRIPs-plus provisions[3] put limitations on parallel imports, data exclusivity, compulsory licensing and provide for

[1]Section 3(d) of the Patents Act, 1970 states: the mere discovery of a new form of a known substance which does not result in the enhancement of the known efficacy of that substance or the mere discovery of any new property or new use for a known substance or of the mere use of a known process, machine or apparatus unless such known process results in a new product or employs at least one new reactant. Explanation. -For the purposes of this clause, salts, esters, ethers, polymorphs, metabolites, pure form, particle size, isomers, mixtures of isomers, complexes, combinations and other derivatives of known substance shall be considered to be the same substance, unless they differ significantly in properties with regard to efficacy;]

[2] For Example: The US–Australia FTA was controversial as it impacted upon Australia's Pharmaceutical Benefits Scheme (PBS) for providing access to affordable medications. For more information, see B. Mercurio, 'The Impact of the AUSFTA on the Provision of Health Services in Australia' (2005) 26 Whittier L Rev, 1051 and P. Drahos et al., 'Pharmaceuticals, Intellectual Property and Free Trade: The Case of the US–Australia Free Trade Agreement' (2004) 22 Prometheus, 243.

[3] For example, US-Australia FTA, in Article 17.9.4., prohibits the adoption of international exhaustion that allows parallel imports from cheaper markets abroad. In addition, Article 19.9.7. allows compulsory licensing only on certain grounds such as public non-commercial use, national emergency or circumstances of extreme urgency.

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patent-term extensions beyond the minimum 20-year period of TRIPs, which could include automatic extensions to compensate for delays in the patent examinations and the calculation of the patent term from the date of the grant of the patent and not from the date of filing of the application of the patent.

The introduction of TRIPs which provides for minimum standards and greater enforcement for intellectual property rights (IPRs) sufficiently placated the demands of the industrialized nations' demands for strong enforcement and protection of IPRs, it now appears that this agreement only served as another step in the pursuit of stronger IPRs.

After having failed to achieve all they sought in the TRIPs negotiations, the US and the other developed nations have begun negotiating for the inclusion of more protectable subject matter, broader and more extensive coverage, stronger enforcement mechanisms, and weakening of 'flexibilities' and the 'special and differential treatment granted to developing and least developed countries through regional Free Trade Agreements (FTAs). Thus, while many developing countries were still struggling to implement their obligations under TRIPS, developed countries were already raising the level of IPRs through FTAs.

The TRIPS-Plus provisions and resulting standards are designed to best protect domestic interests of developed nations. While some commentators may disagree with this approach, it is in fact no different to any negotiation: the industrialized nation is putting forth its position and the negotiation partner can choose to accept the demand, conditionally accept it in exchange for a concession or outright reject the demand. It is also clear that the TRIPS-Plus provisions appearing in FTAs are identical to aspects of domestic law of the industrialized nation.

In this regard, countries agreeing to such heightened standards must fully recognize they not only are agreeing to amend their IP laws, in most cases without full discussion and input of the IP community and, perhaps more importantly, any economic analysis as to the overall costs of the changes, but that they may be agreeing to standards that are far removed from their own the economic and social needs. Such policies expedite compliance with TRIPS while at the same time force certain developing countries to relinquish their rights granted by the TRIPS[4].

As the industrialized nations have a higher bargaining power in international trade, they impose obligations on developing nations through regional trade agreements to fulfill their own interests through provisions that are similar to their own domestic intellectual property laws, who have to agree to them or face blacklisting or political isolation under international trade. Since no country can today afford to live as a geo-political island, they agree to intellectual property provisions even though they may be detrimental to their own socio-economic interests. Thus, there is a need to reconcile and balance the intellectual property and trade interests of the developing and the industrialized nations, particularly in the arena of public health. It must be also noted that the practice of negotiating TRIPS-Plus provisions is not limited to FTAs with developing countries[5].

TRIPS-plus provisions cover several aspects such as:

1. Patentability of drugs

Several FTAs introduce provisions which prevent national drug regulatory authorities from registering a generic version of a drug that is under patent in the country without the consent of the patent holder. This provision represents a significant shift from traditional operating standards, where the market approval of a drug that is the regulatory approval granted to a product which proves its safety and efficacy, has not been linked to a drug's patent status.

2. Extension of patent term

TRIPs require members to grant patent protection for a period of at least 20 years from the date of filing of an application for a patent. TRIPs do not obligate members to 'compensate' patent holders for 'unreasonable' delays in approving a patent or registering the product by extending the patent term. However, in order to rebalance the effects of the time delay, provisions in certain US FTAs 'compensate' the pharmaceutical companies for any 'unreasonable' delay caused by the national drug regulatory authority in examining an application for registration or from a patent office in assessing the application for a patent by extending the patent term in the same amount of time as the 'unreasonable' delay[6].

[4] To illustrate, Nicaragua agreed to forego its implementation period and immediately comply with its TRIPS obligations in exchange for preferential access to the US market and increased prospects of foreign direct investment.

[5] For instance, the US–Australia FTA imposes a strict IP regime, modelled on the US–Chile and US–Singapore FTAs, requiring Australia to amend several laws.

[6] For example, Article 15(9)(6) of the CAFTA-DR states:
Each party, at the request of the patent owner, shall adjust the term of a patent to compensate for unreasonable delays that occur in granting the patent. For the purposes of this paragraph, an unreasonable delay shall at least include a delay in the issuance of the patent of more than five years from the date of filing of the application in the Party, or three years after a request for examination of the application has been made, whichever is later.
Similarly, Article 15(10)(2) of the CAFTA-DR relating to delays in market

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3. Compulsory licensing

Compulsory licensing is a TRIPS-recognized public health safeguard allowing a government to temporarily override a patent and authorize the production of generic versions of a patented product. Since the implementation of TRIPS, the US has sought to restrict the flexibility through FTAs, despite the 2001 Doha Declaration, which affirmed countries' right to use compulsory licensing and to determine the circumstances warranting this action.

4. Parallel Importation

Parallel importation undercuts the ability of a patent holder to engage in price discrimination across national boundaries and can severely reduce profit levels of international companies. Importantly, the Doha Declaration confirmed the existing right available in TRIPS that each WTO Member may establish its own regime of exhaustion of IPRs. Parallel importing is therefore not in and of itself a violation of TRIPS.

Traditionally, IPRs are 'exhausted' once a product is sold once placed on a market anywhere in the world; in other words, the initial sale ends the IP holders' rights and control over what can be done with that product. Therefore, nothing prevents the importing nation that acquired the pharmaceuticals at reduced prices from exporting the drugs back to the original market or any other market for profit. Attempts at curbing parallel imports, even under the context of a compulsory licence, are fraught with uncertainty. In such a circumstance, the US has sought to impose strict standards on other nations via FTAs providing for the restriction and/or prohibition on parallel importation.

The above demonstrates that the newly granted IPRs pose a threat to the public health and welfare by removing the flexibilities granted in TRIPS and mandating a more restrictive system of healthcare. Thus, there is need to address the question of how to correct for the current cycle of bilateralism that promote TRIPS-Plus provisions.

1. INTRODUCTION

The Trade-Related Aspects of Intellectual Property Rights (TRIPS) Agreement settled a minimum standard of regulations for the protection of IPR throughout the world. As an international agreement negotiated by sovereign states, it reflected a mutual consensus among the political parties involved (member states). Developed countries are the major net exporters of knowledge-based products, whereas developing and least developed countries (LDCs) are net importers of such products. As a consequence, the former group generally pursues stringent standards for IPR, while the latter benefits from laxer levels of protection.

Conflicts of interests among groups of countries are critically present in the area of patent protection for pharmaceuticals. Developed countries justify their claim for higher protection of IPR as the appropriate mechanism to provide incentives for innovation (encouraging investment in research and development [R&D]) and developing countries tend to oppose stringent protection in terms of concerns about the access to medicines at affordable prices. Two important issues are therefore comprised in the current debate about IPR and public health: innovation and the capacity to obtain new medicines, on the one hand, and access to medicines at affordable prices, on the other. In the light of public health and development concerns, the final text of the TRIPS Agreement included some scope for flexibility for developing countries and LDCs in terms of implementation time and sensitive issues that were left out of the bargain in order to allow national authorities to adapt their legislation and policies to their particular development and public health concerns. The scope for this flexibility was further clarified in the Doha Declaration
on the TRIPS Agreement and Public Health and in the Decision on Implementation of Paragraph 6.

However, this flexibility, established in the TRIPS Agreement in order to assure that public health concerns are taken into account, represents at the same time a limit to some of the objectives of developed countries and their pharmaceutical industries. To achieve their expectations, developed countries have pursued higher protection of IPR by way of extraterritorial application of their own domestic IPR regulation through different ways.

Bilateral investment treaties or free/regional trade agreements containing investment chapters are one of the tools used in what is described as TRIPS-plus commitments. By incorporating IPR regulations into BITS, the application of rules intended for investment protection could alter the principle and legal standards settled in the TRIPS Agreement.

2. BITS, TRIPS-PLUS AND PUBLIC HEALTH WHAT IS TRIPS-PLUS?

The TRIPS Agreement has settled a minimum playing field for IPR protection. Public health concerns in the TRIPS Agreement were addressed by leaving some issues opened to flexibility and national discretion. By that time, it was also foreseen that agreements such as the Free Trade Area of the Americas (FTAA) could establish more restrictive rules for IPR. TRIPS-plus rules can provide more scope or duration for protection

approval continues:
With respect to any pharmaceutical product that is subject to a patent, each Party shall make available a restoration of the patent term to compensate the patent owner for unreasonable curtailment of the effective patent term as a result of the marketing approval process.

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or undermine flexibilities granted by the TRIPS Agreement. This situation was recently re-examined by a recent study that acknowledges lack of implementation of TRIPS' flexibilities along with a spread of new BITS (FTAs) that make that process even more complex. Developing countries and LDCs faced many obstacles with implementation of the TRIPS Agreement, which was considered as too high a standard, at least for some of them.

The reasons why developing countries agree to sign these treaties seem confusing and have been analyzed from different perspectives, although they resemble the reasons why they agreed to sign the TRIPS Agreement. Some authors argue that these agreements provide net gains (gains in some areas like market access that offset costs in other areas like IPR). Some others argue that these treaties are the outcome of pressure from developed countries to withdraw concessions (such as the Generalized System of Preferences [GSP]), or the promise to give special future preferences. The United States, the country that has more intensively pursued this trend, is not likely to change it, even though it faces opposition from nongovernmental organizations (NGOs), public opinion and even internal pressure inside the US Congress (Abbott, 2004a). Some concerns have been expressed that BITS' real benefits are overestimated while their costs might be underestimated.

BITS AND PUBLIC HEALTH ISSUES

The discussion following the TRIPS Agreement centred on the issue of compulsory licensing and parallel importation, and these aspects still remain crucial and unsolved. However, other important issues are moving forward in BITS. Moreover, BITS could limit compulsory licensing mechanisms and the parallel import waiver. The inclusion of IPR protection in BITS also poses a number of new matters. The consequences and future interpretation of most issues still remain speculative.

Developing nations (and organizations advocating patient's rights) have continuously claimed that the process of strengthening IPR rules is undermining public health. Some of the ways in which Free-Trade Agreements can undermine public health may be stated as below:

TRIPS-PLUS PROVISIONS

1. Linking 'market approval' to the patent status of a drug

Several US FTAs introduce provisions which prevent national drug regulatory authorities from registering a generic version of a drug that is under patent in the country without the consent of the patent holder.

This provision represents a significant shift from traditional operating standards, where the market approval of a drug has not been linked to a drug's patent status. Thus, the patent status of a drug has never had bearing on whether a drug is of sufficient quality, safety and efficacy to be marketed in a particular nation or region. The reason for the separation of patent status and regulatory approval is simple—the authorities granting patents and those granting regulatory and marketing approval offer very different areas of expertise and competency. Simply stated, authorities which assess and grant patents (commonly called patent offices) decide whether the drug at issue is innovative and novel and otherwise meet the criteria for a patent in that country whereas national drug regulatory authorities, on the other hand, simply assess whether the drug at issue is of sufficient quality, safety, and efficacy to be marketed as a potential medical treatment. Thus, national drug regulatory authorities have traditionally not been concerned with the patent status of a drug they are assessing. Therefore, potential infringement of a patented drug by the applicant generic manufacturer has never had a bearing on the decision of a national drug regulatory authority.

As a result, if a patent holder believes a generic manufacturer is infringing its patent, it traditionally has the responsibility to enforce its rights. In practice, this entails the patent holder bringing suit against the alleged infringer in an effort to prevent further sales of the infringing product and recover damages. This process can be lengthy and costly, but ensures the validity of a patent before enforcing the rights asserted by the plaintiff. In addition, IPRs have always been recognized as 'private rights' (TRIPS explicitly supports this position) and it seems logical that the owner of private rights should be responsible for their enforcement. The newly delegated role of the regulatory authority as an 'enforcer' of a private right is therefore a significant benefit to the rights holder.

TRIPS does not specifically address the rights of generic manufacturers to make use of a patented drug prior to its expiration for the purpose of obtaining marketing approval of their generic product. However, Article 30 authorizes limited exceptions to patent rights for such things as research, prior user rights, and pre-expiration testing. The provision has been used to advance science and technology by allowing researchers to use patented inventions to gain a better understanding of the technology. In addition, the provision is also used to allow manufacturers of generic drugs to apply for marketing approval without the patent owner's permission and before the expiration of the patent.

Not only will these provisions delay access to generic drugs, importantly, the linkage between market

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approval to patent status could also be detrimental to countries taking advantage of the TRIPS recognized flexibility of a compulsory license. More specifically, it is unclear whether a compulsory license may be issued to provide entry of generic drugs where the law does not allow registration prior to the expiration of the patent. This potential impediment is caused by the fact that a manufacturer granted authority to produce under compulsory license still must be registered by the national drug regulatory authority. Thus, if the regulatory authority is prohibited from registering generics until the patent expires, the compulsory license will be prevented from coming to fruition.

2. Data exclusivity periods

As discussed above, before marketing or distributing a drug the manufacture must apply for regulatory/marketing approval with a national drug regulatory authority to ensure that the drug is safe, effective, and of sufficient quality. The regulatory authority does not undertake clinical trials or otherwise test the drugs; instead, it relies on the clinical trials and other data conducted and submitted by the applicant. When a later applicant (a generic manufacturer) seeks registration of the same drug, it need not re-conduct the same clinical trials but only must submit and prove that the drug it seeks to distribute is of the same quality and therapeutically equivalent to the previously approved drug. This process facilitates the introduction of generic drugs to the market and, without having to conduct clinical trials, generic manufactures save a significant amount of resources and can introduce their drug on the market at a reduced rate.

TRIPS does not explicitly require members to provide any period of data exclusivity to an original applicant. While the interpretation of TRIPS on this point is contentious, the wording of Article 39.3 merely states the need to protect 'undisclosed test or other data' from 'unfair commercial use' and 'disclosure', provided that the data required 'considerable effort' to generate, that it is undisclosed and that the product involves a 'new chemical entity'. TRIPS does not dictate how protection should occur or the limits of such protection. On the contrary, the text indicates that it is up to the individual member to determine what constitutes 'unfair'. In addition, the provision does not define what is meant by a 'new chemical entity'.

Recent US FTAs, however, seek to bring its FTA partners into line with American domestic law by preventing the later applicant and the national authority from relying on the clinical studies and data provided by the original applicant when seeking to register the generic version of the drug for a given period of time following the first registration. Thus, a generic manufacturer wishing to market and distribute a generic whilst the period of data exclusivity is in force must conduct its own clinical trials and other data and submit its findings to the national authority.

From a public health perspective, this requirement is difficult to justify and the generic industry will find it difficult to implement such onerous requirements. Even if generic manufacturers were able to generate this data, the cost of the resulting drugs produced would rise considerably as well as delay the generics introduction into the marketplace. Moreover, such duplication of testing is arguably unethical, as it simply is repetition in testing and clinical trials where the safety and efficacy of a product has already been determined.

Several FTAs also effectively prohibit generic manufacturers from using evidence of registration of the originator drug in another country to prove the safety and efficacy of their version. The only condition that can be imposed on the originator is to require marketing approval be sought within five years of registering the product in a country other than a member of that particular FTA. This TRIPS-Plus provision is difficult to justify as, depending on how the originator times entry into the market, the effect of the provision could result in ten years of test data protection. For example, a pharmaceutical company could register the original drug in one of the FTA-member countries but wait five years before submitting the market approval application in another FTA-member country. It would then be entitled to a further five years of exclusivity from that date.

In addition, certain FTAs eliminate the Article 39.3 requirement in TRIPS which protects data only in cases where the pharmaceutical in question utilizes 'new chemical entities' and where the generation of data involves considerable effort. The effect of this provision is to allow a first registrant of a new pharmaceutical product to obtain protection even in the case of old and well known products and such protection may be sought irrespective of whether any effort was spent in the generating the data.

Finally, as noted above, FTAs link test data protection to the patent term, generic manufacturers may not obtain marketing approval at any time during the patent period, even when a compulsory license is issued, and even in preparation to enter the market upon patent expiry, both of which are allowed under TRIPS.

Data exclusivity can also act as a *de facto* patent, ensuring a minimum period of monopoly for pharmaceutical companies, preventing competition, and in some instances, it may even prohibit a generic manufacturer from seeking registration in a country. Furthermore, a period of exclusivity relying upon the registration in another country potentially deprives a country of the drug for the entirety of that period.

It is also important to note that the period data exclusivity negotiated in FTAs is independent from the patent process and applies regardless of whether the drug is patented in the country. Thus, the effect of a period of data exclusivity where a patent does not exist serves to maintain an artificial barrier to entry into the marketplace and higher prices to consumers.

3. Patent term extensions

TRIPs requires members to grant patent protection for a period of at least 20 years from the date of filing of an application for a patent. However, as medical products require lengthy testing periods and regulatory approval, pharmaceutical companies wishing to apply for patent protection must do so at a very early stage of basic research, many years before filing an application for regulatory approval. In total, the patent and regulatory approval process often lasts between eight and twelve years, meaning a company which has gained a patent for a drug will have its monopoly period significantly shortened.

However, in order to rebalance the effects of the time delay, provisions in certain US FTAs 'compensate' the pharmaceutical companies for any 'unreasonable' delay caused by the national drug regulatory authority in examining an application for registration or from a patent office in assessing the application for a patent by extending the patent term in the same amount of time as the 'unreasonable' delay.[7]

It is common international practice to grant extensions for delays caused by registration and examination, especially in developed countries. However, there is concern for developing countries from a public health perspective over what is considered 'reasonable'. Given the resource constraints on national drug regulation authorities and patent offices in developing countries, an arguably 'reasonable' delay could possibly exceed six years. The extra years added to a patent may not have serious implications in developed nations or even industrialized developing countries, but may have serious consequences for public health in poorer developing countries due to the fact that the provisions extend the time period drug companies are free from generic competition, thereby delaying significant reductions in price which follow the introduction of generic competition. Such delays could prevent large portions of the population from accessing needed drugs and further deepen the public health crises currently engulfing much of the developing world.

4. Limits on compulsory licences

Compulsory licensing is a TRIPS-recognized public health safeguard allowing a government to temporarily override a patent and authorize the production of generic versions of a patented product. Since the implementation of TRIPS, the US has sought to restrict the flexibility through FTAs, despite the 2001 Doha Declaration, which affirmed countries' right to use compulsory licensing and to determine the circumstances warranting this action.

The restrictions placed on compulsory licensing through FTAs exist at two levels. First, FTAs indirectly restrict compulsory licensing as a result of the data exclusivity provisions discussed above. Second, direct restrictions limit the grounds on which compulsory licences can be issued. For instance, and unlike TRIPS, these provisions are drawn in the negative and confine the use of compulsory licences to specified cases, such as remedying an anti-competitive practice, public non-commercial contexts, national emergencies and other cases of extreme urgency, and the failure to meet working requirements.

5. Limits on parallel importing

Parallel importation undercuts the ability of a patent holder to engage in price discrimination across national boundaries and can severely reduce profit levels of international companies. Importantly, the Doha Declaration confirmed the existing right available in TRIPS that each WTO Member may establish its own regime of exhaustion of IPRs. Parallel importing is therefore not in and of itself a violation of TRIPS.

International price discrimination (i.e. tiered pricing) benefits developing countries and other countries with elastic demand for the product. It also allows companies to charge a high price in countries able and willing to meet the higher price (most often developed nations) in order to recoup the costs of offering a lower price to those markets unable or unwilling to meet the higher price. Manufacturers often engage in price discrimination between national boundaries, as the elasticity of demand differs widely between markets; thus, when there is a low elasticity of demand in one country (low rate of exit) and a high elasticity of demand in another (high rate of exit), manufacturers will price products accordingly. Attempts at curbing parallel imports, even under the context of a compulsory licence, are fraught with uncertainty.[8]

[7] For example, Article 15(9)(6) of the CAFTA-DR states: Each party, at the request of the patent owner, shall adjust the term of a patent to compensate for unreasonable delays that occur in granting the patent. For the purposes of this paragraph, an unreasonable delay shall at least include a delay in the issuance of the patent of more than five years from the date of filing of the application in the Party, or three years after a request for examination of the application has been made, whichever is later.

[8] For example, US FTAs with Morocco (Article 15(9)(4)) and Australia (Article 17(9)(4)) prohibit parallel importation; however,

CONCLUSION

The above demonstrates that the newly granted IPRs pose a threat to the public health and welfare by removing the flexibilities granted in TRIPS and mandating a more restrictive system of healthcare. These currently reduce the flexibilities of TRIPS and possibly negatively impacting the public health choices of FTA partners. There is a need for careful public policy balancing the interests of the rights holder with that of the public. Developing countries must resist being coerced into granting IPRs to the detriment of the welfare of its people. These governments must commit to improving the health and welfare of their nations by, *inter alia*, allocating more funds to health, stemming corruption, improving infrastructure, and encouraging doctors to train and remain in the country.

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UNDERSTANDING THE FINANCING CHALLENGES FACED BY STARTUPS IN INDIA

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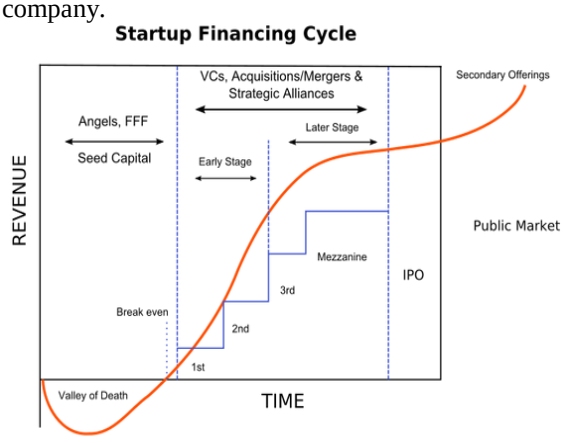
Abstract
With growing demand for entrepreneurship in India, we see a lot of startup companies coming up in recent years. With these kinds of numbers, it is important to see how these startups finance their ventures, and who their stakeholders are. This paper covers the different funding options that startups have at different stages, along with a brief description of each of them and what the startups look for while selecting them. It includes examples of some startup companies and the various factors that prompted them to go for that funding option. The paper concludes with a discussion of the pros and cons of each option, and certain pitfalls that need to be avoided.

FINANCING A STARTUP

One of the major challenges faced by an entrepreneur is financing his venture, since it is imperative that the financial needs of a business change as the business faces different challenges. The entrepreneur should be able to recognize where the organization is in its life cycle, and specify which financing option has to be used. Also, he has to decide whether a certain option has to be sustained during further stages, or another option has to be considered, based on the requirements of the organization.

The diagram shown below illustrates the different stages in the Financing Life Cycle of a startup company.



A. Seed Capital

The small amount of money required to prove that the concept of the startup is viable and feasible, is known as *seed capital*. It is generally not used to start the business on a wide scale, but to investigate its different possibilities. Seed capital is more like a securities offering, wherein the parties who have some connection to the startup, invest the necessary funds to start the business. This is done to ensure that enough funds are generated in order for the startup to sustain itself for a period of development, until it reaches a state where it is able to continue funding itself, or has created enough in value so that it is worthy of future funding. The people investing in such ventures are known as *Angel Investors*. Seed capital options can also be generated from *crowd funding*.

An angel investor is usually a rich individual, who provides capital for a business start-up. This is usually done in return for convertible debt or ownership equity. A number of angel investors have been organizing themselves into angel groups or networks to share research and pool their investment capital. In short, Angel capital is used to fill the gap in start-up funding between *friends and family* (the acronym FFF in the figure).

An important term for the period of time between a company's receipt of seed capital and its establishment of a secure cash flow is the *Death Valley curve*, as shown in the figure. During the Death Valley curve, the startup is unlikely to receive any more financing. The curve refers to the high probability that the company might fail during the Death Valley curve.

Taking this fact into consideration, it can be said that Angel investors have to bear extremely high risks, as their investments are usually subject to dilution from future investment opportunities. Hence, they require a *very high return on investment*. Since most of the investments made by such angels are completely lost when early stage companies fail, professional angel investors seek investments which have the potential to return approximately 10 or more times their original investment within five years or so. If these results are not met, they have a defined exit strategy, such as planning for an initial public offering, or a merger/ acquisition. Current practices suggest that angel investors might be setting their sights even higher, looking for startups that will have the potential to provide at least a 20x-30x return over a 5 to 7-year holding period. Although this option of funding and the investor's expectations of higher rates of return on his investment can make angel financing an expensive source of funds, cheaper sources of capital, like bank

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loans, are usually not available for most startups, which may be too young to qualify for traditional loans.

B. Venture Capital

Once a startup manages to emerge out of the Valley of Death and break-even, there are two stages of financing.

1. Early stage financing:

In addition to the seed capital, a certain amount of funds are required to get the business organized and operational. This start-up capital is also termed as first-stage financing. Also needed is the initial working capital, to support the first commercial sale of the start-up's products.

2. Expansion/ Later stage financing:

This is the second stage of financing, and it is concerned with expanding the business beyond the breakeven point and positive cash flow levels. This supports trade debtors, stocks, supplies, and expenses. At this point, however, the venture might not have achieved a positive cash flow.

For both these purposes, **Venture Capital** is preferred.

Venture capital is provided as a funding option to early-stage start-ups, usually after the venture has been funded by angel investors. In return for their investment, venture capitalists expect a return through an eventual realization event like an IPO or trade sale of the company.

In other words, an investment firm will provide capital to a growing start-up. This growing start-up will then use this money to carry out its activities, like advertise, build infrastructure, develop products etc. The investment firm is known as a *venture capital firm*, and the capital provided is called *venture capital*. The venture capital firm makes its investment in return to owning a stake in the venture it invests in. The firms that a venture capital firm will invest in generally have a sound business model in place. It is very normal for venture capitalists to identify and fund companies in high technology industries, like IT firms.

Venture capital firms generally consist of people with a deep industry experience, or small teams of people with business training. An important skill that a VC should have is the ability to identify innovative technologies that have the potential to generate high returns at the early stages. VCs also take a role in managing start-ups at an early stage, thus adding skills as well as capital as an investment. The high return on their investments is justified by the fact that they also run a high risk of losing their investment in the startup. In return, the venture capitalists get a significant control over the company decisions, along with a significant portion of the company's ownership.

Most VC investments are done in a pool format, wherein many investors combine their investments into a single large fund, which invests in many different startup companies. By investing in a pool, the investors are making sure that their risk is getting spread out across different investments, as opposed to taking the chance of investing all their money in one single firm. A *venture capital fund* refers to the pooled investment that mainly invests the finances of third-party investors in ventures that are too risky for the standard capital markets or bank loans. Start-ups wanting to raise venture capital require a rare combination of qualities, like innovative technology, potential for rapid growth, and a well-developed business model.

Factors to be considered by an entrepreneur before taking venture capital funds:

- Equity Share – The investor owns a certain amount of shares in the company once he provides the startup with the venture capital
- Involvement of High Risk – The Venture Capitalist is willing to take a risk by investing in the company, without any collateral or guarantees. So if the company loses, they also lose out.
- Partnership Constraints – As mentioned before, Venture Capitalists will expect to have a say in the operation of the company.
- A possible Win-Win Situation – When a VC invests in a growing startup, it can help the company grow faster and get better returns. With the right VC, the company can expect help regarding strategy, acquiring customers, recruiting the team, etc. The VC also benefits because of the better returns it gets. Thus, it can result in a possible win-win situation for both.

Because VCs own a certain share of a company, in order to return money to the investors, they have to exit the investment made, by selling their shares to someone else usually at a much higher price than what they had invested.

Generally, there are two ways in which a VC can exit an investment. The first scenario is when the whole company is sold. The second scenario is when the company *goes public* with an initial public offering (IPO), and sells its shares through a stock exchange. Once this is done, the venture capitalists and their investors are able to sell their shares to the public, and exit the investment.

The average time frame for a VC investment is usually within 5 – 7 years, up to the time the company is reaching stable grounds and can start growing bigger.

C. Initial Public Offering (IPO)

An *initial public offering* (IPO), often called as an offering, is when a company issues common stock or shares to the public for the first time. This is often done by a start-up that has started making profits through funds received from Venture Capitals, and now wants to expand more.

When a startup lists its shares, it usually looks to issue additional new shares at the same time. The money

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paid by investors for these new shares goes to the company, in contrast to a later trade of the shares on the exchange, wherein the money passes between investors. Thus, an IPO allows a startup to tap a wide pool of investors, and to provide it with large volumes of capital for expansion and future growth. The company does not have to repay the capital, but the new shareholders have a right to the future profits distributed by the company, and also the right to a monetary distribution in case of dissolution of the company. The existing shareholders might see their share-holdings diluted with respect to the company's shares when such new shares are issued, but they hope that the capital investment will improve their shareholdings and make them more valuable in absolute terms.

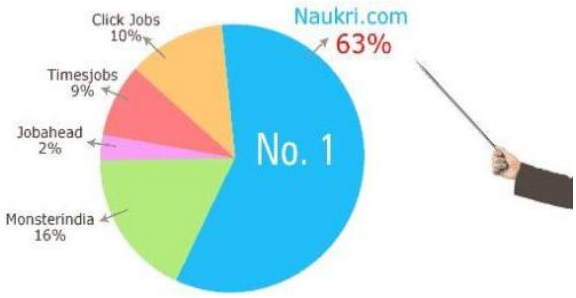
To add on to that, once a company is listed, it can issue further shares to its investors, thereby again providing itself with more capital for expansion, without incurring any debt. This great ability of a company to raise large amounts of capital from investors in the general market, rather than from individual investors, is a key goal of many companies seeking to list.

IPOs also involve a few investment banks, known as *underwriters*. The organization offering its shares (issuer) signs a contract with a lead underwriter to sell its shares to the investors. The underwriter then approaches the investors, with offers to sell the shares. An IPO can sometimes be a risky investment with respect to a start-up. For individual investors, it is tough to predict what the shares will do on its initial trading day and in the subsequent days, since there is often little historical data about a start-up, with which one can analyze and come to a decision. This transitory growth period adds to the uncertainty regarding their future value.

IPOs, however, have many benefits too:

- They bolster and strengthen the Equity base of the startup. With more people willing to invest in the venture, it is bound to grow faster and attract even more investors.
- Enable the startup to get cheaper access to capital, without having to repay it in direct terms. However, the venture has to provide *bonuses* to the shareholders, based on the profit it makes.
- They provide a boost to the prestige of the start-up. Once listed, the value of the start-up in the market increases many-fold, and the venture tends to gain from this kind of mass exposure.
- They enable the start-up to attract better management and employees, as bigger growth will require more skilled and experienced resources.
- They create multiple funding opportunities like equity, cheaper bank loans, etc.

NAUKRI.COM – A Case Study



Naukri.com is one of India's largest job site, founded by Sanjeev Bikhchandani in March 1997. The site was established by Info Edge (India) Ltd, started and owned by Bikhchandani. Info Edge is a listed company on the BSE and NSE since November 2006.

The evolution of Naukri.com has an interesting story behind it. In 1990, the department of telecom came out with advertisements launching a video text service, and wanted content providers to work on it. Bikhchandani got some workers to reword job advertisements from different newspapers, so as to create a job database. However, the project never really took off.

In 1996, Bikhchandani got to visit an IT Asia exhibition at Pragati Maidan in New Delhi. There, he saw a stall with a "www" sign written on it, and was curious to know what it meant for. On further analysis, he got to know that this was what people called the *internet*, and got a hands-on exposure about what the internet can do. This gave him his unique idea.

The forgotten database project suddenly looked very useful to Bikhchandani, so his workers again began scanning through 29 different newspapers to build it up – The recession of the mid-1990s made sure that he had enough staffers for this work, who, otherwise, had nothing to do. He gave his brother a 5% stake in Naukri for offering an *Angel Investment* of $25 a month from the US, to a web-hosting firm.

Anil Lall, a programmer, was given 8-9 % stake for learning web-programming and creating the website. Another friend of Bikhchandani, V N Saroja, was given 9% for running the company.

This model clicked, and while *Venture Capitalists* began calling, Bikhchandani turned them down for a long time. It was only in 2000, when JobsAhead was launched and advertised in a cricket tournament in Sharjah with a budget greater than Naukri's turnover, did Bikhchandani give ICICI Ventures 15% stake in Naukri for Rs 7.3 crore (Rs. 73 million). In 2005, Naukri's turnover from fresh ads reached a whopping Rs 45 crore (Rs 450 million), with a huge profit of Rs 8.4 crore (Rs 84 million).

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In November 2006, Info Edge (India) became the first Indian Internet company to go *public* on the Indian stock exchange. It now owned *99acres.com* and *Jeevansathi.com*, in addition to *Naukri.com*. The initial offer consisted of 53.23 lakh equity shares, of which 5.32 lakh shares (10%) were reserved for the employees. The shares were initially listed at a price of Rs. 320. By November 21st, within two weeks of issuing its IPO, the shares were listed at a premium of 50% over the issue price (i.e. at Rs 480), then hit a high of Rs 624 in the noon deals, and finally closed at Rs 593 – an overall gain of 85% (Rs 273).
The value of the shares, as of today, is Rs. **743.00**.

SUMMARY & CONCLUSION

In today's times, a start-up company in India has different options to finance and sustain itself through the initial periods. Some of the main funding options, like seed funds, angel investors, venture capitals, and IPOs were discussed here.
Angel Investors come into the picture when a start-up has not yet started making profits. These are people, who are generally rich and have faith in the organization, in return for ownership equity or convertible debt.
Venture Capitalists provide funds to a company in its growth stage, provided it has a strong organizational and technological model in place. Venture Capitalists expect high returns on their investments in order to counter the high risks involved, and expect an eventual realization of their investments when the company issues an IPO, or goes in for a merger/acquisition.
IPOs are offered by a company when it is relatively stable and making good profits, and wants to expand further through public investments. Although there is no collateral or guarantee provided to the public investors, the company is expected to give them a share of the profits, or a capital distribution in case of dissolution of the company.
Thus, an entrepreneur has to analyze various situations before selecting a financing option, or deciding WHEN to move from one option to another; the correct decision taken at the correct time can result in great benefits, not only for the start-up venture and the entrepreneur, but also for all the stakeholders involved.

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PUBLIC HEALTH IMPLICATIONS OF IPR POLICIES IN PHARMACEUTICAL INDUSTRY WITH SPECIAL REFERENCE TO INDIA

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Abstract
Pharmaceutical industry, a promising sector constantly generating new intellectual property is third largest in terms of volume and thirteenth largest in terms of value. India is one of the largest providers of generic drugs contributing almost 20% of the worlds share. Due to flagship programmes such as Make in India substantial effect is reflected on innovation scenario as India has jumped the ranking this year in Global Innovation Index compiled by WIPO. Despite several health policies, India continues to lag several health indicators such as mortality rates and malnutrition. Home to 17.5% of the world's population, India accounts for 20% of all neonatal deaths and 21% of all child deaths (younger than 5 years).In such a scenario of increased burden of healthcare, a thriving generic drug supply at accessible costs and proper incentivization of the Pharma MNC's using PPP, providing them a good R&D environment with IP laws in sync with the TRIPS agreement is required.

Keywords: *Pharmaceutical industry, Intellectual Property, WIPO, Health policies, Healthcare, PPP, TRIPS.*

INTRODUCTION

'Intellectual Property' is a generic term covering assets that are created from the exercise of the human mind and have no physical existence as such hence the reference to "intellect". These assets are often referred to particularly by accountants, as 'intangible' assets and although frequently do not appear on a company balance sheet, can be extremely valuable. The assets generally belong to the creator, or a third party, such as an employer by virtue of a contract, and can be used in business to protect a market or to generate revenue by licensing, sale (by assignment) or even by being mortgaged. As one might imagine, intellectual property rights are by their nature very diverse, and with the relentless march of technology and the appetite of human beings to create, the list is increasing year on year. The strongest forms of rights are those which must be registered, such as patents, registered designs and registered trademarks.

The statutes which are in force to provide the framework for their protection set out clear standards and criteria for registration and procedures for enforcement. Intellectual property rights, have stretched the legislators, as they require their own form of regulation and do not merely 'fit' one of the existing statutes. Unregistered rights such as copyright, design right and database rights still benefit from the existence of a statute providing for their enforcement, whilst the rights of 'passing off' and protection for valuable know-how must rely upon common law for their protection, in the latter case by breach of contract. New forms of operational or technical rights such as domain names which are not strictly. In many cases a combination of rights building up a complex web through which the competition find it increasing difficult to navigate, can be a powerful deterrent, even where each particular right is not necessarily as strong as might be desired. This is a perfectly valid strategy; just as one does not rely entirely on either doors, guard dogs, locks or alarms to protect one's home, but often use all means available, so should a company look to all aspects of intellectual property to protect its products and processes as well as their position in the market.

IMPACT OF IPR RIGHTS ON HEALTH SECTOR

In India because of low level income of the people, most people prefer for the local medications and also the prices of medicines were raised too high so the common people can't afford to buy the modern medicines and antibiotics. Moreover, many of the new medical researchers are targeting developed countries with promising profits for medicines for lifestyle diseases whereas developing countries are still in need of basic health care except three sectors i.e., food processing, pharmaceutical and agrochemicals. The Indian patent act allows product patent only. Only in these three sectors process patent is allowed, as on today. India has only process patent regime with relation to pharmaceuticals product.

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RECENT CHANGES IN IPR LAWS IMPACTING PHARMACEUTICAL INDUSTRY WORLD OVER

"The commercial sector discovers and develops nearly all new drugs and vaccines, but this is expensive and risky; the patent system provides the incentive necessary to investigate thousands of new compounds and to invest an average of several hundred million dollars in R&D".

International Federation of Pharmaceutical Manufacturers & Associations (IFPMA),

ASEAN Workshop on TRIPS, Jakarta, May 2000

The pre-Trade Related Intellectual Property Rights (TRIPs) era saw the world divided into group of nations i) allowing patent in all fields of technologies (products and processes) and ii) having restrictive patent laws providing for process patents in all fields except for product patents in selected fields such as pharmaceuticals and drugs, food etc. In addition, the term of patents, conditions for compulsory licensing, whether importation should be considered as working of patents, etc., varied based on existing national laws. TRIPs attempt to harmonize the IPR laws by bringing the disparities into focus.

Since the formation of the World Trade Organization (WTO) on January 1, 1995, several nations have made significant changes in their national laws governing IPR. Proper understanding and utilization of the IPR laws in various countries would help in the global positioning of pharmaceutical companies. The European Parliament on July 8, 1998, approved the biotechnology directive, which set the guidelines for legal protection to biotechnology products and processes within the European Union. This would markedly influence the pharmaceutical industry in Europe. It was implemented in the European Union by July 2000. However, there had been some opposition from Holland. The outcome of the opposition proceedings decided the future of the biotechnology directive in Europe. Since June 1995, USA changed the term of patents from 17 to 20 years. The practice of "first of invent'' as opposed to "first to file'' has been extended to all members of WTO. All patents in force on 8th June, 1995, will have a term of 20 years from the date of issue, whichever is longer. As per this provision, several patents received an extension of their term. This has had a significant effect on the pharmaceutical industry. In November 1999, the US introduced the system that a patent specification will be published 18 months after its filing.

The Japanese Patent Law was amended on December 14, 1994, with amendments falling into two groups, one effective from July 1, 1995 and the other from January 1, 1996. With effect from July 1, 1995 the term of patents was made 20 years from the date of filing. There were other features dealing with provisions for the restoration of lapsed patents, priority-based filing in WTO Member-countries, etc. The second category, effective from January 1, 1996, was the replacement of opposition proceedings to post-grant opposition and procedures for accelerated patent processing. A few landmark judgments related to "parallel imports'' into Japan and "research exemption'' in the area of development of generic drugs are of significance. Further amendments were introduced in 1999 that were made effective from January 2000. On March 10,1999, the Indian Parliament passed a Patent Amendment Bill, which regularized the transitory "mail-box provision" (with effect from January 1,1995) to file product patents for inventions relating to drugs, pharmaceuticals, agrochemicals and to grant "exclusive marketing rights'' in these selected fields only. Other changes in the Patent Act, 1970, have been introduced to meet the immediate obligations of TRIPS such as the withdrawal of Section 39 that required inventions in India to be first field in India before being filed elsewhere, considering importation as the working of an invention in India, etc. A second patent amendment bill (1999) was introduced in the Parliament in December 1999 to meet all the other obligations of TRIPs. This is presently under review. India also joined the Paris Convention and the Patents Cooperation Treaty on December 7, 1998.

In Spain, the patent law was amended in January 1998 to remove the requirement that pharmaceutical companies must make the patented product in Spain before an injunction would be granted against an accused infringer. Now it is getting easier to obtain interim injunctions from Spanish courts.

In Argentina, the 1995 Patent Law brought provisions in line with TRIPs to make the term of

patents 20 years from the date of filing, rather than 15 years from the granting date. The problems of where the old patent law ends and where the 1995 legislation starts have not been satisfactorily resolved.

The Australian Patent Act was changed on August 10, 1998, to give pharmaceutical patents an effective term of 20 years to bring them in line with the laws in USA, Japan and Europe. The most significant provision in Australia for pharmaceutical patent owners has been the extension of patents to give an effective term of 15 years, where product registration requirements have held up the introduction of the product to the market.

IPR AND INDIAN PHARMACEUTICAL INDUSTRIES

After the GATT changed into WTO, most of the developed countries were awakened to protect their

products. Initially most of the world leading pharmaceutical industries built a separate cell for IPR and regulated very well. So the profit of the companies was increased and IP played a major role in controlling the counterfeit and copycat drugs. But in India that time only Pharma companies were plan to set their IP cell some of the companies in India established the IPR cell in the year 1995. Majority of the companies started IPR cell after 2000 in India. By the end of year 2004, majority of companies started a separate department to look after the issues related to patents. It can be safely presumed that the patents that are granted to Indian pharmaceutical companies or applied by these companies are for either new processes or new drug delivery systems.

WHO perspective on access to medicines:

•Access to medicines is a human right

•The affordability of essential medicines is a public health priority

•Essential medicines are not simply another commodity

•Patent laws should be managed in an impartial way and strike a balance between the incentives provided to stimulate innovation and public health needs

•WHO supports the incorporation of TRIPS flexibilities in national legislation, in order to protect public health

(WHO. Globalization, TRIPS and access to pharmaceuticals, WHO, Geneva, 2001.)

TRIPS, THE DOHA DECLARATION AND PUBLIC HEALTH

"We are all aware that the text of the TRIPS is a masterpiece of ambiguity, couched in the language of diplomatic compromise, resulting in a verbal tight-rope walk, with a prose remarkably elastic and capable of being stretched all the way to Geneva."

Former Commerce and Industry Minister Murasoli Maran

A majority of members of the WTO already had some form of intellectual property protection in existence prior to the TRIPS Agreement. For example, as of January 1995, fewer than 20 of the current WTO developing country and least-developed country members excluded pharmaceutical products *per se* from the grant of patents. The key difference that came about after the adoption of the TRIPS Agreement in 1995 was that countries were bound to certain minimum universal standards of patent protection. Thus TRIPS prevents countries from changing their laws to suit national interests if such interests are at variance with the Agreement. Further, as TRIPS is part of the WTO system, there is now also the possibility of cross-sectoral retaliation in the event of noncompliance by any country of its provisions. This implies that any member country failing to bring its patent law into conformity with TRIPS, if challenged by another member country, is subject to the WTO dispute settlement system. If the dispute settlement system were to rule against it and the country still insists on not changing it law, other WTO countries can retaliate with trade sanctions.

The TRIPS Agreement covers two categories of intellectual property;

1) Industrial property (trademarks, patents, geographical indications, industrial designs and trade secrets); and 2) literary and artistic works (copyright and neighboring rights). It establishes universal minimum standards, which WTO member countries are required to adopt in their national laws.

Thus, TRIPS requires countries to provide patents to protect inventions in all fields of technology, and for both products and processes. To be patented, inventions must meet three criteria: novelty, inventive step and industrial applicability (TRIPS Article 27). Before the TRIPS Agreement entered into force in 1995, countries did not have to grant patents for inventions in the pharmaceutical field if they did not wish to. This had allowed diversity in national approaches to patent protection in terms of what could be patented (scope), patent term, exceptions to patentability, etc. It must, however, be underlined that countries have some leeway in implementing TRIPS. For example, countries can choose whether or not to allow parallel importation, and whether to apply strict or lenient standards for patentability.

IMPLICATIONS OF PATENT CASES

What these patent cases demonstrate is that the MNCs have been aggressively asserting their patent rights and filing infringement cases against generic companies and that they invariably challenge any adverse decision and appeal to higher bo dies.They havethe right to do so under the Indian law.

But what is important for us in this context is to see wh at the implications are for generic companies and gener ic competition. The generic companies are required to bear not only the huge legal expenses for pr otracted cases; they also run the risk of damages to be paid to the MNCs if they lose the infringement cases. These act as a deterrent for the generic companies. Not surprisingly only few generic companies such as Cipla, Natco, Glenmark are involved in patent challenges in India.

In the Novartisc ase, Cipla fought till the last but in the erlotinib case, Cipla has agreed to mediate rather than to continue to fight. In the sitagliptin case too, Glenmark has agreed to mediate. Interestingly MSD and Sun filed six other infringement suits against companies such as Aprica Pharmaceuticals and WinBioz Remedies and obtained injunctions in each of these. In fact in four of these cases the

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generic companies did not pursue the matter opting to settle it mutually including in one case after paying for token damages (Anand 2014). As several cases show MNCs have lost the patent cases (as for example in the Novartis case) or have opted for mediation (as in the cases of erlotinib & sitagliptin). Thus in view of such litigation if generic companies desist from opposing the MNC patents, then what the patent cases actually imply is that MNCs will be able to enjoy patent monopoly even when they are legally not supposed to have these patents.

PATENTABLE ENTITIES OF RELEVANCE TO THE PHARMA INDUSTRY

The following classes of invention are of relevance here:

• Compositions of matter - whether new chemical or biological entities including for example isolated cells, genetically engineered animals and plants, combinations and formulations.

• Processes - for the preparation of compositions of matter whether new or old. New processes for manufacturing known drugs can radically reduce cost of production and therefore worth protecting.

• New uses -many compounds exist on the shelves of pharmaceutical companies and provide new leads when screened against targets for which they were not originally prepared. Screening libraries of known compounds to identify new uses and therefore new leads is big business.

• Devices - physical devices for the administration of compounds can also turn otherwise non-viable treatments into a realistic proposition. In some cases new means of delivery can radically improve treatments and devices for depot delivery, sustained delivery, transdermal delivery etc., can all provide useful protection.

• Business methods - as the Internet takes over, even the pharma industry have to consider whether the traditional ways of marketing and distributing their products and services will need to evolve. Business methods, which have traditionally been granted only in the USA, are being considered as potential subject-matter warranting protection in Europe and elsewhere.

• Enabling technologies/ research tools - these bridge a number of the categories above but cover for example the host cells, vectors and vector components as well as methods for biological production of chemical and biological entities. Research tools patents per se have been controversial in obtaining patent protection as they can potentially block the very basis of research. However protection on a particular target for example, whether the receptor or the gene could be important in justifying the expense of the investment in the research to have identified in the first place.

FUTURE SCENARIO OF THE INDIAN PHARMACEUTICAL INDUSTRY

The current economic scenario indicates that the impact of IPR will largely depend on the developmental status of the economy such as the availability of technical manpower and infrastructure, capacity of the domestic industry, and so on. A country with a base of strong domestic industry such as India is in a relatively advantageous position than a country where domestic industry does not have much presence and depends on multinationals. The present WTO regime has been successful in stimulating the much needed R&D investment in India but at the same time the many of the big research firms have internally invested in their R&D department and constantly strive to make their breakthroughs as patentable. There is some evidence available regarding the mergers and amalgamations to pool the human and financial resources (CMIE, 2000) to strengthen the R&D in new product development. These organizations will definitely benefit by the stronger protection provided to them. Some of the R&D and manufacturing facilities set up in these firms meet the international standards, and they have already been approached by multinationals for conducting research and undertaking manufacturing on their behalf. At present many of the R&D firms are looking for breakthroughs in biotechnology research. With TRIPS allowing the patenting of the living organisms, research in biotechnology is the latest buzzword in the pharmaceutical industry. Significant breakthroughs have already been madein the area of stem cells and cloning which have potential cure for some of the dreaded diseases like cancer, Parkinson disease, Alzheimer's and nervous disorders. Cloned animals have been patented and are being used for research purposes.

India biotechnology research is concentrated in the areas of vaccines, diagnostics, molecular and cellular biology, cell culture, fermentation and hybridoma technology. Lalitha (2001) observes that some of the research based pharmaceutical firms have ventured into biotech research since the late '90s. Some of the important areas where research is being currently carried out are in the field of recombinant vaccines (for typhoid, rabies and hepatitis B), HIV 1&2 diagnostic test kit and gene probe test for TB are. It is also observed that though simple diagnostic kits, were the first to arrive in the biotech market elsewhere, in India only a handful of companies are engaged in the production of TB diagnostic kit. In the case of DNA or r-DNA research, research is at a basic level, for two reasons. First being that India does not recognize patenting living organisms and second because of the moral and ethical issues concerning the human stem cells and embryonic research, R&D firms tread

cautiously in this area. As part of trade liberalization though most of the drugs were delicensed yet, bulk drugs produced by the use of recombinant DNA technology and bulk drugs requiring in vivo use of nucleic acid as the active principles and formulations based on use of specific cell or tissue targeted formulations shall continue to remain under compulsory licensing (Government of India, 2000). Also a committee set up under the Department of Biotechnology scrutinizes each research application concerning embryos and only embryos discarded in the fertility clinics can be utilized for research purposes. Though this area is being highly researched and resource intensive currently very few firms are engaged in this research.

Pharmaceutical outsourcing has been on the rise and it may be expected that contract research and manufacturing would increase still more with the vertical disintegration of activities by the multinationals as they review their core competencies. Henceforth, R&D could take place in one country, manufacturing in another and marketing rights could be given to a totally different country. The maximum benefit may be reaped by domestic units with proper infrastructure, research facilities and standards which meet the international standards. Such domestic units can flag off the foreign direct investment in sectors of manufacturing and R&D. This segment that has been able to export its products to both developed and developing countries can widen the market further in the universal patent regime provided the manufacturing practices and the quality standards match the standards at the export destination. While the medium and big units can adopt any of the combination of strategies that were mentioned above, at present the future of the thousands of small units is not very clear. Indian companies and local pharmaceuticals which are mainly thriving by making the generic drugs should not be affected as these drugs do not come in the purview of patent laws but it may face market competition in case of manufacturers providing the same drugs at a lower cost. In a classical case from Jordan, the local industry had to suffer in terms of investment and production and even many small local firms had to close their operations as they could not face the brunt of competition (Correa, 2000).

Some theories suggest that the strength of the Indian pharmaceutical industry is in reverse engineering and as such upcoming local pharmaceutical companies and private research organizations can exploit the provisions under compulsory licensing, exceptions to exclusive rights and the Bolar exception and should aim to produce the generic version of the patented products as well as keep an eye on the drugs which are approaching patent expiry dates and still are needed in the market. Such firms can also engage in research leading to unravelling new drug delivery mechanisms and in identifying new uses of existing drugs as well. Evenson (Siebeck et.al, 1990) and Watal (1997) suggest that in order to develop domestic innovations, developing countries require utility models or petty patents. These petty patents can act as tool to make the innovation profitable and garner funds for long term research as well as such patents will be available for a shorter period of time for process innovations made over existing products. The TRIPS agreement leaves members to introduce such legislation, as there are no specific rules on this subject. Such patents will encourage the small firms.

One of the major concerns in regards to product patents is the ease of access to patented products. Some of the provisions within the TRIPS agreement clearly indicate that price controls could be imposed on the patented products but even then some exemptions from price controls have been suggested by the government for the products that are produced domestically using the domestic R&D and resources and are patented in India. Such exemptions will keep the prices high and will continue to make access to the drugs difficult. It appears that stakeholders going for patenting are given more weightage then the actual products which are being patented. In the Doha meeting, a separate declaration on the TRIPS agreement has clarified that members have the right to grant compulsory licence in the area of pharmaceuticals and that they have the freedom to determine the ground upon which such licenses are granted (Economic Times, 21stNovember, 2001) which can have a considerable impact on the availability as well as on their prices. Parallel trade in pharmaceuticals may facilitate access to medicine, yet compulsory licence will be the only course of option to facilitate flow of technology and R&D. Scherer and Watal (2001) suggest that tax concessions should be provided to the pharmaceutical manufacturers to encourage them to donate the high technology drugs to the less developed and developing countries which is a viable option.

A majority of the population does not have access to the essential medicines (most of which are off patent) either in the government or private health care systems because they are not within their capacity to reach. Though the percentage of drugs under price control has been drastically reduced, it is essential to keep the prices of the essential drugs under check, especially those concerning the common diseases.

Currently only a handful of pharmaceutical firms in India invest in R&D which needs to be improved. The suggestions of the Pharmaceutical Research and Development Committee (1999) were to have a mandatory collection and contribution of 1 per cent of

MRP of all formulations sold within the country to a fund called 'Pharmaceutical R&D support fund' for attracting R&D towards high cost-low return areas and be administered by the Drug Development Promotion Foundation. The domestic universities and other academic institutions can play the role of research boutiques or contract research organisations (CRO), which can supply the technical know-how and manpower. Units already having such infrastructure can also function as a CRO for other firms as well.

In the post TRIPS era, the government needs to probe into factors that contribute largely to the widening gap between the proposed FDI and the actual FDI and rectify these bottlenecks. Similarly a study can be taken out to understand the reasons for the difference between the number of patents filed and the patents granted and understand the areas where the Indian firms are lacking.

Governments should take active part at various levels in disseminating knowledge about the IPRs and the possible strategies that can be adopted by the industry. This will remove some of the impediments. Lessons can be drawn from the Chinese experience wherein systematic efforts were taken to educate the bureaucrats, policy makers and the industry about the WTO and product patents in the pharmaceutical industry. India will have to strengthen the patent examination process and speed up the processing procedures and reducing the paperwork as well making way for dedicated online portals can make the process less cumbersome as well. Such steps can help in checking the products entering the country utilising the import monopoly route provided by the Exclusive Marketing Rights (EMR). Besides a strong institutional and judicial framework will have to be set up for monitoring the prices, to prevent infringement and trade dress cases of patented products respectively.

In the present WTO regime various options can be exercised by India's pharmaceutical industry. These are to: (a) manufacture off patented generic drugs, (b) produce patented drugs under compulsory licensing or cross licensing, (c) invest in R&D to engage in new product development, (d) produce patented and other drugs on contract basis, (e) explore the possibilities of new drug delivery mechanisms and alternative use of existing drugs, and (f) collaborate with multinationals to engage in R&D, clinical trials, product development or marketing the patented product on a contract basis and so on. Besides these strategies, India's strength lies in process development skills. This expertise utilised within the WTO framework with emphasis on quality standards will provide India a competitive advantage over other Asian countries. In brief, all the stakeholders viz. government, research organizations , pharmaceutical industries and academia and legal fraternity making the IPR as agents of innovation and entrepreneurship and not as hindrance to technology. The profits and products generated should while making the business profitable, at the same time should keep the greater interest of research making the products affordable and accessible to the people who deserve it.

CONCLUSION

Pharmaceutical industry is one of the most promising sectors constantly generating new intellectual property. Indian Pharmaceutical industry is the third largest in terms of volume and thirteenth largest in terms of value as per a report of equity master. India is one of the largest providers of generic drugs contributing almost 20% of the worlds share. Indian Pharma market is expected to grow up to US$20 billion by 2020 with government allowing up to 100% FDI. Though Indian IP laws have been in cross-strings particularly due to Supreme Court judgements against Novartis and with respect to policies of Pharma MNC‟s regarding drug pricing and consequent accessibility to India‟s huge population. The Pharma industry takes huge risk perse in drug development and research where there are huge monetary investments involved right from drug molecule search and designing to marketing and the chances of failure of experiment or denial of licenses. Section 3(d) of the Indian Patent Act has been under controversy with Pharma industry where - mere discovery of a new form of a known substance without enhanced efficacy is not granted a patent otherwise termed as a form of patent ever-greening employed by Pharma MNC‟s to employ monopoly over the market. Due to governments flagship programmes such as Make in India, substantial effect is reflected on the innovation scenario as India has jumped from the ranking of 81st in 2015 to 66th this year in Global Innovation Index compiled by WIPO, a clear indicator of the change coming through. Though many developed and resource rich countries adopted product patents to reward the innovators, some developing countries realising the difference of needs adopted process patents with a view to let domestic industries thrive the market as well. New IPR policy has been made by present government keeping up the hopes of reviving the home sector entrepreneurship and follow up the SDG as well and the pharmaceutical sector plays an important role in the same. Despite of several health policies in line, India continues to lag several health indicators such as mortality rates and malnutrition. Home to 17.5% of the world's population, India accounts for 20% of all neonatal deaths and 21% of all child deaths (younger than 5 years).According to a study in Lancet, India has seven structural problems in healthcare system i.e. a weak primary healthcare sector,

Unequally distributed skilled human resources, large unregulated private sector, low public spending on health, fragmented health information systems, irrational use and spiralling cost of drugs and weak governance and accountability. In such a scenario of increased burden of healthcare the need of a thriving generic drug supply at accessible costs becomes more of a need than ever before. The need of the hour is proper incentivization of the Pharma MNCs using PPP. Allowing them use the wide market base instead of increasing the price of drugs and more effort to incline them to CSR activities. At the same time provide them a good research and development environment with IP laws in sync with the TRIPS agreement and export of Indian made drugs as well to cover the cost-benefit ratio can be a possible solution to look forward.

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PRADHAN MANTRI FASAL BEEMAYOJANA: A STUDY OF FARMERS PERCEPTION AT DAYALPUR VILLAGE IN KURUKSHETRA

Prabhjot Kaur*
Arvind Kumar**

Abstract
In India livelihood of farmers is dependent on the pattern of monsoon which makes Indian agriculture a risky sector. In order to de risk the Indian farmer, the Government of India keeps on taking several initiatives in this regard and Pradhan Mantri Fasal BeemaYojana is the latest scheme introduced with effect from January 2016. The present paper assesses the farmer's perception about the Yojana in Dayalpur village of Kurukshetra district. The results noticed that of the hundred farmers reached out in the Dayalpur village, only thirty three has availed the Yojana and majorly because of the compulsory nature of the scheme. Information from commercial bank was found to be the major source of information and the all farmers found the formalities of the Yojana easy. Majority of the farmers felt that the Yojana has low premium rates and provides reasonable coverage to different kinds of crop loss. Farmers found Yojana to be de-risking agriculture and provided suggestions for making quick settlement of claims and making scheme voluntary in nature.

Keywords: *Crop insurance, Pradhan Mantri Fasal BeemaYojana, Indian agriculture, Farming*

1.0 INTRODUCTION

Agriculture plays a vital role in India's economy. Over 58 per cent of the rural households depend on agriculture as their principal means of livelihood. Agriculture, along with fisheries and forestry, is one of the largest contributors to the Gross Domestic Product (GDP).As per estimates by the Central Statistics Office (CSO), the share of agriculture and allied sectors (including agriculture, livestock, forestry and fishery) was 15.35 per cent of the Gross Value Added (GVA) during 2015-16 at 2011-12 prices. The Department of Agriculture and Cooperation under the Ministry of Agriculture is responsible for the development of the agriculture sector in . It manages several other bodies, such as the National Dairy Development Board (NDDB), to develop other allied agricultural sectors. Several players have invested in the agricultural sector in India, mainly driven by the government's initiatives and schemes. According to the Department of Industrial Policy and Promotion (DIPP), the Indian agricultural services and agricultural machinery sectors have cumulatively attracted Foreign Direct Investment (FDI) equity inflow of about US$ 2,278.3 million from April 2000 to March 2016.

1.1 Government Initiatives

Development of Indian agriculture is one of the prime focuses of the Government of India for which timely initiatives have been taken. The government is concerned with the overall development of Indian farmer for which crop insurance is a very relevant aspect looked into. Crop insurance as a concept for risk management in agriculture has emerged in India since the turn of the twentieth century. From concept to implementation, it has evolved periodically but continuously through the century and is still evolving in terms of scope, methodologies and practices. The first crop insurance program was introduced in 1972-73 by the general insurance department of Life Insurance Corporation of India on H-4 cotton in Gujarat. Since then, number of other agricultural schemes have also been introduced by the Government of India from time to time such as Comprehensive Crop Insurance Scheme of 1985, Experimental Crop Insurance Scheme 1997, National Agriculture Insurance Scheme 1999, Farm Income Insurance Scheme 2003, Weather-based Crop Insurance Scheme 2007, National Crop Insurance programme 2013 and the latest one in this series is Pradhan Mantri Fasal BimaYojana introduced in January 2016. Given the importance of the agriculture sector, the Government of India, in its Budget 2016–17, planned several steps for the sustainable development of agriculture. Budget 2016-17 proposed a slew of measures to improve agriculture and increase farmers' welfare such as 2.85 million hectares to be brought under irrigation, Rs 287,000 crore (US$ 42.11 billion) grant in aid to be given to gram panchayats and municipalities and 100 per cent village electrification targeted by May 01, 2018. The government has set an ambitious target of producing a record 270.1 MT of foodgrains in 2016-17, 7 per cent higher than the 252.23 MT of production estimated for 2015-16. The Government of India has started work on 99 major and medium irrigation projects, slated to be completed by 2019. These projects will bring 7.6 million hectares of

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land under irrigation in some of the most drought-prone regions of India. According to the National Institution for Transforming India Aayog (NITI Aayog), India's agriculture sector is expected to grow 6 per cent in FY 2016-17 in case of normal monsoon during the June-September period.

1.2 PradhanMantriFasalBimaYojana (PMFBY)

Pradhan Mantri Fasal Bima Yojana (PMFBY) is the new crop damage insurance scheme that has been approved by the Union Cabinet in January 2016. It has replaced the existing two crop insurance schemes National Agricultural Insurance Scheme (NAIS) and Modified NAIS. Private insurance companies have been roped along with Agriculture Insurance Company of India Limited (AIC) to implement the scheme. The objectives of the scheme are to provide financial support to farmers suffering crop loss/damage arising out of unforeseen events, stabilize the income of farmers to ensure their continuance in farming, encourage farmers to adopt innovative and modern agricultural practices and to ensure flow of credit to the agriculture sector; which will contribute to food security, crop diversification and enhancing growth and competitiveness of agriculture sector besides protecting farmers from production risks.

The scheme covers all farmers including sharecroppers and tenant farmers growing the notified crops in the notified areas. However, farmers should have insurable interest for the notified/ insured crops. The non-loanee farmers are required to submit necessary documentary evidence of land records prevailing in the State, Land possession Certificate and other documents notified/ permitted by concerned State Government. All farmers availing Seasonal Agricultural Operations (SAO) loans from Financial Institutions (i.e. loanee farmers) for the notified crop(s) are covered compulsorily and the scheme is optional for the non-loanee farmers. Crops covered under the scheme include food crops (Cereals, Millets and Pulses), oilseeds and annual commercial / horticultural crops. The scheme provides risk coverage to insured areas from deficit rainfall or adverse seasonal conditions, non- preventable risks, viz. drought, dry spells, flood, inundation, pests and diseases, landslides, natural fire and lightening, storm, hailstorm, cyclone, typhoon, tempest, hurricane and tornado and post-harvest losses (available only up to a maximum period of two weeks from harvesting of crops)

The scheme covers kharif, rabi crops as well as annual commercial and horticultural crops. For Kharif crops, the premium charged is up to 2% of the sum insured. For Rabi crops, the premium is up to 1.5% of the sum assured. For annual commercial and horticultural crops, premium is 5 per cent. The remaining share of premium is borne equally by the central and respective state governments.

1.3 Comparison of PMFBY with earlier crop insurance schemes

The scheme is open to all farmers but not mandatory to anyone. It is optional for loanee as well as non-loanee farmers.It has so far lowest premium. The previous premium rates varied between 2.5% and 3.5% for kharif crops and 1.5% for rabi crops—but the coverage was capped, meaning farmers could, at best, recover a fraction of their losses. Under the PMFBY, the farmers' premium has been kept at a maximum of 2 per cent for food grains and up to 5 per cent for annual commercial horticulture crops. For rabi crops, it is 1.5%. The balance premium is paid by the government to provide full insured amount to the farmers. Since there is no upper cap on government subsidy, even if the balance premium is 90 percent, the government bears it.This Yojana provides full coverage of insurance. While NAIS had full coverage, it was capped in the modified-NAIS scheme. The Yojanacovers the localized risks such as hailstorm, landslide, inundation etc. Earlier schemes did not cover inundation. It provides post harvest coverage also.

2. LITERATURE REVIEW

Sinha (2007) conducted a study to review the performance of the Comprehensive Crop Insurance Scheme (CCIS) and the National Agricultural Insurance Scheme (NAIS) and identify the major problems in design and implementation in Mahboobnagar district of Andhra Pradesh and Jhalawar in Rajasthan. Based on the data taken from Ministry of Agriculture (Economic Survey 2002-03), monthly growth rates in nominal prices for each of the major commodities in the major markets were calculated. The annual intra-year variability was calculated as the standard deviation of the 12 monthly growth rates in the year. The period of analysis was 1980-2001. The results found that the Comprehensive Crop Insurance Scheme (CCIS) and the National Agricultural Insurance Scheme (NAIS) has been largely unsuccessful with low coverage and high claims to premium ratio.

Raju and Chand (2008) explored the performance of National Agricultural Insurance Scheme from 2000 to 2006. Based on the data taken from Agricultural Statistics at a Glance (2006), National Accounts Statistics (2006) and Economic Survey (2006-07), the study showed that in the beginning only 3 per cent non-borrowers adopted crop insurance offered under NAIS which increased to twenty percent in 2005-06 and the scheme covered 79.17 million farmers and 128.91 million hectares area. The study found that despite launching the crop insurance scheme in a modified

form in the country, National Agricultural Insurance Scheme has served very limited purpose. The results also showed that the coverage in terms of area, number of farmers and value of agricultural output insured was very minimal and payment of indemnity, based on area approach, adversely affected the farmers outside the compensated area.

Ghosh and Yadav (2008) examined the financial performance of NAIS from 2000-06 i.e. if the NAIS is proving useful to Indian agriculture and Indian farmers in context of the current exigencies. State level and time series data on acreages and yield rates under different crops were collected from various Ministry of Agriculture, Government of India sources. The results showed loss generated by the NAIS from the insurer's point of view.

Varadan and Kumar (2012) assessed the impact of crop insurance on rice farming in Tamil Nadu. A total of 180 farmers spread over 44 villages of Tamil Nadu comprising 39 non-insured and 141 insured farmers comprised the sample for the study. In addition, twenty officials of different grass-root level agencies involved in the implementation of crop insurance were also interviewed. The primary data was collected during Rabi 2008-09 using structured schedule on aspects like socioeconomic characteristics of farmers, their cropping pattern, loss coping mechanism, cost and returns from rice cultivation, access to loan and other sources of income. The results found that the crop insurance scheme has led to the use of high-value inputs like seed, fertilizer and plant protection chemicals. More returns were found to have been realized by the insured farmers than their non-insured counterparts. Factors like access to loan, education, non-farm income and irrigation facilities were found to be significantly influencing the adoption of crop insurance. The study also outlined the various constraints faced by farmers such as tedious and time consuming procedure, lack of motivation and information hailing from the implementing agencies.

Swain (2014) assessed the performance of the National Agricultural Insurance Scheme and the Weather Based Crop Insurance Scheme in the state of Odisha, the climate change hot spot of India. Analyzing the secondary time series data, district and region wise data on the scheme performance collected from the office of the regional office of the Agriculture Insurance Company of India, Bhubaneswar and the information gathered through focused group discussion with insurance users, the paper concluded that Weather Based Crop Insurance Scheme performed better than National Agricultural Insurance Scheme in terms of higher coverage, larger percentage of farmers benefited, lower premium, faster and more frequent compensation payment and more transparency. The major drawback found in National Agricultural Insurance Scheme was delay in payment of compensation. The study suggested that instead of having two schemes, a hybrid product combining the advantages of both the schemes should be offered.

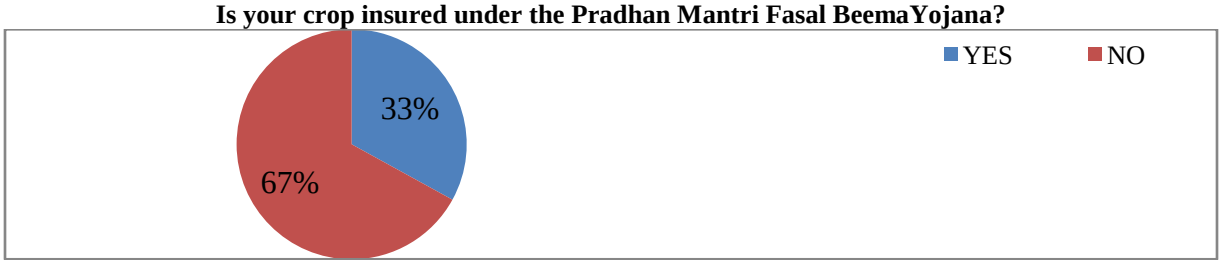
The objective of the paper is to study the perception and satisfaction of the farmers about PMFBY in Dayalpur village of Kurukshetra district

RESEARCH METHODOLOGY

The study has used a designed questionnaire to achieve the objective. Hundred farmer of Dayalpur village of Kurukshetra district were approached with the questionnaire and their responses were used for further analysis. The region was selected as per the convenience of the researcher and the results of the study are shown below.

Analysis and Interpretation

Is your crop insured under the Pradhan Mantri Fasal BeemaYojana?



If not insured under the Yojana, then what are the reasons for non-enrolment to the scheme?

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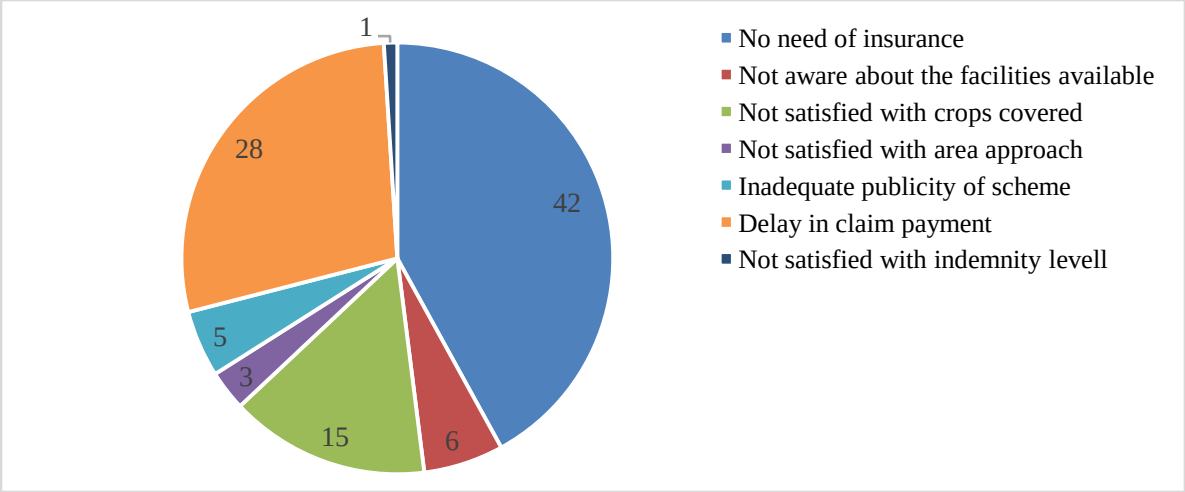
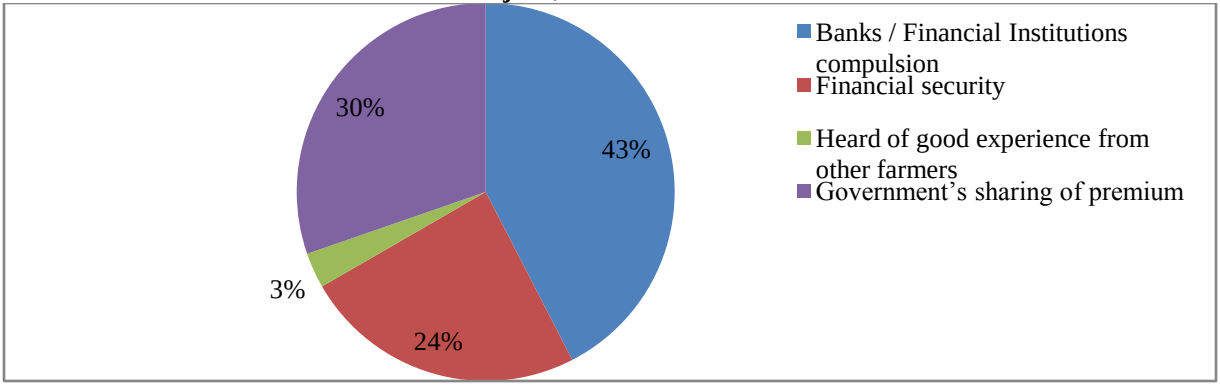
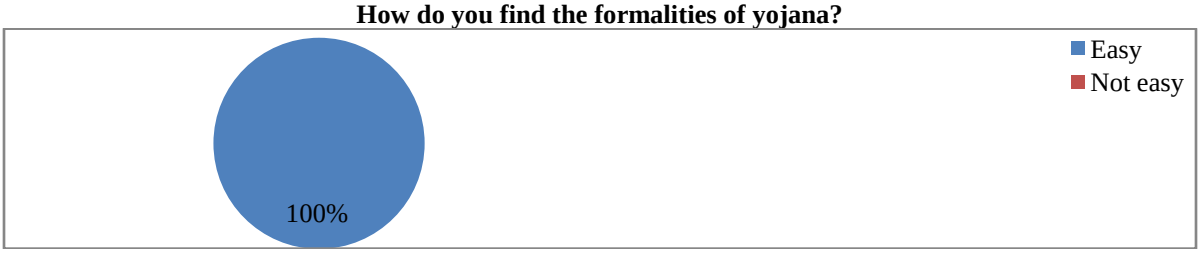


If insured with the Yojana, what was the motivation behind it?



What is the source of information of the Yojana?

How do you find the formalities of yojana?



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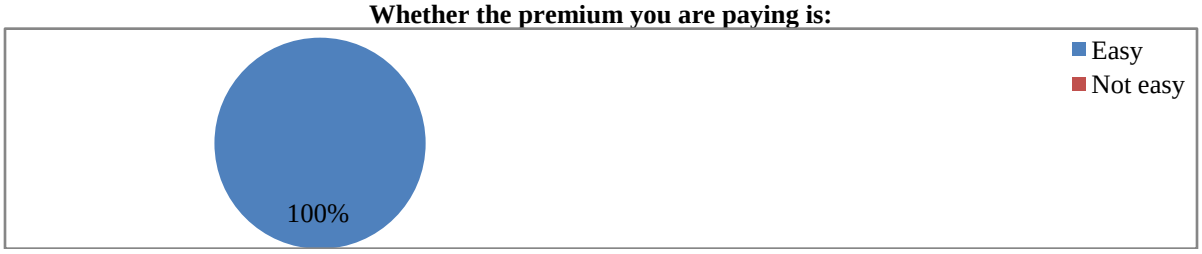
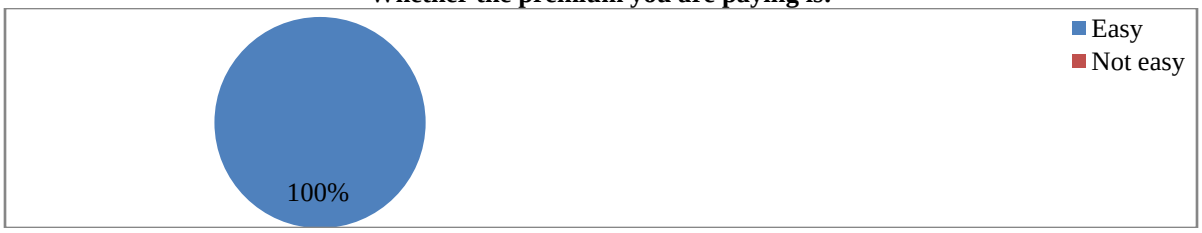
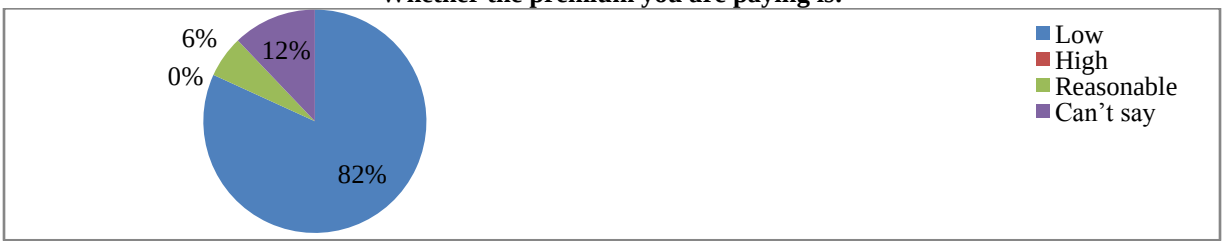
Whether the premium you are paying is:



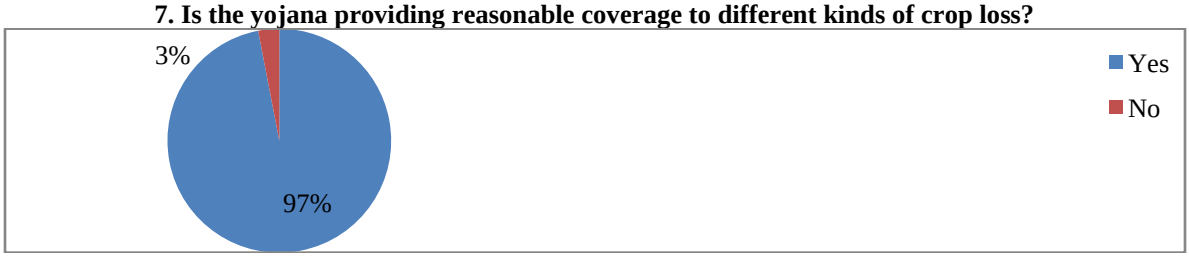
Whether the premium you are paying is:



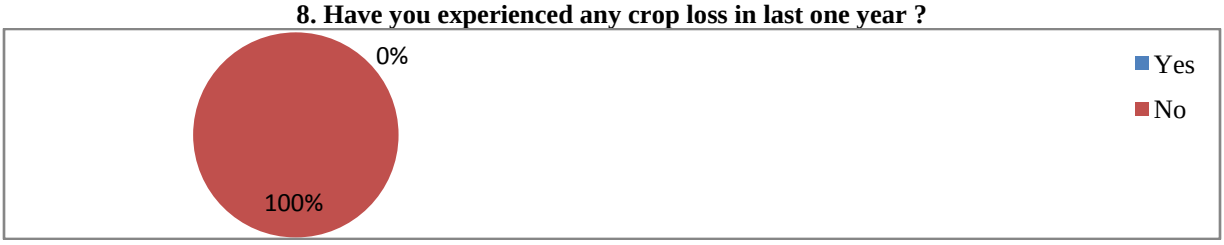
Whether the premium you are paying is:



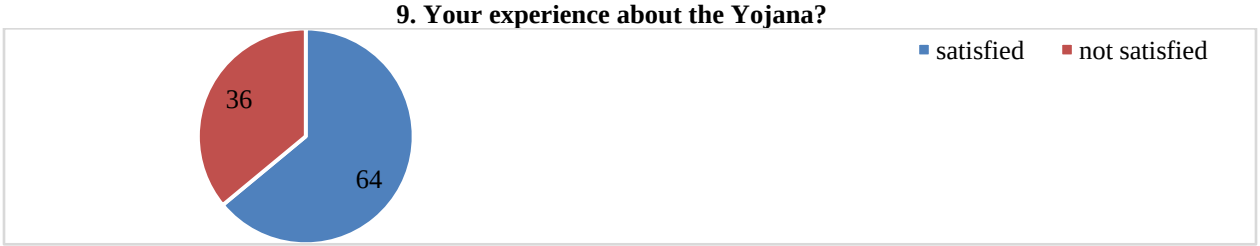
7. Is the yojana providing reasonable coverage to different kinds of crop loss?



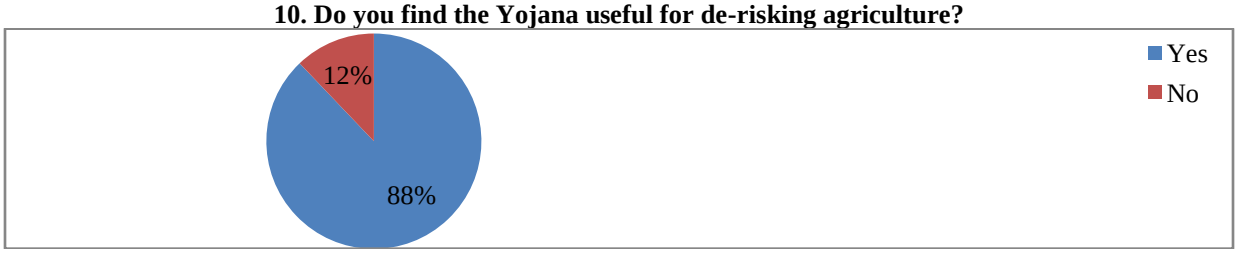
8. Have you experienced any crop loss in last one year ?



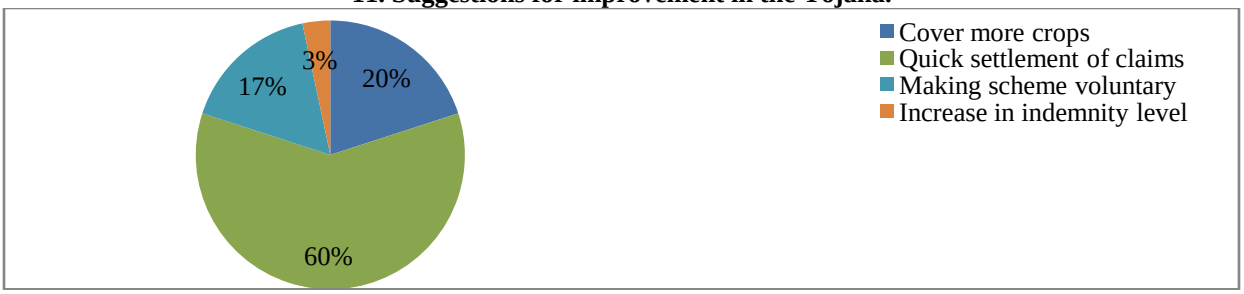
9. Your experience about the Yojana?



10. Do you find the Yojana useful for de-risking agriculture?



11. Suggestions for improvement in the Yojana.



CONCLUSION

Farming is a profession of hope depending on the God of monsoon. In order to de risk the India farmer, government has provided the farmers with PMFBY. The study has made an initiative to assess the farmer's perception about the Yojana in Dayalpur village of Kurukshetra district. The results noticed that of the hundred farmers reached out in the Dayalpur village, only thirty three has availed the Yojana and majorly because of the compulsory nature of the scheme. Information from commercial bank was found to be the major source of information and the all farmers found the formalities of the Yojana easy. Majority of the farmers felt the Yojana has low premium rates and provides reasonable coverage to different kinds of crop loss. Farmers found Yojana to be de-risking agriculture and provided suggestions for making quick settlement of claims and making scheme voluntary in nature.

ACKNOWLEDGEMENT

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INTELLECTUAL PROPERTY RIGHTS PROTECTION & TECHNOLOGY TRANSFER IN DEVELOPING COUNTRIES: FOREIGN DIRECT INVESTMENT & DOMESTIC TECHNOLOGICAL CAPABILITIES AS INDICATORS

Vairaj Arjune*

Abstract

In the globalizing economy, developing countries and those on the periphery of developing are moving to strengthen their S&T capabilities with the aim of reaching the status of emerging economies. Many of the technologies responsible for this transitional phase are bundle with policies that could either divert country resources or stimulate technological learning depending on the strength of intellectual property rights regime adopted. The recent WTO's TRIPS Agreement seeks to encourage creations and inventions through various commercialization mechanisms (patents, trademarks, copyrights, etc.) with the adoption of a uniform policy. However, the agreement is tilted towards a single, strict and standardize document that equates all countries, irrespective of its economic demands and technological capabilities. This study attempts to differentiate the needs of developing countries through the analysis of FDI inflows and IP protection regimes: a) strong, b) weak. Current debates on the strength of IP protection was thoroughly studied from reviews and research papers and its implications for both developing and developed nations. This paper is divided into two sections. The first deals with foreign firm behaviors and type of investment towards varying degrees of IP protection in developing countries. The other section complements by detailing factors responsible for technology spillovers from MNCs. From the analysis, FDI inflows show a mixed result and do not necessarily increases as countries move towards stronger IPR protection due to Dunning's three paradigm – Ownership, Localization & Internalization (OLI). More so, the tightening of IPR would stifle technology spillovers that are considered an essential component for stimulating local capabilities in developing countries. The paper further proposes for the adoption of flexible IPR regimes that is aligned on a country's technological capability and innovative capacity similar to the Principle of Common but Differentiated Responsibilities and Respected Capabilities.

Keywords: *TRIPS Agreement, IPR regime, OLI paradigm, foreign firms, local capacity.*

1. INTRODUCTION

There exist a global debate on Intellectual Property Rights (IPR) as envisioned in the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) and its corresponding implications on economic growth (Thompson & Rushing, 1996), foreign direct investment (Javorcik, 2004), technological activity (Lall, 2003), and policy options (Kumar, 2003b) in developing countries. Many of these studies focused on the extent to which Intellectual Property Rights (IPR) protection will drive innovative activities or suppress domestic capabilities in developing countries. As such, this paper seeks to synthesize the two broad categories of IPR regimes: i) strong IPR regime, and ii) weak IPR regime as identified by Ray & Bhaduri (2008), and relate its impact on technology transfer to developing countries with a specific focus on foreign direct investment and domestic technological capabilities.

Generally, intellectual property rights embodied in the form of patents, trademarks, copyrights, industrial trade designs, and trade secrets aims to promote technological activity within the private sector through a market system of exclusive and transferable rights to inventors or creators of work (Thompson & Rushing, 1996). The fact that inventors or creators utilize their time, effort and capital to invent or innovate and needed protection for their product or service against imitation or piracy is the basic premise for the adaptation of intellectual property rights. To quote the World Bank's Global Economic Prospects (2002) rationale for intellectual property rights:

"At their most basic level, intellectual property rights exist to strike a balance between the needs of society to encourage innovation and commercialization of new technologies, products, artistic and literary works, on the one hand, and to promote use of those items, on the other."

The global environment with respect to trading of intellectual property has been transformed considerably with the World Trade Organization mandating all its signatories to adopt a uniform policy known as Agreement on Trade-Related Intellectual Property Rights (TRIPS). This could lead to widening of the

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technology gap between the emerging economies and the advanced industrialized countries with the latter having a higher concentration of technological output (Kumar, 2003a). Furthermore, TRIPS sets a minimum standard of protection and enforcement for intellectual property rights (World Bank, 2001). Thus, it is arguable that the TRIPS Agreement deliberately concentrates promoting higher standards of protection for intellectual property developed by industrialized countries and made available to developing countries (Kumar 2003b). There also exists skepticism in developing countries to what extent the TRIPS Agreement should be promoted or adopted, which this paper will analyze in the forthcoming sections.

2. DETERMINANTS OF INTELLECTUAL PROPERTY RIGHTS REGIME

The current paper explores the varying degree of IPR regimes (strong and weak) and its contribution to FDI inflows and development of local technologies capabilities in developing countries. But first, we need to look at the determinants for adopting a stronger or weaker IPR regime system. A general rule for the selection of a policy is to weigh the benefits against the costs, the former if greater will lead to the adoption of the policy. Some of the most common cited trade-offs include contribution to innovative activity and development, implications on international trade relations, and level of technological capability (Ginarte & Park 1997).

However, few studies attempted to overturn these above trade-offs, indicating that the level of development and technological output in a country is the primary deciding factor for the strength of IPR regime. For example, the study by Ginarte and Park (1997) based on an index of patent rights in a survey of 110 countries for the period 1960 – 1990. The index was used to understand the characteristics that influence a country's decision on the extent of IPR protection. The study concluded that economic development does not affect the level of IPR as much as the determinants of economic development which include research and development, the openness of the economy, and market freedom as opposed to political freedom.

Ginarte and Park (1997) results further indicated that stronger patent regime is dominant in technologically advanced countries. For instance, if a country engages in heavy R&D output, then obviously it would promote a stronger patent regime since there is vested interest to protect intellectual property. However, this would be determined by the number of innovations generated. On the other hand, R&D output in developing countries is mostly government-sponsored with the top most priority of advancing societal welfare rather than intellectual ownership.

The role of patent in promoting innovation thus, varies by activity (Lall 2003). Openness is the most important determinant of the developing countries patent regime because trade in the international market requires building a good reputation and adhering to international agreements such as patents. Also, market freedom correlates with political freedom but not the other way around. Market freedom here is taken to mean an environment that is conducive to innovation and production. Developing countries that are democratic in nature, inherently focus on income distribution and would grant less patent protection if the poorer section of society will be affected by paying higher prices for the patented product or service.

Table 1: Determinants for strong IPR regimes

Determinants for Strong IPR	**Level of Influence**	
	Developed Countries	**Developing Countries**
Research & Development	high	low
Openness of Economy	low	high
Market freedom	high	high
Political freedom	low	high

(Source: Ginarte & Park, 1997)

Scholars like Ray and Bhaduri (2008) looked at government-industry interaction in determining the extent of IPR regime in developing countries and found that optimum IPR would depend on the process of acquiring local technological capabilities.

3. INTELLECTUAL PROPERTY RIGHTS REGIME & TECHNOLOGY TRANSFER

A strong IPR regime refers to the nature of intellectual property protection in terms of length and width of protection i.e., for a period of 20 years, cost of the patent, compliance measures, and limitation of the patent award. On the other hand, a weak IPR regime generally extends to a shorter period of about 5 – 7 years (Ray & Bhaduri, 2008).

3.1 Intellectual Property Rights (IPR) & Foreign Direct Investment (FDI)

For the purpose of strengthening regional economic integration, diffusion of technological capabilities and barriers to trade and investment are on a high as firms seek to pool together resources and leverage intellectual property, all of which affect the composition for FDI inflows (Oxley 1999). The problem with a weak patent system is that it significantly increases the possibility for imitation of a product or service offered by a foreign firm, which generally makes a host country less attractive for foreign investors (Javorcik, 2004). As firms are profit-

driven, they tend to maximize and keep monopoly or stay ahead of their competitors. A strong patent system could drastically reduce investors' risk of imitation by licensing the products and services and later reap huge financial benefit through payment of royalties and contractual licenses.

The decision of a firm to engage in foreign direct investment or licensing depends on its production and investment project (Kumar 2003b). This was evident in Dunning's OLI paradigm – Ownership, Localization, and Internalization. These three advantages exhibit the nature of firms to enter into a foreign market. While a firm may have ownership advantages such as an innovative product; localization addresses the cost of whether to establish an entity overseas or to license by looking at the differences in the factor cost of production in the host country (Dunning & Lundan, 2008). As high-tech equipment is usually concentrated in the developed countries, the extent to which firms with sophisticated technologies would indulge in developing countries rests upon the strength of IPR regime.

To shed light on this point, Mansfield and Lee (1996) conducted a study on the extent to which U.S. manufacturing industries engaged in foreign direct investment based on a country's intellectual property protection. The study concluded that the strength of the IPR regime impacted the 100 survey firms in different perspectives. The data further indicated that for investments related to sales and distribution outlet, a mere 20% of the corporations would be affected by weak IPR protection. The rate further increased to about 50-60% for investments related to manufacturing and complete products, and a staggering 80% of the firms said that weak protection would affect their investments in R&D facilities negatively (Lee & Mansfield, 1996). So there exist a dilemma between not establishing a R&D Centre and the low cost of production in a country with weak intellectual property protection. For instance, evidence by Kumar and Saqib (1999) indicates that multi-national corporations have been establishing R&D centres in India in the chemical and drugs industry despite the country having a weak parent regime in that sector. They further concluded that localization advantages are more important than the strength of intellectual protection when locating R&D facilities in developing countries (Kumar & Saqib, 1996) but only the pharmaceutical and ICT industry have boom in India.

The study by Oxley (1999) covering 110 countries of firms engaged in horizontal technology transfer found that U.S. companies tend to select hierarchical alliances such as joint ventures when partnering with firms located in a country with weak IPR protection. This assertion was further verified by Javorcik (2004) study which confirms that weak IPR protection impacts FDI in three ways:

- it deters foreign investment in technology-intensive areas such as pharmaceuticals;
- it promotes the establishment of distribution outlets rather than production centres;
- investors place great importance on property rights and their enforcement.

Firms can exploit valuable intellectual property in the international market via contractual agreements (license) or by establishing separate foreign entity in another country. Even drafting of a contractual license requires knowledge on the existing property rights, and mechanisms for monitoring and enforcement in the case of infringements. When the firm investment in the foreign country requires a great deal of modification or the production of new products, this could be a problematic case, if the country follows a weak IPR regime and the tacit nature of technology transfer (Teece 1986 *as cited in* Oxley 1999).

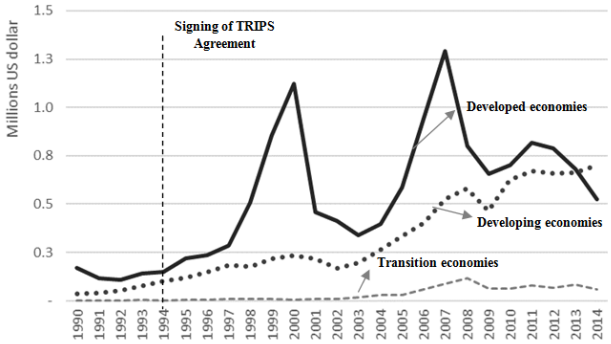

Figure 1: FDI inflows of major technological groups of countries for the period 1990 – 2014. Source: UNCTAD, 2016

The phenomena that firms are affected by weak IPR regime have a tremendous impact on developing countries recognizing the fact that the strength of IPR regime will determine what kind of investment and/or technology is transferred to developing countries from developed countries. Therefore, developing countries

with its weak protection will only attract sales and distribution outlets and a few manufacturing firms as its source of FDI inflows which has little capacity for technological learning and economic development.

Figure 1 above reflects the skewness of FDI towards developed countries where there is the existence of strong property rights. But in today's globalized economy, the scenario has been somewhat reversed with many rapidly developing countries largely benefiting from foreign direct investment. The reasons for which can be attributed to Dunning's OLI paradigm and the incremental build-up of local capabilities in developing countries.

The most important question here is then why don't developing countries strengthen their IPR protection. This is a controversial debate, taking into consideration that countries in the global south are depicted with less technological capabilities. On one hand, if developing countries adopt a stronger IPR regime it would attract licensing of technology-intensive industries and production facilities. In this case, with stricter protection and enforcement, if would be difficult for technology leakage to occur. On the other hand, developing countries are seen as absorptive in nature, this would be dealt with in the section on IPR regime and technological capabilities.

The relationship between IPR protection and the composition of FDI inflows (as shown in fig. 1) has produced inconclusive results because weak IPR regime, present in rapidly developing countries such as China and India have attractive huge FDI inflows much more in comparison to countries in sub-Saharan Africa which are usually technological absorptive countries with strong patent regime (Mascus 2000b:v *as cited in* Kumar, 2003b). While a few studies indicating that weak IPR protection has some significance of a firm's behavior to establish a foreign entity or transfer technology through contractual arrangements, others have simply pointed out to correlate strong IPR and FDI flows.

More interestingly, studies have concluded that joint venture or the establishment of a separate entity for production is highly probable regardless of the strength of IPR strength as other factors such as corruption among others are crucial aspects of the institutional mechanism in a country. A more realistic determinant of FDI would not depend entirely on the extent of IPR but other factors present in the economy such as low labor cost, ease of privatization and political stability. Firms are profit-driven and seek to expand markets, so balancing weak IPR regime with other markets factors would initiate foreign direct investment.

3.2 Intellectual Property Rights & Domestic Technological Capabilities

The rise of domestic technological capabilities has a strong linkage with the strength of IPR regime and that of FDI as well as other indicators since the main reason for a strong intellectual property protection is for the better appropriation of innovations (Lall 2003). Technological capabilities refer not to the possession of technical knowledge but the ability of human to make effective use of that technological knowledge for the purpose of production, investment, and innovation (Westphal et al., 1984). A problem faced by many developing countries relates to the poor performance of the local industries due to no meaningful technological activity, so a policy for strengthening IPR regime would certainly not stimulate domestic innovation. More so, strong IPR would also not contribute to technological knowledge leading to innovation in countries that absorb mature or ready-made technologies from industrialized countries (Lall, 2003).

But developing countries should not be seen just as passive recipients of foreign technologies, rather industrializing countries of Brazil, South Korea, Argentina among others are rapidly exporting sophisticated products embodied in the form of licenses, construction services etc. The development of domestic technological capabilities is closely related to technological search efforts by firms (Local Subsidiaries on MNCs, Locally Owned Corporates, Family Enterprises, and public Enterprises) in the areas of reducing cost of production, standardization of inputs, maintaining technological leadership and so on (Katz, 1984). We therefore need new argument to explain how developing countries once seen as negligible in terms of technological capability has transform into export producing countries in technology-intensive sectors.

The World Bank Report (2002) affirms that developing countries adopted the TRIPS agreement with the expectation that a stronger IPR regime would further enhanced technology transfer and innovation among others. Evidence on tightening of IPR regime does not translate into increased expenditures on R&D, indicating that a strong patent only exist to stifle technology spillovers. For this reason Schumpeter argued that institutional structure for long-term monopoly is harmful and that only a short term monopoly system should stimulate innovation, as firms in the long-run would face competition in the market to either reduce cost of production or engage in innovative products (Kumar 2003b). This is to say that a long patent regime as identified in the TRIPS agreement as 20 years will eliminate market competition for such technologies protected under this agreement as developing countries would be forced to purchase these mature technologies with little chance of the technology undergoing any improvement.

Both Kumar (2003b) and Katz (1984) recognized the importance of foreign R&D spillovers as contributing to technological activity in developing countries, however, this would again depend on the type, nature, and activity of the foreign firm. In some cases, a soft patent regime allows for technology spillovers when the factor cost of production is relatively low and other market factors are desirable for MNCs. This can occur in numerous ways (Katz, 1984). Firstly, technological capabilities develop when a country learns to use imported technologies efficiently and effectively to the point that they can improve the existing production process. Secondly, weak regime would allow a level of imitation and reverse engineering of foreign technologies thus stimulating local production of the technology providing that the country possesses some amount of technological capability. Thirdly, domestic subsidiaries of MNCs usually try to adapt to the local environment and in the process create technological capabilities in the areas of process engineering, and production planning. Finally, human mobility – the training of skilled professionals in technological advanced countries – gain insights into new technologies and when they seek employment in other field of work they carry this tacit knowledge with them.
The Indian Patent Act of 1970 can be used as a case study to trace the development of technological capabilities in India. The Act which shift patentability to processes and not products spurred local technological capabilities in the pharmaceutical industry, by enabling domestic firms to produce generic products based on foreign technologies and design. This had the advantage of providing local firms the incentive to produce drugs at a cheaper cost to accommodate the poorer section of society (Lall, 2003; Kumar 2003). Nevertheless, countries in the past had constantly reap the benefits of softer IPR regime, for example if we look at South Korea and Japan to name a few, where they attempt to stimulate technological capabilities to operate sophisticated factories in the country and later improve overall IPR protection as the country develops technical capability.

4. ECONOMIC GROWTH AND THE TRIPS AGREEMENT

The tightening of IPR globally and more so applying a universal policy of trading on intellectual property has implications on domestic technological capabilities, foreign direct investment and economic growth (Lall 2003; Kumar 2003, Ray & Bhaduri 2008). The TRIPS Agreement is highly inequitable, especially in the area of patenting. Under a tight IPR regime, poor, non-innovating countries will incur more cost than benefits. Developing countries try to strengthen their IPR regime to meet international commitments and a common trading platform. As the transition from a weak to a strong IPR regime is not without cost, developing countries would require sufficient time to make this transition. Even Deardoff (1991) in his theoretical model of invention and patent protection argued that mandating a set of uniform rights and laws on all countries would reduce society welfare (Thompson & Rushing 1996).
It accepted that industrialized countries once had weak patent regimes such as Japan and South Korea, in the early stages of development that allowed for technological learning, imitation and reverse engineering. Though many economists do not associate increase technological capabilities with industrialization (Westphal et al., 1984), a soft patent regime is usually needed for 'start-up' of technological capabilities, which requires institutional mechanism to make it attractive for foreign firms. The break point for a tight IPR begins when foreign subsidiaries are established and local capabilities start 'ticking' to a level where the country can now develop its own technology based either on locally produce parts or from sourcing various components from different firms. This strengthening is need at critical point of development where the country has surpassed the minimum level of technological capability (Ray & Bhaduri, 2008).
What is most desirable is aligning IPR protection to the level of technological, social and economic development in developing countries. We have heard the global debate on common but differentiated responsibility and respective capabilities argued by rapidly developing countries on addressing global climate change at country level. Such a principle should manifest itself in addressing the patent regime in developing countries. For countries to reach the stage of industrialization, the TRIPS Agreement need to make provision for a weak regime in developing countries that would spark R&D spillover leading to technological capabilities. Evidence from the many studies discussed above point to the fact that weak patent regime have in fact contributed to foreign direct investment and building of technological capabilities. However, drawing from the experiences of Japan and South Korea, weak patent regime should not be constant; it needs to be upgraded to a stronger patent regime as the country gradually develops technological capabilities.

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TO STUDY THE PERCEPTION REGARDING START UP INDIA INITIATIVE AMONG YOUTH

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Abstract
"Start-up India, Stand up India" to promote bank financing for start-ups and offer incentives to boost entrepreneurship and job creation. We must be number one in start-ups... Start-up India; Stand up India."It will encourage entrepreneurship among the youth of India. Each of the 1.25 lakh bank branches should encourage at least one Dalit or tribal entrepreneur and at least one woman entrepreneur.It will give a new dimension to entrepreneurship and help set up a network of start-ups in the country.It aims in providing fair employment by promoting recruiting only through transparent system only on merit basis. Various incentives will be given to manufacturing units for generating jobs. Seeking to boost entrepreneurship at the grassroots level.The aim of this research is to understand the research paper is to understand the Objectives, Benefits and Action plan of start up India and to verify awareness and perception among youth of nation.

Keywords: Youth, Perception, Awareness, Entrepreneur, Jobs, Employment

INTRODUCTION

Honorable Prime Minister Dr. Narendra Modi announced on 15th August, 2015 "Start-up India, Stand up India" to promote Bank Financing for start-up and offer incentives to boost entrepreneurship and job creation.

He said, "We are looking at systems for enabling start-ups. We want to enable start-ups to make India No. 1 in this field.... Start-up India; Stand up India." To promote the Indian start-up environment, Prime Minister

Narendra Modi announced a number of schemes on 16th Jan 2016. Aptly termed 'Start-up India, Stand up India', it is the first attempt at creating a conducive and nourishing atmosphere for the start-up revolution in the country.

Salient features:

1. Encourage entrepreneurship among the youth of India. Each of the

1.25 lakh Bank branches should encourage at least one Dalit or Tribal

Entrepreneur and at least one Woman Entrepreneur.

2. In addition to existing systems to facilitate Start-ups, loans would also be given to help people.

3. Give a new dimension to entrepreneurship and help set up a network of Start-ups in the Country.

4. Promised to do away with the current practice of interview-based

Selections for low-skilled Government jobs.

5. The practice of "interviews" for recruitment at relatively junior levels

and departments concerned to end this practice at the earliest and promote merit by recruiting only through transparent, online processes.

6. As part of the Skill India and Digital India initiative, package of incentives will be given to manufacturing units for generating job.

By establishing a direct connection between the government and start-ups, this initiative aims at empowering start-ups and promoting innovation and design. The intrinsic motive behind Start-up India, Stand up India is directed towards economic development increased employment opportunities. This policy is armed with a full-fledged plan of action that takes all aspects of a start-up in consideration and aims at expanding the start-up revolution into a wide range of diverse sectors apart from IT like agriculture, healthcare, and lifestyle etc. The government has proposed benefits to companies not more than five years old in the form of simplification and handholding, funding, and partnerships. There are a few conditions for a company to qualify for this government scheme.

For a company to qualify as a start-up, it needs to meet the following conditions:

1. The company must be registered as an Indian company

2. The company must not be older than five years

3. The annual turnover must not be more than 25 Cr.

4. The company must be driven by innovation and technology

5. It must be an independent company and not chipped off an xisting one

6. The start-up will be able to avail of tax benefits only after it has been sanctioned and certified by the Inter-Ministerial Board

7. Company with a turnover more than 25 Cr. From any preceding year will not be considered as a start-up

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and will not be able to avail of any benefits of this scheme.

REASONS BEHIND SETTING UP START UP INDIA

1) Monetary gains-Everyone wants more and more money. And the best way to get it by having your own business. In the job one gets the fixed amount of salary but in own business one can get monetary gains as per his choice.

2). Secured job-Job security is one of the basic need of human beings and it is also referred in the Maslow need hierarchy theory. If job is not secured one cannot work with full zeal. And on the other hand when one works in the business with the tag of a owner the zeal and enthusiasm comes automatically and the job is secured.

3).Job creation-When any entrepreneurship is started people tend to create jobs for others also. An individual can start a business but cannot run it alone. So the opportunity of jobs being created.

4).Own brand-It always feel good when one tells the other person that the particular brand belongs to him or he is the owner of that developing brand. It gives immense pleasure to introduce yourself as an entrepreneur.

5). Quality of life-Due to the impact of globalization and e-commerce everyone wants to be at ease and desires to the best quality of life. Being as an owner one has the freedom to choose the life accordingly.

6). Be your boss-Its good not to have a boss. In the business your are not answerable to anyone accept yourself.

7). Converting vision into reality-Everyone has a vision but very less people turn it into reality. While owing an entrepreneur you can convert your vision into reality.

8). Pride-It is a thing of pride when you introduce yourself as the owner of the start-up or an entrepreneurship.

9). Recognition-It is also a need which comes under the need hierarchy theory (Maslow, 1943). Every single person wants fame and recognition. And business provides the same.

10). Economic independence-Having more money its ones decision where to put that money. One has the more economic independence.

11). Changing the world-Every time we talk about changing the world with lots of ideas but we never take the initiative to do so. People who take the initiative can change the world according to them, if not the world till they make a difference.

12). Learning different forte-Once you start the business you learn lot many skills which were earlier not the part of your personality. Some skills are the demand of the business and some skills are the demand of the personality.

13). Establishing your dreams-We all have dreams but we never share them with anyone because we fear that people will laugh on us. But there are some people who rise above this laughter and fulfill their dreams.

14). Social responsible-When you have the economic independence you can always choose where you want t spend your money. And generous people are always socially responsible. If one wants to help the humanity than the socially responsible start-ups come in the play.

15). Share talent-During the jobs we are not able to showcase our talent. But once we are into the business we can show our talent and the creativity to the world.

16). Own decisions-Right or wrong, whatever the decision is-one is responsible for that. Right decisions boost up the energy and wrong decisions make people learn the lessons of the life.

17). Legacy-Nowadays the competition is tough and in the coming future there will be less jobs for the future generation. So it's very important to keep the legacy going on.

18). More socially involved-Some people are very much socially involved. They love making friends and networking. This helps in the promotion of any start-up and even can link to start a new business

OBJECTIVES OF THE START-UP INDIA CAMPAIGN:

By reducing the regulatory baggage on Start-ups, the government wants to enable companies to cut their compliance costs. Regulatory laws are quite complicated and unassuming start-up companies can find themselves n hot water if they fail to adhere to the rules. The government will make changes and simplify this system for the benefit of the start-up community.

- Start-up India hub will be created as a sole medium of contact for start-ups across the country. This initiative will enable founders and start-up members to be in touch with the latest developments in the community. This hub will also hold mentorship programs held in association with the government to promote innovation and design.
- In keeping with the digital aspirations, a mobile application has been rolled out for the start-up community to interact with the government and regulatory official for all their needs. This application has been created with a view to simplifying the regulatory processes.
- To get the typical Indian mentality out of the gutter, the government will make a credit guarantee fund available to encourage lenders to invest in start-ups. These venture debts will prove to be very helpful to risk takers who wish to change the way people look at start-ups and create a potential company.

The start-up eco-system of India has seen a dramatic rise in the past few years. The government's decision to

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directly involve itself in the creation and development of start-ups is sure to have a positive impact on the current economy. Promoting Indian national start-ups globally is a great way to ensure the emergence of companies as an international force to reckon with. Also, the benefits under this scheme will help to build start-ups without regulatory glitches and other such hurdles.

Prime Minister Narendra Modi's Start-up India, Stand up India, focuses on two main aspects. The first being the Indian mentality that keeps one from giving up a well-paying job and starting a business from scratch and the second being the exhausting list of regulations and policies that need to be in place. Not to mention the amount of time it takes to get through all the processes. By making credit funding available and simplifying regulatory laws, this start-up campaign is helping foster independent companies who are willing to go the distance. By empowering start-ups, the country is empowering its economy. It serves as a foundation for the emergence of great ideas and innovation without the fear of being held back, catapulting the country's employment opportunities and economic growth in the absolute right direction.

BENEFITS OF THE START UP INDIA

1. Tax exemption for start-ups for three years.
2. Rs. 10,000 crore corpus fund to support start-ups.
3. Capital gains tax to be exempted for venture capital investments.
4. 80% reduction in patent registration fee.
5. Govt. to ensure 90-day window for start-ups to close businesses.
6. Self-certification compliance for start-ups across India.
7. No government inspection for three years for newly-formed start-ups.
8. New scheme to provide IPR protection to start-ups and new firms.
9. Innovation programme to start 5 lakh schools to target 10 lakh children. Launching of Innovation Focused Programs for Students.
10. Uchhattar Avishkar Yojana & NIDHI: A Grand Challenge program ("National Initiative for Developing and Harnessing Innovations) shall be instituted through Innovation and Entrepreneurship Development Centres (IEDCs) to support and award INR 10 lakhs to 20 student innovations from IEDCs.
11. Government is all set to launch an app to create a platform for interaction with start-ups.

Finance Minister Arun Jaitley had launched two funds by the Small Industries Development Bank of India: India Aspiration Fund for start-ups with the LIC as partner and co-investor, and SIDBI Make in India Loan for Enterprises (SMILE) to provide soft term loans and loans in the nature of quasi-equity to small enterprises.

ACTION PLAN FOR START-UPS

1). Self certification: The main objective of the govt is to reduce the load on the startups hence allowing them to concentrate fully on their business and keeping the low cost of adherence. It will include labor laws and environment related laws.
2) Register through app: An online portal will be available in the form of a mobile application, which will help entrepreneurs to interact with the govt and other regulatory officials.
3) Patent protection: A monitoring system for patent inspection at reduced costs is being created by the central government. It will enhance perception and acquisition of the Intellectual Property Rights (IPRs) by the entrepreneurs.
4).Rs 10,000 crore fund: The government will develop a pool with a starting aggregation of Rs 2,500 crore and a total aggregation of Rs 10,000 crore over four years, to help new entrepreneurs. The important role will be played by the Life Insurance Corporation of India in blossoming this collection. The fund will be managed by a group of professionals selected from the start-up industry.
5). National Credit Guarantee Trust Company: A National Credit Guarantee Trust Company (NCGTC) will be created with a budget of Rs 500 crore per year for the next four years to help the drift of funds to entrepreneurs.
6) No Capital Gains Tax: Investments through venture capital funds are exempted from the Capital Gains Tax. The same policy will be executed on start-ups.
7) No Income Tax for three years: Start-ups would not pay Income Tax for the first three years.
8) Tax exemption for investments of higher value: In case of ventures of higher amount than the market price, they will be exempted from paying tax.
9).Building entrepreneurs: Creative study plans for students will be implemented in over 5 lakh schools. Apart from this, there will also be an annual businessman grand provocation to develop high class businessmen.
10).Atal Innovation Mission: This Mission will be propelled to revitalize ideas and motivate creative youngsters.
11).Setting up incubators: A private-public partnership model is being considered for 35 new incubators and 31 innovation centres at national institutes.
12).Research parks: The government plans to lay seven innovative research parks, including six in the Indian Institute of Technology campuses and one in the Indian Institute of Science campus.

13). Entrepreneurship in biotechnology: The government plans to construct 5 advanced biotech nests, 50advanced bio incubators, 150 technology transplant offices and 20 bio-connect offices in the country.
14).Dedicated programs in schools: The government plans to inculcate transformational programs for scholars in over 5 lakh schools.
15).Legal reinforce: A committee of moderators will give legal help and reinforcement in complying patent applications and other papers.
16).Rebate: An exemption value of 80 percent of the total value will be given to the start ups on filing the patent applications.
17).Easy rules: Standards of communal acquisition and mandate of switching have been easier for the entrepreneurs.
18). Faster exit: If an entrepreneur is unsuccessful than the government will help him to get a particular resolution for their complication

Looking forward

Government has published detailed action plan clarifying various aspects. Positive aspects of action plan can be chocked out as Entrepreneurship will be promoted right form school. Incorporation of startup and also it's winding up is made easy. Incubation support is provided at various levels.

But there are lots of caveats along the way. Certification from inter ministerial board set up by DIPP will be required for startups. This can create another layer of registration and paperwork for startups. DIPP may

Publish negative list of funds which are not eligible for this initiative. This can limit the number of funds available for startups. Incentives like tax benefit also can prove artificial for startups as very few numbers of startups are able to book profits for first five years.

B.Literature Review

Akanksha Dutta (2015) research paper revolves around the concept of Start up India Campaign. Research paper put some light on the start ups and the initiative taken by the Indian govt. The start ups are the kind of companies which are innovative in their course of development, analysis, evaluation, research for the target segment. In this paper various govt policies, plans, schemes and strategies related to start ups will be discussed. Start up is one of the scorching event this era which everyone is talking about. This campaign is particularly based on enhancing the bank financing for the start ups to encourage the entrepreneurship and job availability.

In research paper "Government initiative for Entrepreneurship development – Start up India Stand up India.".Action plan is announced for startup india initiative. In this research paper Action plan is divided among different areas which is being initiated by government.

RESEARCH METHODOLOGY

Objectives Of Study

1. To study the Start up India concept.
2. To find out perception about start up concept among college students.
3. To study how far the impact of start up India reaches to Indian Youth
4. To study the plan of actions in start up India.
5. To study the reasons for start up India.

Scope of the Study and Area of operation

Youths are future of India. Youth can champion this concept at all over country, if youth understood this concept properly Start up India concept made strong, it helps to Government and we can achieve target. Researcher selects 3 colleges from Ambala City of Haryana State.

Research Methodology used in the Study

The study is based on critical evaluation and analysis of basically Primary Data. The primary sources include college students.

A study is undertaken in the sampled regions to see its impact for which a detailed questionnaire is prepared to collect relevant information from the primary source for the guidance of the researchers. Questionnaire is used mainly to analyze the opinion of the students

Why survey among college students

Start up India theme is very important in Indian economy, industrial development and increasing employment. Our college students are our future nation youth, industrialist, employs, design makers, financial experts, and investors. Researcher selects the students/ youth for this study to search how our youth think about start up theme in various angles.

Research Area

Researchers selected one Under Graduation and one Post Graduation college along with one professional college in Ambala. Researcher collects data through Primary and Secondary sources. Researcher distributes over 100 questionnaires among the students of all colleges.

D. Data Analysis

Researcher prepared the questionnaire for college students and distributes it among the students in all type of colleges in Ambala city. After receiving the questionnaire researcher analyse the questionnaire and make two groups one is Under Graduate and Post Graduate colleges and second one is professional educational college.Under Graduate and Post Graduate Colleges includes Arts, Commerce and Science and in Professional college includes Management and Technology colleges. Information regarding questionnaire.

S.No	Stream wise group	Total colleges	Questionnaire distributed
1.	Arts,Commerce,Science	2	50
2.	Managementand technology	1	50
Total	3	100	

S.No	Aspects	Opinion in Yes
1.	Are you aware of Start up India	84
2.	Start up India is the only growth path for our country	75
3.	Start up India boosts more employment opportunities.	75
4.	Start up India is beneficial for unemployed sector also.	75
5.	India Economy will made strong through start up in India	75
6.	Entrepreneurship Growth can be increased through start up India.	67
7.	Start up India is financially not feasible.	50
8.	foreign investment Increase through Start up India	60
9.	According to you digital India is a long run applicable.	63

- The Startup India Hub has been able to resolve 21,436 queries received from Startups through telephone, E-mails and Twitter.
- A module to recognize incubators has been launched enabling them to obtain recognition from the Government of India which will allow them to issue recommendation letters to Startups.
- Startups can get income tax exemption for 3 years in a block of 5 years, if they are incorporated between 1st April 2016 and 31st March 2019.
- A 'fund of funds' of INR 10,000 crores for Startups has been established which shall be managed by SIDBI.
- 7 proposals for Research Parks, 16 proposals for TBIs and 13 proposals for Startup centres have been recommended by the National Expert Advisory Committee (NEAC) formed by MHRD.

CONCLUSION

- At present day, start ups are growing like a grapevine. Both male and females are getting into it. Even females are coming with more ideas and they are taking the risk to sustain their credibility. Indian start ups attempt to build the start up environment with important education, talent, innovation and incubators with correspondence to funding agencies. Now the govt is also supporting the Start ups. According to Nasscom, India ranks third in global startup ecosystem. More than 65% growth is seen in the year 2015.Start up is an opportunity for an entrepreneur to educate and inspire others while some are thinking of how to do and what to do. Although, entrepreneurs are facing problems but still they are rising like a sun. They have the determination to setup and divert their energy to plan, support and execute their dreams and contributing to the growth of the economy. This new initiative of start ups pledge rapid approvals for starting the business, easier exits, tax rebates and faster registration for the patents. This initiative holds the potential of creating the jobs when the manufacturing sector is having a downfall. For any new idea to become successful venture it requires appropriate support and mentoring
- The college students accept that Start up India provides an opportunity before us and we must achieve it. Our students are confident that we can stand globally with strong economy with the Start up India. Students are looking for jobs creativity and are also still hopeful about overall development of India, throughh start up India.Few college students are still not aware about the concept. Central Government should create awareness among the college students by various promotional resources. Interactive sessions.

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MULTINATIONAL FIRMS – ESTABLISHING LOCAL R &D - PRODUCTION LINKAGES IN THE INDIAN CONTEXT

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Abstract
A primary motivation for monetisation of knowledge is the development of suitable linkages that enable commercial exploitation of the utility embodied in an inventive product or process. While much has been said about what monetisation is and it's significance, relatively less is said of the interdependencies that produce it and the mechanisms underlying it i.e. knowledge transfer. A current shift of Innovation activities towards emerging economies has highlighted the importance of the value chain processes and the elements that support monetisation. Undoubtedly, Multinationals have emerged as key actors, but questions remain whether domestic firms and the Informal Sector comprising the bulk of Industrial output in India have been able to move up the value chain ladder or not. This is attributed to piecemeal technological upgrading efforts, together with a relatively reduced emphasis on employing innovative products and processes, seen in practice. The latter is on account of excessive dependence on external sources of information, with limited learning opportunities. The Paper seeks to identify the missing links to enable the benefits derived from participation in global value chains.

Keywords: *Global Value Chains, Linkages, Technological Capability, Learning Opportunities, Technological Effort and Upgrading.*

EXTENDED SUMMARY

A key motivation accorded to monetization of knowledge assets is the formation of linkages to actualize various stages of the technological value chain, namely innovation and production. Ironically, in the real world, the inventor is often not the one who commercializes the invention. An understanding has also emerged that the transaction costs for the same and spillovers of the globalization process needs to be managed in a manner, conducive to the economic system of the country. The onslaught of Foreign Direct Investment has been there for local Industries to overcome this global competition and survive. Thus, innovation has become more and more crucial for them, as opposed to low technology and labour intensive production. Here, the classical dilemma surrounding knowledge flow, both in terms of codification and the tendency of firms to evolve on the same attains importance. A view emerges that knowledge- both codified and uncodified can move through the mechanism of local "buzz" and global "pipelines". In short, the global needs to converse with the local and vice versa. This can be done, in the short and medium term (through generation of complementary assets) by focusing on production, as a means to internalize monopoly asset advantages of foreign players, by integrating into value chains. But this is easier said than done. The Informal sector in this country accounts for a majority of the Industrial output and therefore it's being able to leverage the Knowledge assets is essential to it's success and yet the most difficult to achieve. In this context, multinationals emerged as important actors since the 1980s. However, today as we move forward in providing two way technology transfer, as opposed to a unidirectional one, we need to reflect on the efficiency with which policy is enhancing the creation of value among small and medium enterprises, which are not well placed to Innovate, as their developed countries counterparts do (National Innovation Survey, 2014). Several empirical studies during early liberalization have outlined that foreign ownership does not play an influential role in building technological capability, domestic R&D and improving export performance in manufacturing Industries. Later, however, a trend of increasing technological intensity of export performance was observed in Asian countries from 1985 to 1998 (Lall, 2000). The mode of foreign direct investment, despite it"s criticisms is here to stay, due to firm movement from the import substitution to export orientation paradigm, since the need for finance is still considerable in development and commercialization of technologies . It was however observed that static economies of scale under neo classical trade theories, do not explain the dynamics of knowledge transfer and that learning was to be understood more closely, in order to understand the building of technological capability. Thus, the focus on building capacity for actualizing Intellectual property is crucial in the context of the National Intellectual Property Policy, 2016. The current decentralized R & D has shifted attention to the emerging countries, in terms of their climb up the value

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chain from production to innovation. In order to leverage the Innovation potential through monetization, it is essential that networks of learning integrate with appropriability regimes. In order to truly understand the institutional underpinnings, the "untraded interdependencies" underlying this are increasingly important, as is the creation of codified knowledge. Thus, the paper examines the importance of the R & D Linkages and Production Linkages for Developing country firms, in achieving the goals of technology generation and commercialization.

INTRODUCTION

A key motivation accorded to monetization of knowledge assets[1] is the formation of a rich variety of linkages to actualize various stages of the technological value chain, namely innovation and production. The information embodied in technical documents do not of themselves comprise, a sufficient means to commercialize the invention, especially where the technology is developed in another country. The factors behind this shall be examined later. But, this is crucial because of buyer's uncertainty[2] is a major risk that impedes technology transfer and this can arise from the utility to the consumer, as perceived by them. This , in turn impacts whether technology can be engaged with at all successfully to create revenue. For deconstructing this underlying assumption (that trade in technology takes place and ultimately contributes to economic development), we have to understand the overall role, technology can play in economic development and how participation in global value chains (as a form of industrial organization) can be leveraged to create desirable outcomes for firms and countries. As technology has traditionally been recognized as a transformation of capital and labor requirements, in terms of a production function[3], the role of the same has for long not been understood, as a factor of production in itself[4]. Later, attempts have tried to study the contribution of technology as a factor of production[5]. But today, there is recognition that technology plays an important role in economic growth and development, which justifies most policy efforts aimed at improving industrial productivity, through innovation. Countries like India were not traditionally understood to have a comparative advantage like the Global South in generating technological innovation. This led to an "acquiescence" that we cannot feasibly deal with trade in technology.

From the era of import substitution, when the idea was to replace as much of the domestic produce from foreign inputs, we have moved towards an export oriented economy. This notion of comparative advantage was also for long considered to be a constraint in prompting intensive technological efforts to promote economic development in such countries till trade theories, emphasizing resource endowments as basis for international trade were influential (Hecksher Ohlin theory). However, when export competitiveness, based on advantages arising from price imposed constraint on the capacity of developing countries to commercially sell their manufacture, a need was felt for leveraging innovative processes and expanding product lines, in order to create value. The initial intuition being the advantage viewed in terms of static efficiencies of scale, cost etc. This was not only aimed at gaining technological specialization, in certain areas of strategic national interest but that of global trading opportunity, exemplified by the policy documents of

[1] Monetisation as a concept means commercial exploitation for generation of revenue of technology products, whether in a disembodied form or otherwise. Section 83 of the Indian Patents Act, 1970 states that the guiding principles in deciding working of an invention, being sufficient or not is the impact it has on the formation and establishment of industry. It is the argument in this paper that actors cannot actualise this potential on their own, due to capacity constraints at both ends, namely domestic firms and multinationals. Trade paradigms like comparative advantage run counter to any attempts to leverage technology by developing countries which traditionally do not enjoy ownership of technology. The failure of technology transfer or knowledge flows as a paradigm has exacerbated the dependence of developing countries on Developed regions for technology. Further, the transaction costs of entering into alliances, technological collaborations, foreign direct investment has for long understood as a key constraint.

[2] Buyer's uncertainty is a term used to refer to the potential value of the product under sale in terms of it's product characteristics, in terms of consumer perception. In technology trade terms, it refers to the inventive content of the Patent which can generate value. In Developing countries, codified information alone in the form of Patents, technical documentation etc. is not considered enough to use technology developed elsewhere. This consideration weighs in the mind of the consumer at the time of purchase and can signify a sceptical perception of the value embodied in the product or process.

[3] Production Function refers to a term in economics, which visualises technological change, as operating through changes in more traditional factors of production i.e. inputs, namely capital and labour.

[4] Romer, an economist was of the view that the contribution of technology as a factor of production was endogenous to capital and labour employed. It was not until Robert M. Solow (1957) gave his Residual Model that the remainder of the contribution not attributable to capital and labour was recognised as attributable to technological change. See Solow, Robert M.(1957), "Technical Change and the Aggregate Production Function", The Review of Economics and Statistics, Vol. 39, No. 3, pp. 312-320, Available online at : http://www.jstor.org/stable/1926047 , http://faculty.georgetown.edu/mh5/class/econ489/Solow-Growth-Accounting.pdf (Last Accessed on October 27, 2016).

[5] See Abramovitz, M. 1956. "Resource and Output Trends in the United States since 1870". American Economic Review 46 (May): 5-23.

Abramovitz (1967) studied what is known as Total Factor Productivity, which recognises the contribution of technology as distinct from capital and labour. He studied the Total Factor Productivity of most industrialised nations during different time periods in History.

centrally planned economy that earlier characterized India.

As the integration of innovative activity took place with commercial enterprise, organized forms of corporate ownership were seen namely, firms, more particularly, multinationals in the 1990s. This occurred because of their success in replicating the production of the same products at different locations. However, the motivations were primarily home base exploiting[6]. These emerged as key actors not only, in terms of their motivations but that innovation decision-making by these firms has indicated the impact of location and ownership of assets to be key variable/s[7]. However, over time, it is the internalization of *competitive* advantage that these foreign firms have, in terms of technological know–how that has attained crucial significance. Seen thus, learning and capability formation has become extremely important. Today, it is crucial for firms, traditionally left out from this fruitful value chain transition to participate and flourish. The question is how and under what circumstances. Monetization of knowledge assets, by integration of downstream commercial activities like marketing etc. with innovation has to keep in mind, the industrial and economic structure of activities in our country. Certain constraints emerge in this case for countries like India. We were for long understood as the hub of low cost, labor-intensive production activities hived off from developed regions, based on factor price differentials[8]. Also, the entire discourse of globalization of productive activities, realizes that there is a lag between production and innovation and the linearity between innovation and it's commercialization is thus not a straight forward proposition as Vannevar Bush's Industrial model[9] would have us believe. Here, the supportive role of learning in integrating value chain processes with R & D becomes crucial. As we shifted from an import substituting nation to an export oriented one, the role of mechanisms to facilitate and leverage knowledge transfer between countries and regions became important, yet not so well understood. An understanding has also emerged that the transaction costs of the process and spillovers[10] of the globalisation process needs to be managed in a manner, conducive to the economic system of the country. Thus, a look at the Indian economy is necessary to contextualise the same.

MANUFACTURING AND SERVICE SECTOR PERFORMANCE IN INDIA- TRENDS AND PERSPECTIVES

Here, the sectoral breakup and the nature of economic activity, namely export or import denotes the level of economic development achieved through economic activity. While this can be criticised for overlooking social development and inclusiveness, development of capabilities used to enable the social transformation, it provides some indication as to the orientation of the economic activity profile of a country. We are primarily now becoming dominated by investments into services sector[11](See Table 1 below) and have for long depended on export performance[12]. However, the

[6] Patel and Pavitt (1999), "Patterns of Internationalisation of corporate technology: location versus home country advantages", *Research Policy, Volume 28, Issue 2-3, pp. 145-155.*

[7] Dunning, John H. (1976), "The Eclectic Paradigm Of International Production: A Restatement And Some Possible Extensions", available online at : http://www.rcmewhu.com/upload/file/20150527/20150527105330_5707.pdf (Last Accessed on October 31, 2016). This is the key premise of Dunning's eclectic OLI Paradigm i.e. ownership location-internalisation to explain international investment decisions. Also see *Vernon, Raymond (1966), "International Investment and International Trade in the Product Cycle", The Quarterly Journal of Economics, Vol. 80, No. 2, pp. 190-207, available online at : http://www.sba.muohio.edu/dunlevja/Course%20Links/EC441/Vernon.pdf* , http://www.jstor.org/stable/1880689 (Last Accessed on October 28,2016). This model called the Product Life Cycle model given by Vernon stated that firms tend to undertake overseas activities based on the life cycle stage of the product. As a result of the earlier theory, the preponderance of mature technologies in developing countries could be explained but certain other factors could not be accounted for.

[8] Factor Price Differentials refers to the difference in the cost of Labour and Capital, used to produce a certain no. of units of manufactured goods.

[9] Bush, Vannevar (1945), "Science–The Endless Frontier", available online at: https://www.nsf.gov/od/lpa/nsf50/vbush1945.htm (Last Accessed on November 3, 2016) .Vannevar Bush, Director of the Office of Scientific Reearch and Development proposed his model in the report to the President of the United States. This model views investments in basic science research to yield industrially applicable products or processes in a linear fashion. This assumes a costless model where access to technology is not impeeded at all. However, the diffusion of innovations is not freely accessible to all and the process of diffusion is beset with constraints.

[10] Spillovers are considered to be unintentional effects arising from economic processes. However for Developing countries, learning and technological capability acquired from know-how is considered as a desirable outcome.

[11] See FDI Statistics, available online at : http://dipp.nic.in/English/Publications/FDI_Statistics/2016/FDI_FactSheet_JanuaryFebruaryMarch2016.pdf (Last Accessed on November 1,2016).

[12] Mukherjee, Shameek and Mukherjee, Shahana (2012), "Overview of India' Export Performance: Trends and Drivers", Working Paper No. 363, Indian Institute of Management, Bangalore, available online at: https://www.iimb.ernet.in/research/sites/default/files/WP%20No.%20363.pdf (Last Accessed on November 1, 2016). For a discussion of trends on exports in manufacturing sector, see *Lall, Sanjaya, " The Technological Structure and Performance of Developing Country Manufactured Exports, 1985-1998, Working Paper No. 44, QEH Working Paper Series-QEHWPS44. Also* see Francis, Smitha (2015), "India's Manufacturing Sector Export Performance During 1999-2013: A Focus on Missing Domestic Inter-Sectoral Linkages", Working Paper No. 182, Institute for Studies in Industrial Development, available online at : http://isid.org.in/pdf/WP182.pdf (Last Accessed on November 2, 2016).

technological structure of export performance, cannot be inferred for manufactured exports on a long term basis. In the Services Sector, however India ranks 9th globally in terms of services growth rate, share of services, Services export growth[13] for a period from 2001-2014. In terms of gross value added, however these knowledge sectors do not contribute significantly[14](6.7%) compared to the total contribution of 53.3% overall.

Table 1 – Sectorwise FDI Equity Inflows for Top 10 sectors (2000-2016) in US $. (Source: Department of Industrial Policy and Promotion, Government of India).

S.no.	Sector	Amount of FDI Inflows (US $)	% age of Total flows
1	Services Sector	50792.42	17.6
2	Construction Development	24187.94	8.38
3	Computer Software and Hardware	21017.77	7.28
4	Telecommunications	18382.35	6.27
5	Automobiles	15064.59	5.22
6	Drugs and Pharmaceuticals	13849.50	4.80
7	Chemicals (otherthan fertilisers)	11900.29	4.12
8	Trading	11872.47	4.12
9	Power	10476.15	3.63
10	Hotel & Tourism	9227.33	3.20

The export performance of R & D Services is 0.8% and the value is 1.26 Billion US$ with a growth rate ranging from 24 in 2013 to 22.9 in 2016[15], computer services have a 46 % share and value at 73.1 Billion US$. In terms of revenue, IT-BPM and telecom services lead in value. In terms of the Global Competitiveness Index 2015-16, India ranks 50th, with China above it[16] for R &D Innovation based on series of parameters, including company investments in R & D. Thus , it is not entirely the case that the Service Sector has achieved paramount importance, compared to manufacturing but that it's role is growing. Having said that the trend of participation in Global value chains has to be assessed from current developments. The same have huge implications for technology upgrading and building capabilities that ultimately impact monetisation of Patents and the technology they codify.

GLOBAL VALUE CHAINS- RISE OF EMERGING ECONOMIES IN THE AFTERMATH OF THE 2008-09 FINANCIAL CRISIS AND IT'S IMPLICATIONS

In the wake of the financial crisis of 2008-09, the developed countries are no longer the locus of innovative activity and the attention has shifted to emerging economies[17] and a return to industrial policies, post Washington consensus has taken place. For these countries, the rapid diminishing of Northern markets has made them turn inward towards domestic markets and even foreign firms have targeting these end markets. The great transformation this entails is a major process of accumulation of knowledge and capabilities, both at individual and organisational level. Part of such capabilities builds upon education and formally acquired skills ("human capital"). Equally important, capabilities have to do with "problem solving" knowledge, embodied in organisations concerning production technologies, marketing, labour relations, as well as dynamic capabilities of search and learning. That sectors and products matter, in terms of learning opportunities and differences in income elasticities of demand is well recognised[18]. Accumulation of knowledge and capabilities includes but is not limited to upgrading of skills of workers and technicians. The organisational dimension is also involved, as outlined in business economics literature, inspired by the capability approach. It is also not primarily an issue of entrepreneurship, which is not peculiar to underdevelopment. A key bottle neck is the persistent 'inability to seize opportunities'. This productive manipulation of knowledge, (especially when it has a complex, collective dimension), involving intra-organisational co-ordination of various actors undertaking diverse species of knowledge and most often diverse interests on entrepreneurship and intrapreneurship between incumbent firms, which is difficult to achieve.

This transformation that has shaped global capitalism and global value chain governance structures is that of value chain concentration arising in the global supply base, coupled with geographical consolidation. This has

[13] Union Budget 2015-16, Economic Survey, Volume 2, Chapter 7-Services Sector, Table 7.1, available online at : http://indiabudget.nic.in/es2015-16/echapvol2-07.pdf (Last Accessed on November 2,2016).

[14] *ibid* at Table 7.2.

[15] *ibid* at Table 7.4, Table 7.5.

[16] *ibid* at Table 7.8. For a specific overview of India's Services sector and the factors attributed to it's growing significance, see *Mukherjee, Arpita (2013), "The Service Sector in India," Working Paper No. 352, Asian Development Bank Economics Working Paper Series, available online at* : https://www.adb.org/sites/default/files/publication/30285/ewp-352.pdf (Last Accessed on November 2, 2016).

[17] *Gereffi, Gary , "Global Value Chains in a Post Washington Consensus World", Review of International Political Economy, 21:1, pp. 9-37, available online at : DOI: 10.1080/09692290.2012.756414 (Last Accessed on October 31, 2016).*

[18] Edquist, Charles (2006), "Systems of Innovation- Technologies, Institutions", Science, Technology and the International Political Economy , Series Editor: John de la Mothe". See Chapter 6 by Breschi, Stefano and Malerba, Franco, "Sectoral Innovation Systems: Technological Regimes, Schumpterian Dynamics and Spatial Bsoundaries", pp 130-156.

shifted the bargaining power to large suppliers in developing countries, as opposed to lead firms in global value chains. A shift in the end markets of many such value chains has been witnessed post 2008-09 crisis, which has redefined geographies of investment and trade and newer forms of strategic co-ordination among value chain actors[19]. Today, the organisation of the global economy is going through a major "inflection point", which could have dramatic implications for economic and social upgrading and downgrading among countries, firms and workers. The global value chain literature challenges the traditional way of measuring export performance of countries and international competitiveness and it suggests that the post- crisis futures of advanced industrial and developing economies are interdependent in an unprecedented manner[20].

It shows that governance[21] is at the core of this analysis of value chains, whereby actors who shape the distribution of profits and risks in an industry are identified. At the firm level, this power can be exerted by the lead firm or suppliers. In producer driven chains[22], seen mostly in technology and skill intensive industries, power is held by final product manufacturers.

In the various forms of Global value chain governance structures, lead firms exercised varying degrees of power, through the coordination of suppliers without any direct ownership of firms. The role in upgrading also varies based on characteristics of suppliers in developing countries, the requirements of lead firms and the kinds of international professional standards utilised in these chains[23]. The need of multinational lead firm is to rationalise, wherein newer suppliers are expected to be bigger, more capable and strategically located to access large markets. On the other hand, the priority of home countries like ours is that we leverage learning from such asset advantages these multinationals have, yet depend largely on labour-intensive processes. Evidently, these are at cross-purposes. Exactly, where does the Informal sector fit in this sector is not clear. Over and above, developing various types of capabilities like financial, linkage etc. which may take some time, there is growing concern that the economic gains from such participation does not translate into stable employment and does not ensure simultaneity of economic and social upgrading. In this sort of export oriented industrialisation, countries may neither develop the institutions, nor the know-how, and consumer markets to create and sustain entire industries.

For this conceptual clarity, as regards the concept of upgrading is essential. Another issue is the concept of upgrading[24] itself i.e. is whether it is the innovation itself or the outcome thereof[25]. There is a view that upgradation is a descriptive concept without any empirically verified model to support it[26]. A current typology of value chains is either modular, relational or captive by nature and the cooperation patterns are framed in light of the governance structure[27]. The factors influential in a particular governance structure are complexity of the transaction, possiblity of codifying information and the existing level of supplier competence. The social context in which the value chain is embedded is a contextual factor in constituting a framework for the norm-building processes in a value chain. An understanding of the advantages small, medium enterprises represent in this context needs to be analysed before a suitable model can be provided for their participation.

SMALL AND MEDIUM ENTERPRISES AND INFORMAL SECTOR- ROLE AND INTERACTIONS WITHIN VALUE CHAINS

Informal sector tends to adopt risk averse strategies in by avoiding the formation of links. This is particularly because of the costs associated with more formal mechanisms of linkages like Patents. Similarly, those firms in the Small and Medium Enterprises sector which do so, face costs of integration with value chain, however it is their commitment to long-term relations in value chains and that provides relative stability to

[19] *supra18*.
[20] *supra1*.
[21] A focus on the study of governance structures has arisen since the 1990s. Governance in the context of value chains describes the power relationship between actors and participants. This is to be distinguished from coordination, which refers to the transition management of goods and products at the segment interfaces of the value chain. It involves four steps in the value chain namely rule setting, support from actors for ensuring compliance, monitoring compliance and sanction for non-compliance. For a discusion of who sets the norms in value chains ,see Brach, Juliane and Kappel, Robert,(2009) "Global Value Chains, Technology Transfer and Local Firm Upgrading in Non-OECD Countries", Working Paper No. 110, GIGA Research Programme, available online at: www.giga-hamburg.de/workingpapers (Last Accessed On November 3, 2016).
[22]Producer driven chains would be those where a largest part of the capital intensive production is done by the producer with the laboratory intensive or standardised taks are left to subordinate firms An example of Producer driven chains would be that of final manufacturers as in case of Apple's iPoD. Where the final assembly of the device is done in America, whereas the Chipset is produced in Taiwan, Republic of China. Although a majority of the value addition is attributed to the chip set, a net outflow results for America in selling this product.
[23] *supra18*.
[24] Upgrading is a concept used from International trade Theory where it indicates a shift in specialisation towards high technology products within the same sector.
[25] Morrison, Andrea et al., "Global Value Chains and Technological Capabilities: A Framework to Study Learning and Innovation in Developing Countries", SLPTMD Working Paper Series No. 5, University of Oxford, Department of Industrial Development.
[26] *supra22*.
[27] *ibid.*.

planning, which improves learning and synergy effects. Active cooperation reduces transaction costs and creates trust and relational ties. It can be argued what precedes what in the case of emerging economies. The type of value chain, in terms of typology also influences the reduction of costs and risks. The types of interactions namely active support of suppliers needs to be enhanced, which can happen only when capability issues are addressed. The technological regime has to enhance the learning opportunities through spillovers as well.

All said done, the adoption of piecemeal participation by the Informal Sector in global value chains is possible at this stage. In order to move out of this vicious cycle, the firms need to be incentivised to form such linkages, the development of learning and skills, necessary to participate in the same by seizing learning opportunities. The binary of Finance and Technology Support Can Only be bridged once firms are capable and incentivised for such participation. The formation of complementary assets is a step in this direction. However, over a long term, the emphasis must be on technological upgrading. The onus of the same is the bone of contention. Even with a regime of Patenting in place, the actual uptake has not been witnessed. This is because of a lack of operationalising technological upgrading. For most, social upgrading seems to fall behind. It is the enabling force behind the change of cultural, contextual factors that will enable technological capacity building by enhancing learning. Actual learning has to be left relatively unimpeded by strategic patenting. Strategic patenting done by patent centric firms can be damaging to the prospects of commercialisation by other players. Product-centric firms on the other hand, do not pose such a threat. However, given the overall variable level of linkages in different sectors, the learning potential is as such impeded by absence of linkages. Herein, the conversation between local buzz and global pipelines[28], can and needs to be established for more specialised sectors, under certain conditions like through network pipelines[29], as opposed to local broadcasting alone. Also, the connection between manufacture of products and underlying services will be required in value chains, even if not in terms of linkages, but "untraded dependencies", which enable learning opportunities for such marginal players across regions and not specific clusters.

CONCLUSION

The performance of learning from export performance, both for firms, policy makers etc. has been understood to be limited. Similar, has been the case of functional upgrading through the value chain. Greater emphasis has to be placed on capability building through this form of industrial organisation to avoid the systemic atrophy of local firms. Here, firm heterogeneity and economic activity needs to be appropraitely accounted for, in terms of the learning opportunities and types of interactions that value chains provide.

The change that the global value chain governance structures brought for emerging economies needs to assessed for whether the benefits of the same are evenly spread across regions and if so how to maximise them. The complexity of transaction and their codifiability are important factors influential in this context. The latter can be seen from the systematisation of knowledge practices as opposed to merely patenting.

Historically, the decentralisation of innovation activity took place (occurring through affiliates of multinational firms), which approached foreign locations, by way of portfolio investments[30]. The nature of the investment entailed adapting technology to meet local needs. In India, the incentive to innovate has aimed at cost reducing innovations mainly. However, this has changed since the onset of the Information Technology Revolution of the 1980s, when decommodification[31] of products and dispersion of productive value chains, coupled with increasing relevance of value added (as opposed to export performance[32] as a metric for high

[28] Bathelt, Harald et al.,"Clusters and Knowledge: Local Buzz, Global Pipelines and the Process of Knowledge Creation", DRUID Working Paper no. 02-2012, available online at: http://www3.druid.dk/wp/20020012.pdf (Last Accessed on November 3, 2016).

[29] *ibid.* Network pipelines are linkages over larger distances and typically do not have shared trust. Establishment of global pipelines consciously builds new trust. The costs of building trust are typically time consuming and high and can be reduced by a set of procedural rules involving a sequence of transactions and interactions, wherein small risks are followed by larger ones and commitments progressively increase. This can be done through upgrading in the value chain. The local buzz is frequent, broad and relatively unstructured and automatic in nature, compared to pipelines.

[30] Portfolio investment is a form of indirect investment prevalent under non-liberalised policy regimes, where foreign participation was effected through investment in Indian entities. The element of control was understood in terms of the Companies Act prevalent at the time, a participation of 25% in terms of voting rights or preferential shares was considered as a cut-off. However, now the element of control is inferred from the decision making authority of the participating entity, over and above the stake held. (Companies Act, 2013)

[31] Traditionally, technology can be sold both in an embodied form and as distinct from the product embodying it i.e. disembodied form. Decommodification refers to the increasing role of intangibles in characterising what is tradeable. Here intangible knowledge assets or IPRs are delivered through digital modes of delivery. The 2017 IBRD World Bank Development Report talks of the increasing digitalisation of services.

[32] See *Subrahmaniam, K.K; Sastry , D.V.S;Pattanaik, Sitikantha and Hajra, Sujan,(1996)"Foreign Collaboration Under Liberalisation Policy-Patterns of FDI and Technology Transfer in Indian Industry since 1991."* In fact the connection between export performance and foreign ownership was found not to be correlated. Also, the role of technological growth and export performance could not be

technology products) has underscored the relevance of activities, other than R & D. Even there as we have pointed out above the position of India, in terms of importance of Services sector is growing, but is concentrated in a few sectors. Also, the value proposition that developing country firms present varied from cost arbitrage to more meaningful processes of adaptation, assimilation and accumulation[33] to Linkage, Leveraging and Learning in certain sectors. The evolution that it involved underwent several structural changes, over and above economic liberalization to effect this shift.

It is a reality in the Indian Context that domestic firms are in the unorganised sector with severe capacity constraints, poor linkages etc[34]. On the other hand, multinational firms tend to localize knowledge flows regionally, based on geographical proximity etc. The capability approach opens the possibility for true globalization by these actors to move beyond smaller regions to wider geographies. While the static efficiency[35] of doing so is understood, it is the dynamics that is crucial to better integrate economies. Further, for multinational firms some sort of relational proximity is necessary to build suitable linkages with domestic firms[36]. While the trend has been towards engaging with large domestic suppliers in the value chain processes, the bulk of economy comprises small and medium enterprises. Further, even such firms cannot be understood as monolithic, homogenous entities in reality. So the questions on leveraging value chain participation, in terms of high technology products becomes contextualized to the Indian context. This is important because the process has been discontinuous and uneven with countries like China accounting for 86% of the growth in exports as a result of this, whereas India still appears to be a marginal player.

Thus, the real story behind monetization should include these enterprises in achieving technological capability through upgrading and "moving up the value chain" in functional terms[37]. To allow this to happen not only is an intensive, long term technological effort is essential, but attaining functional and chain upgrading , through small and medium enterprises and the Informal Sector. This requires pushing the latter out of the inertia of minimalist and risk averse strategies. In doing so, the impact on employment generation and also needs to be accounted for enabling the social upgrading and avoiding negative effects of such participation in value chains. The role of learning opportunities also arises as an ongoing agenda. The sources of information to actualize this process can be external and internal. Due to power dynamics involved, multinational firms have formed an important, yet underexplored source of external information, with special emphasis on codified knowledge. While this is instrumental, it has understated aspects of tacitness that interfere with their full exploitation. Further, the process within firms by which information is behaviouralised, standardized, embodied and codified is a complex, evolutionary one. Domestic firms in India as a matter of culture, do not document the practices involved and prefer operating manuals etc. at best to record the standardized procedures they undertake. Recognizing the incremental from the breakthrough thus is a key challenge. Further, the standards applied for some product or process to qualify as patentable involve relative novelty and the standard of assessment is that of a man skilled in the art. This can be criticized for not addressing the appropriability regime to local needs and the heavy influence of multinationals on policy making. Be that as it may however, exploiting codified sources of external information, even for the limited purposes of undertaking production and or usage is a big challenge. It is for this reason, the learning processes in countries like India have not adequately leveraged value chains, linkages to support functional upgrading. Here, the role of complementary assets attains importance for domestic firms to gain foothold in the International market over and above pure market based considerations. While demand side factors have for long influenced policy making, we now need to concentrate on supply side factors like skilled manpower, specialized workforce, technology driven factors to kick start the technology process for these severely constrained firms. Often with financial and subsidy support, the efficiency has been dismal and it points to a lack of other factors of importance, necessary to actualize the monetization of intellectual property assets, through a wide ranging dialogue

established in the pre-liberalisation era due to data limitations. See also *Lall, Sanjaya, "The Technological Structure and Performance of Developing Country Manufactured Exports, 1985-1998, Working Paper No. 44, QEH Working Paper Series-QEHWPS44.*

[34] *Ernst, Dieter and Kim, Linsu (2000) , "Global Production Networks and the Changing Geography of Innovation Systems: Implications for Developing Countries", East-West Centre Working Paper Series, Issue No. 9, available online at : http://www.eastwestcenter.org/fileadmin/stored/pdfs/ECONwp009.pdf* (Last Accessed on October 31, 2016).

[35] Static efficiency considerations like factor costs, locational and other advantages are understood in traditional microeconomic theory, but actual firm level behaviour and evolution over a period of time.

[36] *Blanc, Helene and Sierra, Christopher, (1999) "The internationalisation of R&D by multinationals: a trade-off between external and internal proximity", Cambridge Journal of Economics, Volume 23 pages 187-204.*

[37] Functional upgrading refers to acquiring new functions to increase overall skill content of activities.Another form of upgrading under global value chains is chain upgrading i.e. movement into new but often related industries.

between foreign technology and indigenous production or service delivery mechanisms. For this, the enterprises must realise and seek to work towards providing complementary assets, in order to participate even as marginal players in the global value chain.

The processes involved in research and development dictate changes to the division of labour. It is here we are confronted with dilemma of using labour intensive processes to effect employment generation or to go in for high-end technological means of production, often riddled with labour displacing effects. But is also necessary to provide the workforce with greater skill sets. This can again happen with greater focus on developing stronger ties with foreign partners and providing value to them in terms of capacities and in turn, leverage the learning derived from such interactions. These interactions need to intensify over longer periods of time to yield the desired learning curve that most emerging economy firms seek. For the processes to start the structural elements of the instutionalisation of global value chains, as they relate to innovation must be in place.

It is often assumed that public science (represented by government institutions, research and development institutes) is globalised to a greater extent than that of private players. As we are aware that 0.8% of our gross domestic product is devoted to such research and development efforts, there is no basic structure facilitating innovation. More so, our technological development has been through leapfrogging and piecemeal by nature. While the calls for integration economically are yielding mixed results, it is particularly in trade related to technology, where this disjointed development has it's own problems. The conversation of global pipelines and local buzz has to be enhanced to better integrate economic and learning opportunities, generated by the learning opportunities that codified information in the form of Patents presents for producers of intermediate products. Here, the market structure of monopolies poses considerable constraint on domestic capacity development, yet it does not ensure actual working of inventive products and processes, in fact impedes the formation of typologies aimed at reducing transaction and learning costs.

The market failure in knowledge arises from externalities for these private players, which prevents them from engaging in the first place, with firms that have disparate capabilities. While we have addressed the incentives aspect by multilateral agreements, the balance with learning opportunities has yet to take off the ground. Certain knowledge intensive sectors however contribute to growth by tapping learning opportunities by continuing to diversify. Pharmaceuticals, for instance has given rise to biotechnology products, similarly electronics has resulted in material science advances like nanotechnology etc. This has come on the back of developing strong linkages, through which knowledge transfer of tacit knowledge could take place. The importance of codified information is not minimized, but actually enhanced by filling the gaps, as it were leading to successful commercialization.

Finally, for this informal networks need to worked upon as the transaction costs of more formal alliances has, despite economic liberalization not yielded adequate results. The strength of weak ties has demonstrated their utility in tapping local opportunities to generate global products. More formal alliances, are not hitherto motivated by technology driven factors in sectors like automobiles. This is a scenario that needs modification to ensure technology driven growth. But for enabling the same, firstly the knowledge flows must be incentivized to these local producers on a cost efficient basis.

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STARTUP–AN INITIATIVE IN INDIA

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Abstract
Startup refers to business houses, which aim to develop and market a new product or a service or a process. It is related to innovation and development of new products, services or processes. Initially the startup entrepreneur may face the situation of more expenses than revenue, so our government has decided to make available maximum assistance and support for the new and upcoming businesses and thoughts. It may be in the form of availability of funds, technology, social & economic environment etc. It is an essential ingredient for transformation in any economy. The basic purpose of startup is to motivate the youth of the country to move for innovation and progress. There is enormous scope of technology innovation in various sectors. There is requirement of psychological change in the mind of the youth. They have to become job creator rather than job seekers. It will contribute to the growth of our country. In this paper, the focus of the study is to find out the rationale behind startups in India. The various policies and programs initiated by the government for startup in India have been briefly considered. Also few cases of successful startups in India have been discussed.

Keywords: *Startup, innovation, entrepreneur, development, transformation*

1.0 INRODUCTION

Startup refers to business houses, which aim to develop and market a new product or a service or a process. Sometimes improvement in a product or service or process is done that adds substantial value for customers. In brief, it is related to innovation and development of new products, services or processes. "Start-up India, Stand up India" was announced on 15th August, 2015 by the Prime Minister of India. The basic purpose is to promote bank financing for startups and offer incentives to boost entrepreneurship and job creation. Initially the startup entrepreneur may face the situation of more expenses than revenue, so the government decided to make available maximum assistance and support for the new and upcoming businesses and thoughts. It may be in the form of availability of funds, technology, social & economic environment etc. The basic purpose of startup is to motivate the youth of the country to move for innovation and progress. There is enormous scope of technology innovation in various sectors. There is requirement of psychological change in the mind of the youth so that they can become job creator rather than job seekers. It will result into self development as well as the growth of the country.

2.0 OBJECTIVES OF THE STUDY

The study has the following objectives:

- To find out the rationale behind startups.
- To study the various policies and programs initiated by the government for startup in India.
- To study the various cases of successful startups in India.

3.0 LITERATURE REVIEW

Madhura Wagh, 2016 in his study, discussed the action plan for startups in three ways i.e. Simplification of procedure, financial support and incentives, partnership between Industry and academics.

Narinder Kumar (2016) examined the action plan of the government regarding startup India standup India and discussed the concept, eligibility conditions, registration process etc. in detail. It is of immense help for starter entrepreneurs.

Usha Rani Das & Debdatta Das (2016) have discussed the success story of startup movement Paytm i.e. payment through mobile. In India, these types of innovative ideas have transformed into reality.

Sulekha Nair (2015) in her study shared the Craftsvilla achievement journey. The basic goal of the organization is not only to become profitable, but also to make the business capital efficient and sustainable and to take it to next level growth which is going to be the biggest in Ecommerce.

Amit Tiwari (2015) is of the opinion that the Flipkart has attained a good place in the market in the area of online shopping. It started the journey with online selling of books, but added bundle of commodities as per the response from the customers.

4.0 RESEARCH METHODOLOGY OF THE STUDY

The secondary data collected from the published reports, books, articles, newspapers, journals, websites, etc. has been used for this study.

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5.0 RATIONALE FOR STARTUPS IN INDIA

- **Economic independence-** Today every person desires to be economically independent as well as to contribute financially towards his/her family. So, they look for avenues for earnings and own business is the best option.
- **Self-Employment –**it is difficult for everyone to search out a suitable job so some new business idea is the best option, as it provides self employment.
- **Risk and return –** In setting up business with innovative idea has both i.e. chances of success as well as failure. But if work is done with whole dedication and zeal, there are more chances of success in business
- **Problem of mobility-** It becomes cumbersome to move to distant places for the purpose of job. Either people need to shift to that place or commute daily. Both are difficult and affect the whole family. Therefore, own business at the home town is the best option.
- **Self recognition**- The human beings have desire for name and fame. Whenever any person establishes his business and becomes successful, it again provides motivation. It results into more and more hard work and success.
- **Family background-** In the families having business background and attitude of doing something innovative, the probability of startup enhance. The contributing factors are favorable family environment and prospects available.
- **Employment creation-** Innovative startups not only help in self employment but they are also useful in creation of jobs for others. Thus they are moving towards the path of economic development.
- **Social Responsibility-** The startup entrepreneurs are fulfilling the Social Responsibility of being a responsible citizen, by providing job opportunities to others.
- **An opportunity to convert dreams into reality-** Innovative business ideas may come in mind of any person whether literate or illiterate, at any age, with meager or plenty of financial resources. Through initiating own business, one can convert his dreams into reality.
- **Best suitable for Egoistic persons-** To set up own venture is the best suitable option for the people, who cannot work under anybody. They can become their own boss and enjoy freedom of decision making at their own risk.
- **Reward for hard work** -The person taking initiative for startup has the motivation, as the whole profit belongs to the owner. This incentive creates sense of putting more and more efforts towards making his business a success.
- **Uses of idle funds**- In case of families with good financial resources, it is comparatively easy to work on innovative ideas, which is later on converted into a successful business.

6.0 INITIATIVES FOR TRANSFORMATION IN INDIA AS PER ACTION PLAN

1. An online portal made accessible in the form of a mobile application, to facilitate entrepreneurs to interact with the government and other regulatory bodies.
2. For the growth of startups, the profit of startups, established after April 1, 2016, exempted from income-tax for a period of three years.
3. At the time of filing the patent application, an exemption of 80 percent of the total value will be given to the start ups.
4. The assistance for startups in filing and disposal of applications related to patents, trademarks and design under relevant Acts shall be provided. The cost of providing this facility shall be borne by the Government.
5. 10 incubators, who have the potential to become world class, to be selected and each, would be given Rs.10 Crores as financial support to be used for improving the quality of service offerings.
6. A Grand Challenge Program started to support and award Rs.10 lakhs to 20 student innovations from Innovation and Entrepreneurship Development Centers under 'National Initiative for Developing and Harnessing Innovations'.
7. Atal Innovation Mission launched for the promotion of innovation and entrepreneurship. It will help to provide support to State Innovation councils for awareness creation, establishment of sector specific incubators, training to potential entrepreneurs, strengthening of existing incubation facilities etc.
8. Innovation core program to focus school children with an outreach to 10 lakhs innovations from 5 lakhs schools.
9. Exemptions on capital gains, invested in the fund of funds recognized by the government. If somebody invests the money received by selling his/her own property in his/her startup, he/she shall be given exemption from capital gain tax. In addition, existing capital gain tax exemption for investment in newly formed MSMEs by individuals shall be extended to all startups.
10. Rs. 250 Crores per year has been allocated to promote quality research amongst IIT students under 'Uchhattar Avishkar Yojana'
11. For the encouragement of entrepreneurship in biotechnology, the government set up 5 new bio clusters, 50 new bio incubators, 150 technology transfer offices and 20 bio connect offices**.**

12. National Credit Guarantee Trust Company to provide with a budgetary amount of Rs. 500 Crores per year for the next four years to help the innovators in the country.
13. To facilitate companies with a focus on research, Government to set up 7 new research parks - six in the Indian Institute of Technology campuses and one in the Indian Institute of Science campus with an initial investment of Rs.100 Cr each.
14. The central government to provide financial support of 40%, subject to a maximum of Rs.10 Crores for establishment of new incubators in existing institutions subject to 40% funding by the respective state government and 20% funding by the private sector.
15. In case the business is not successful and the owner wants to exit, there is provision for easy and quick closure of businesses which is included in 'The insolvency and Bankruptcy Bill 2015'. It will help to make it uncomplicated for startups to exit.

7.0 SOME CASES OF SUCCESSFUL STARTUPS IN INDIA

- **PAYTM**

Mr.Vijay Shekhar Sharma is the owner of this company with current value over $3 billion in the market in 2016. There was a time, when he was struggling to make both ends meet with Rs 10 in pocket. But he achieved the target with hard work. He passed his higher secondary when he was just 14 years old. He had to move from home town Aligarh to Delhi at Delhi College of Engineering for higher studies. A topper in his school had to face lot of challenges in college as he did not know how to read and write English as he completed his school education in Hindi. However, he realized that to make it through college he must start learning the English language first .So with the help of books, magazines and his friends he learnt the language in a way which few can.

As he did not attend his college regularly, he decided to use the time in constructive manner i.e. by becoming an entrepreneur. He made the internet his playground and Sabeer Bhatia and Yahoo his inspirations. He started building his own content management system, with some of his college friends, which were used by some of the biggest news publications including The Indian Express. He also started his first job at an MNC but give up after six months and built a company of his own with his friends. He also passed his college examinations. He was left bankrupt by his partners, with whom he had just begun a business and raised the first round of funding. In 2005, he had raised a heavy amount of Rs 8 lakhs through his venture of which he was cheated off 40%. He was devastated. But he did not give up and he initiated One97, the parent company of Paytm. They started experimenting with the three basics of internet- content, advertising and commerce. But the immense moment came in 2011 when he first inclined the idea of entering the payment ecosystem in front of his board. The board was not persuaded, as he was talking about having a bet the company's money on a non-existent market. So he put 1% of his equity, which was about $2 million around 2011, on the table and said, "This is for all of you, if I waste the money that we put on the site" and it is with this belief that the first avatar of Paytm, Pay Through Mobile, was born, going rapidly onto becoming the next big thing of the startup ecosystem in India. And, since then it was never looking back. The company first built a strong 24x7 customer care service to address the doubts of customers to enable them to trust the wallet enough to put their money into the hands of the unknown. Due to trust of consumers, Paytm's amazing journey to the top of the internet wallet market is now a part of startup legends. Paytm also became one of the few companies in the world to secure 'Series A' funding exceeding several $100 mn.

- **CRAFTSVILLA**

Craftsvilla is ecommerce portal which sells Craftsvilla branded products and also uses a market place model to 'Discover Unique Indian Products' including Handmade, Ethnic, Vintage, Organic and Natural products across from India. Primarily Craftsvilla was started by Manoj Gupta & Monica Gupta, and later their other Co-Founders — Bhavik Jhaveri, Sarvajeet Chandra, Tirath Kamdar joined it. The idea came into minds of Manoj and Monica during their road trip in Kutch. They came across beautiful and bright colored products and they thought to create a website to sell these wonderful products. The portal currently has more than 100,000 products available online. It connects local artisans & designers directly to global customers to increase their source of revenue. Its purpose is to remove the middlemen and help them to create as well as to promote their brand. It also emphasis to conserve the culture, traditions & values. The company is having team of eight people in a small room office. The team members, specialized in different functional areas, sit together and solve the related issues quickly. For example, the best payment cycle is due to technical and finance expert, dispatch and customer care team sitting closely and reply all the emails daily. There is one simple business model with one commission structure. The efficiency has improved due to simplicity of working methodology and more time is available to think and analyze for planning to move to next level. The result of all these is that today the company is profitable with balanced growth of 15-20% month on month, with Zero discount with double the conversion on our traffic and average order value

and much higher repeat. The acquisition cost of customer is below Rs. 250.

Till the end of year 2011, 80% of their buyers were women and between the 18-35 age group. Additionally, more than 50% of their orders were coming from Tier 2 cities and 50% of the sales were Cash on Delivery (COD). In 2015, Craftsvilla.com not only become the leader of their kind but has also listed itself as the fastest growing and largest online marketplace with close to 2 million unique products from more than 12,000 artisans and designers across the country. The company facilitates over 100,000 transactions in a month, and growing quickly with organic sources contributing two- thirds of their total traffic. The basic goal of the organization is not only to become profitable, but also to make the business capital efficient and sustainable and to take it to next level growth which is going to be the biggest in Ecommerce.

- **FLIPKART**

Binny Bansal and Sachin Bansal are the co-founders of Flipkart. It was founded in September, 2007. The owners of the Flipkart were primarily working for Amazon. They grasped the idea to have their own e-commerce startup company in India and they started working on it. They had to see tough time at beginning, but they continued. The initial purpose of the business was to sell the books online, but later on they expanded it to other products. The business was started by raising funds through capital funding and with its own speed; it grew in its financial structure. The repayment was made to investors and the company became successful in winning the faith and brand loyalty through investors and customers. It is the first company to commence 'cash on delivery' option and this innovative idea was initiated when the company faced challenges related to online payments. Flipkart has introduced their supply chain management system for smooth delivery of products. It has got hold of other popular companies' e.g.- Myntra.com and LetsBuy.com. The company has come a long way to attain the position from a small scale retailer to a leading e-commerce brand.

- In this manner, Flipkart has created revolution in the world of e-commerce. In September, 2015, the co-founders of Flipkart were ranked 86th with net worth of $1.3 billion each founder and net worth of the company was $15.5 billion.

8.0 CONCLUSION

As India is moving on the path of progress, the vision as well as contribution of the government plays an inevitable role. No country can move forward without innovative attitude, scientific temperament and broad thinking. Also the supportive and congenial environment for investors, whether at small scale or at huge level, is another important aspect for growth. As per the above study, our government has initiated through various policies and procedures and taking everyday measures to take India to the next level of success. Today youth of our country is highly motivated. They are inspired to acquire knowledge, start their own venture and to become successful. It has not only created self employment, but also generated employment for others. There are also a number of real stories of success of entrepreneurs in India, who started from very limited resources and attained the highest peak of success.

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STARTUP- SOCIAL MEDIA AND FASHION COLLEGE STUDENTS

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Abstract
A social networking service (also social networking site, SNS or social media) is an online platform that is vigorously used by students to build social networks or social relations. This study expands knowledge about fashion college student's social media usage by examining how fashion students use social media to become learnt. Participants were asked to respond to a questionnaire focusing on how they use social media. The questions related to level of interest in fashion upon social media, social media duration use, and regular activities on social media, social networking preferences, and fashion involvement. The results revealed that the level of interest in fashion upon social networking sites for fashion students; in fact they use social media for their fashion interest and learning. Interests included exploring current fashion trends, interacting with fashion brands and gaining information. This study suggests that fashion college students use social media as a means of entertainment, information, and social connection.

Keywords: *College students, fashion blogging, fashion involvement, fashion interest, learning efficiency, SNS, social interactions.*

I. INTRODUCTION

Web pages, tweets & social networks like- facebook, twitter, you tube, pinterest, provides fashion based knowledge to the students. Initially many parents and teacher assumed social networking would spoil time of the students; social media is now seen as an option to upgrade student's knowledge & personality. For example, students are no longer picking up magazines as often as they have in the past. Today, content is consumed online and students are not only reading content, but they are referring up gradation of fashion knowledge like fashion forecasting, fashion shows, various collections of designers- National as well as International.

Fashion is everywhere, generally due to the internet. "Blogs" offer students an almost unlimited space for self-expression on the Internet (Kozinets, 2006). Blogs are defined as personal websites, "usually maintained by an individual with regular entries of commentary, descriptions of events, or other material such as graphics or video, where entries are commonly displayed in reverse-chronological order" (Wikipedia, 2009). Unlike fashion-centered journals and television shows, there are millions of fashion web pages globally that are improved frequently with upto date fashion movements. The web-page efficiency is due to its well built separate, unique, accepted & elitist opinion. Its attractive event provides students the moment to view point & challenge fashion expert.

It is very common for fashion students to be extremely active on social media. Fashion is a very visual fields, and social media and website presence are very important to fashion brand building. Social media can be used to showcase new clothing, trends, and promotions. The best part about strongly interacting with students on social media is that it is simple to link it back to the website to encourage them in various aspects. A fashion student, follows many brands on Facebook, Twitter, Instagram, and Snapchat.

II. OBJECTIVES

The study has taken overall objectives of identifying the factors of social networking sites and its impacts on fashion students and examining whether the social networking sites influence the lifestyle of fashion students.

- To identify impact of Social Networking Sites on fashion students in FDDI Rohtak.
- To find out the usage of Social Networking sites among fashion students .
- To identify how Social Networking Sites benefitted or affect the lifestyle to the fashion students.

III. LITERETURE REVIEW

Startup India campaign is based on an action plan aimed at promoting bank financing for start-up ventures to boost entrepreneurship and encourage start ups with jobs creation. The campaign was launched (Jan 2016) by **Prime Minister Narendra Modi**, he said," I see startups technology and innovation as exciting and effective instruments for India's transformation".

Social media perceived as one of the most effective and the best Startup. Thus the research is based on the social media. The topic of this research paper is social media and fashion. Specifically planned to differentiate among fashion college students and what they are interested in communicating through social media. This topic is important because the 21st century has experienced a communication explosion, sparked by

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social media (Crittenden, Keo, McCarty, & Williams, 2012). Fashion is everywhere, mostly due to the Internet and blogs offering consumers an almost unlimited space for self-expression (Mohr, 2013). Also, there has been a significant growth in fashion applications (apps) in the past few years. These apps offer customers up-to-the-minute deals, information on the latest fashion trends, the convenience of shopping directly from their phones, and ease of social sharing (Mohr, 2013).

As social media sites continue to grow in popularity, it is our premise that technology is a vital part in today's student success equation. With the nature of the cyber world around us today, there is growing concern on how it affects them. The Internet is more than just a means of seeking information. People discovered that the Internet could be used to connect with other people, whether for business or commercial purpose, make new friends, reawaken old friends and long lost relatives. The emergence of social networking sites (SNSs) simplify the whole process as they are easier to use and navigate.

Social Media (SM) are web-based services which are also known as "Social Networking Sites" refer to network of relationships and interactions among different users (groups or individuals) (Kempe et al., 2003). Social Media such as Facebook, Instagram and Twitter enable users to maintain great connections among themselves as well with others (Ellison et al., 2007) by achieving more than one task and facilitating the way of communication and sharing different information (comments, thoughts, videos and images) (Kietzmann et al., 2011).

Social Media is playing significant roles in different aspects of our lives. What is interesting in SM is that it supports users in several sectors, such as, business, marketing, advertising and education (Hennig-Thurau et al., 2010).

The definition of social media is "the relationships that exist between network of people" (Walter & Riviera, 2004). In the last few years, the online world has changed dramatically. Thanks to the invention of social media, young men and women now exchange ideas, feelings, personal information, pictures and videos at a truly astonishing rate. However, every day, many students are spending countless hours immersed in social media, such as facebook, whats app, instagram, twitter, snapchat, etc. At first glance this may seem like a waste of time; however it also helps students to develop important knowledge and social skills, and be active citizens who create and share content. At present, whether social media is favorable or unfavorable, many students utilize these sites on a daily basis. As social media sites continue to grow in popularity it is our belief that technology is a vital part of today's student success equation. Many researchers have been diving into a considerable amount of research on how social media influences student retention at colleges. Therefore, our research ascertains the relationship between the social media and students' study efficiency.

IV. THE PROBLEM STATEMENT

College students in these days are always very busy with their handset and laptops. Most students access to the Internet and they will spend considerable time on chatting, checking their email, their facebook profile, updating their Twitter accounts and their LinkedIn account, and it does not happen only once a day. Some do all night browsing. When do they have the time to read/study their course? Are they really referring SNS for learning fashion?

Limitations

The study will be limited to

1. Fashion Design, under graduate students.
2. Students of FDDI, Rohtak.

V. METHODOLOGY

The usage of social media technology is over flow in past few years. This paper is focused to find out the positive effect of social media on Fashion College students. These Social Networking sites (SNS) has great impact on fashion college students. As social media sites continue to grow in popularity, it is our premise that technology is a vital part in today's student success equation. This exploratory research study drew a random sample (N=50) of males (n=20) and females (n=30) who were administered a student perception questionnaire on how social media affects the fashion college students. The participants were under graduate students, studying at FDDI. 30% of participants were final year students, 50% were second year students and 20% were first year students. The results of the survey questionnaire indicate that 40 & 34% of the sample admitted that they spent 1-6 & 6-12 hours per day respectively checking social media sites, 20% spent less than an hour and only 6% spent between 12-18 hours on this task. Results indicate while most college students use social media and spend many hours checking social media sites.

A. Research design

In this study, design adopted is descriptive which includes surveys and fact- finding enquires of different kinds. The major purpose of descriptive research is to give a description of the state of affairs as it exists at present, because the researcher has no control over the variables and can only report as to what had happened or what is happening. It also attempts to discover the causes even when they cannot control the variables. The descriptive research design is considered as the

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ideal design to examine the impact of social networking sites on fashion students.

B. Sampling

Samples are selected from fashion college students of FDDI College on the convenience of the researcher, because of the difficulties in meeting them and getting their cooperation. Since the present study is stratified on the basis of age, the sampling method in this study is stratified convenience random sampling. The sample size of the present study is determined to be 50 fashion students.

C. Source of data collection

For the purpose of this study, it was decided to collect the data with the help of a questionnaire. Structured random sampling method of questioning was adopted. The questionnaire was prepared on the basis of collected information and reviews about the social networking sites, students and their lifestyle.

D. Collection of data

In this study, the researcher used questionnaire method as the tool. All the questions are structured on the basis of fulfilling the objectives of the study. A total of 50 respondents were chosen for the study in this area.

E. Pilot study

The researcher before launching into the collection of data from the respondents, the pre-tests were done through personal interviews. So that the interviewer can, note the respondent's reaction and attitude which cannot otherwise to be obtained. The questionnaire was distributed to some college students in this area. In the light of the responses obtained statements which were found to be ambiguous were restructured, overlapping statements were removed, sequence of the statements were checked and comments of the respondents were noted.

F. Tools of analysis

After collecting the primary data the researcher verified the collected data. Afterwards the data were edited and coded and master table summarizing all the collected information and graph showing the frequencies of responses towards information was prepared.

VI. RESEARCH QUESTIONS

The following research questions were used to guide the study

1. Which social networks do you use?
2. How long have you been using social networking sites?
3. How much time each day do you spend on social media?
4. Why do you use an online social Network?
5. How does online networking affect your social life?
6. How does the use of social networking sites affect student's academics?
7. Do students use the social networking sites for their academic assignments?
8. Which option do you use social media/ networks for the most?
9. Usage of social media to stay informed on current fashion trends
10. Participation in fashion blogs/pages when using

Question 1: Select a Social Network for which you have created a personal profile.

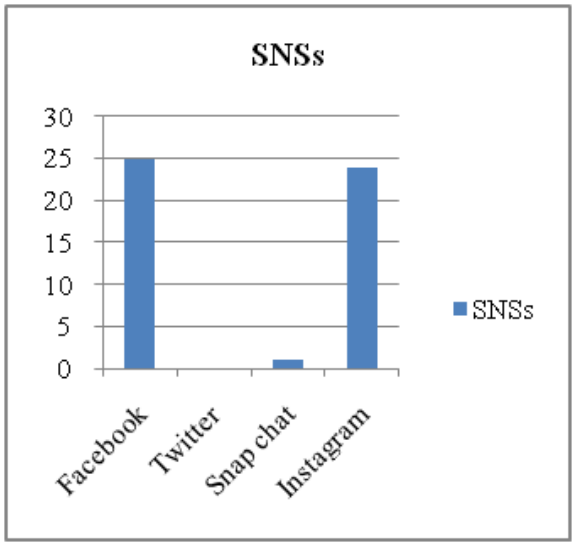

Chart -1: Distribution of SNSs used by students

From Chart 1: From the questionnaire results, it was found that students personal profile on social networks- Facebook 25/50, twitter 0/50, Snapchat 1/50, instragram 24/50. In this question students were asked to choose one option. Out of the four social networking sites Facebook and Instagram are seen to be mostly used by the students with 50% & 48% respectively.

Question 2: How long have you been using social networking sites?

Students using SNSs since several years No. of Answers Percentage (%) 0-6 months 2/50 4%; 7months-1yr 3/50 6%; 1yr-2yr 6/50 12%; 2yr & above 39/50 78%. Total 50 100%.

In this question Students were asked to choose one option. We want to find out that how long students have been using SNSs. In this we found that only 4 % of students are using it since 1- 6 Months, 6% students were using since 7 months to an year, 12% students were using SNS since 1-2years and 78% students were using it more than 2 Years. Thus study reveals that Fashion students were SNS savvy students

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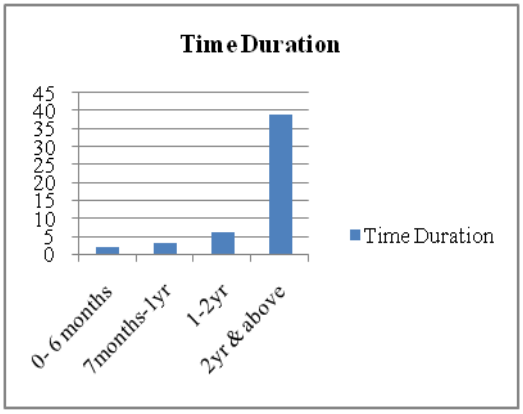

Chart -2: Uses of SNSs by students

Question 3: On average, how much time do you spend daily on Social networking sites?

In this question Students were asked to choose one option .20% of total sample were using SNSs for less than an hour in a single day while maximum students i.e. 40% were using it from 1 to 06 hours in a day, 34% uses 06 to 12 hours in a day while only 6% of students were using SNSs 12-18 hours in a day.

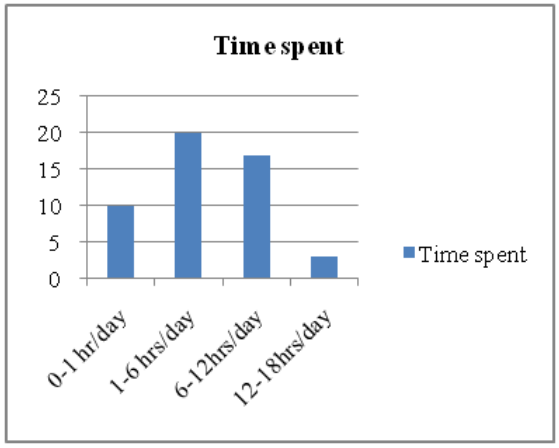

Chart -3: Daily use of SNSs by student

Question 4: Why do you use an online social Network?

From the questionnaire results, it was found that purpose of using SNSs by fashion students. 36% students use SNSs to find information, 20% students use SNSs to learn more about your course/studies, only 4% students use SNSs to make professional and business contact; 12% students use SNSs to keep in touch with family and friend; 16% students use SNSs to play Games; 12% students use SNSs to get opinions; 10% students use SNSs to share videos/pictures/Music; 4% students use SNSs To share your experience.

Sr. No.	Purpose	No. of answers	Percentage (%)
i.	To find information	18	36
ii.	To learn more about your course/studies	10	20
iii.	To make professional & business contacts	02	04
iv.	To keep in touch with family & friends	06	12
v.	To play games	08	16
vi.	To get opinions	06	12
vii.	To share videos/pictures/music	05	10
viii.	To share your experience	02	4
	Total	50	100

Question 5: **How does online networking affect your social life?**

Effect	No. of answers	Percentage (%)
No effect on face to face communication	12	24
Somewhat effect on face to face communication	17	34
Positive effect on face to face communication	21	42
Total	50	100

Purpose of the question was to find the effect of SNSs on Social Life. Due to social media we lose face to face communication. But 24% students believe that SNSs do not effects on face to face communication while 34% thinks that SNSs has somewhat effect on face to face communication but maximum i.e. 42 % students believe that SNSs has a positive effect on face to face communication. Below further displays the graphical distribution of the percentages above.

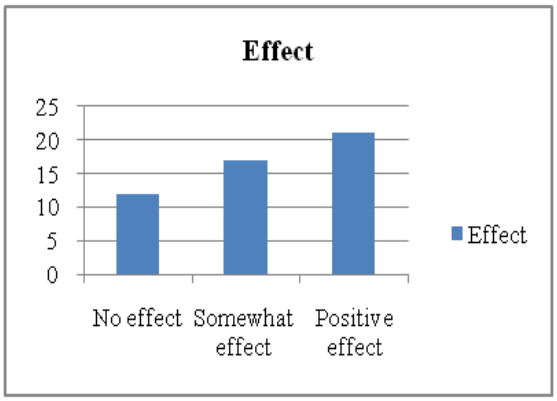

Chart 5: Effect of SNSs on social life

Question 6: How does the use of social networking sites affect student's academics?

In this question Students were asked to choose one option. 70% students thinks that SNSs has a positive effect on academics.16% students thinks that SNSs has

a negative effect on academics and 14% students thinks that SNSs do not effect on their academic work.

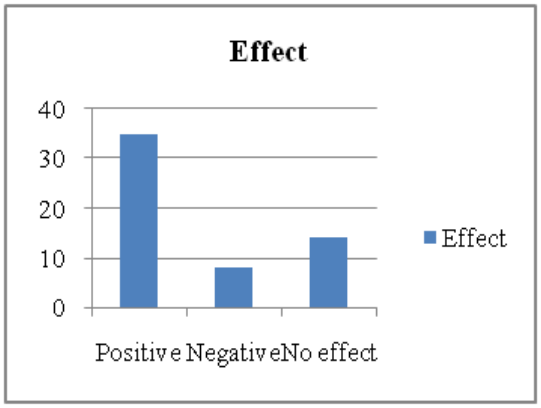

Chart 6: Effect of SNSs on academics

Question 7: Do students use the social networking sites for their academic assignments?

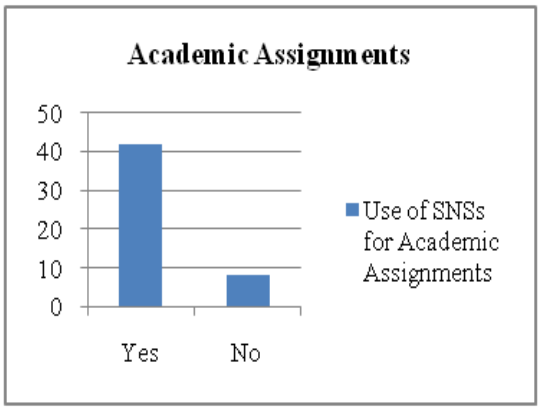

Chart7: Use of SNSs for academic Assignments

From chart 7 It was concluded that 84% Students thinks that SNSs is helpful for their Academic assignment and 16% thinks that it is not useful for their assignment.

Question 8: List down your preferences of using SNSs being fashion student?

In this question Students were asked to rank each option according to their choices; I preference was given to fashion forecasting; II was given to refer history of fashion; III to latest sales or discounts on fashion collection; IV was given to follow existing fashion trends; V preference was given to fashion leaders or designers; VI was given to latest developments in industry.

Table-8: Preferences of using SNSs being fashion student their scores & ranking.

S.No.	Preferences of using SNSs being fashion student	Score	Rank
i.	Fashion forecasting	55	I
ii.	To follow fashion leaders, designers	47	V
iii.	To follow existing fashion trends	49	IV
iv.	To know about latest sales or discounts on fashion collection	51	III
v.	To refer the history of fashion	53	II
vi.	To learn about latest developments in fashion & textile industry	45	VI

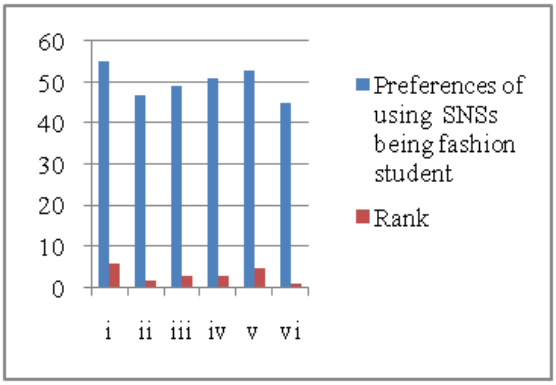

Chart-8: Rank to the preferences of using SNSs

Question 9: Does usage of social media helps to stay informed on current fashion trends?

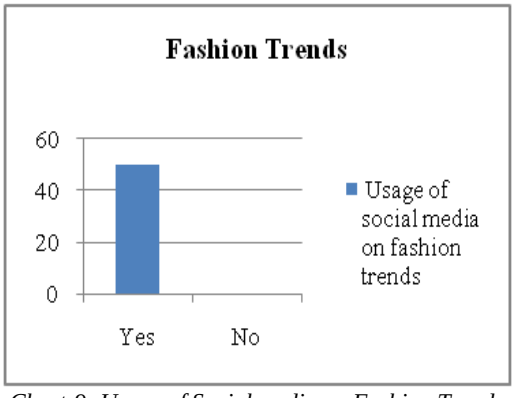

Chart-9: Usage of Social media on Fashion Trends

From research it was found that 100% students think that SNSs is very helpful to stay informed on the current fashion trends. It helps them to know all the prevailing fashion styles to meet the challenges faced by them in fashion world.

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Question 10: Do you participate in fashion blogs/pages when using SNSs

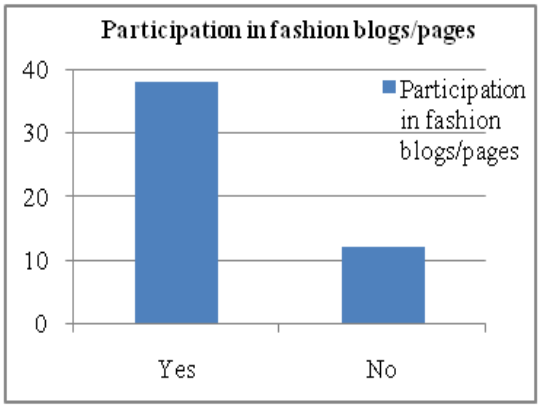

Chart-10: Participation in fashion blogs/pages

According to the research 76% students participated in fashion blogs/pages and 24% students didn't participate in fashion blogs/pages.

VII. CONCLUSION

The students need to create a balance between the use of SNS and studies. This is because students are seen using the SNS even in the lecture hall while lectures are going on and also while reading (studying). There is need for students to learn time management and to allocate, to each task, a specific timeframe. Students and young adults should always make out special time for using the SNSs and not to devote all their available time to it. The students believe that this would increase students' academic performance. Since students are also using SNSs for their academic activities, lecturers should use SNSs to enhance teaching learning process by uploading academic contents for use by the students.

VIII. ACKNOWLEDGEMENT

We acknowledge all the respondents of the questionnaires for their cooperation.

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AN EMPIRICAL STUDY ON STRESS LEVELS EXPERIENCED BY THE COLLEGE TEACHERS IN AMBALA DISTRICT

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Abstract
Today in our modern times where we have meticulous achievements of materialistic ease, we have achieved mental tease too. We find stress everywhere, whether in our workplaces or within our family life or any economic or social contest. Everyone is invariably exposed to various situations full of stress and tension right from the beginning of life i.e. birth till the last breath drawn. Stress happens whenever one's body and mind reacts differently to some real or imagined situation. It will be impossible and unrealistic to eliminate stress totally from our life, since every event or situation in our daily life causes some types and degrees of tensions and stress. Teachers are the most valuable and resourceful persons not only for educational institutions but also for the society in which we live and interact. The society is given shape through their mighty intervention in the life of students through their innovative teaching skills. Stress is an unavoidable part of their life due to increasing workload and complexities in daily life. This paper studies different levels of stress and suggests some useful measures to cope up with and reduce the stress of the lecturers in various colleges of Ambala District.

Keywords: *Higher Education, Stressors, College Teachers, Levels of stress, Stress Management.*

INTRODUCTION

Many researchers say that an individual actually needs moderate levels of stress to help him to stay alert and perform well and this is a fact that without a little stress in life one cannot climb the ladders of success. But too much stress is harmful for an individual both physically and emotionally. Harmful stress can cause one to feel helpless, frustrated, disappointed and harmful. It can also cause physical as well as psychological damage.

'Stress' refers to the demands placed on the mind and body and in return we get the responses, good or bad and this is a normal part of our daily life and also a normal part of any job. Without stress, one would not strive to hit sales, meet deadlines, line up new clients or make out the production targets. Meeting the demands and challenges of a job is part of what makes work satisfying and interesting too, which often allows people to develop new skills and make advances in their careers. Today, everywhere in the workplaces, stress-causing situations arise regularly and people encounter, experience, deal and react to them positively or negatively, with heightened tension, and then return to a more relaxed state when the crisis, whether small or big, is solved and rectified.

However, problems occur continuously when stress is constant or so overpowering that the level of stress and tension never subsides and one can never get to calm down. This leads to make one's life more miserable and the person thinks negatively and many a times it results to end up one's life in the form of suicide.

WHAT IS STRESS?

According to the American Medical Association, Stress is defined as "Any interference that disturbs a person's mental or physical well-being."

Stress refers to the nervous tension on the brain and body from the conflict and mismatch between external atmosphere and our perceptions, leading to emotional and physical pressures. Whether you are a working adult or a young student, it is near to impossible to live without stress in today's fast paced world. Depending on each individual's unique perception of the tension between the two Forces, there is possibility for both positive and negative stress. It effects deliberating on both the components of an organization, the employees and the employer. It can serve to enhance an individual's motivation, performance, personal achievement and satisfaction in the quality work life and the organisation. In other words, stress is considered to be any pressure which exceeds the individual's capacity to maintain psychological and/or emotional and physiological stability.

CAUSES OF STRESS

The possible causes of stress are abundant and highly individual. Many factors are considered for being stressful and depends upon an individual's personality, his problem-solving skills and abilities, social support system and his general outlook on life. It is generally said that something stressful to one may not intimidate someone else, or one may even enjoy it. For example, for a dull student, going to school may be apprehensive

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for him because the teacher is giving more and more loads of assignments whereas some other students may feel energetic whenever they go to school feeling more playful and social in school rather than lonely at home.

The tensions and pressures that cause stress are called as stressors. It is a common perception that stressors are bad and depressing for us e.g. boring lecture classes at college, hectic job schedules in an organization or unrealistic work deadlines, or de-motivated co-workers etc. but this also includes optimistic aspects such as getting good marks in the final exams or getting out of the turn promotion or unexpected pay hikes. However, we can say that anything which forces us to adjust can be a stressor. Regardless of whether an experience is good or bad, if the fine-tuning it requires, strains a person's mental calmness, physical ease and he feels restless even though he uses all of his coping skills and adaptive resources, the conclusion comes to is stress.

Evidences from various researches have shown that there is high stress widespread among teachers of higher educational institutions and a very few studies have been conducted in ascertaining the reasons for generation of stress in the institutions for higher education that too identified the scanty reasons for generations of stress.

Some of the causes are laid down below:

A. Academic Problems: These problems arise due to lack of knowledge/ability/experience. Some of the concepts are unclear to them. They don't know how to clarify the doubts of students, and their inability to apply what they know, nor do they have the experience needed, to know the difference between teaching and inspiring.

B. Administrative tasks: Apart from academics the teachers are over burdened by the administrative tasks such as organizing an event or deployed in the election duties by the civil authorities.

C. Environment: Stress can be caused by physical disturbances such as students making noise in the class, crowding at the practical laboratories and overdue pressure of external environment.

D. Fear: Stress is also caused by the fear of suspension and in private institutions insecurity of job is the most feared and most of the teachers are frightened by losing their jobs due to any of management issues.

E. Financial Threats. Financial crisis due to less paid and high dearness rate, price hikes.

F. Frustrations: These are obstacles that prevent from meeting one's needs or achieving personal goals. These make a person stressful when they may be exploited externally (discrimination) or incapable internally (physically handicap, lack of desired ability or trait).

6. Lack of Training: Many a time's teachers are not properly trained and without proper training they are not capable of doing justice to the knowledge-seekers. This makes a teacher live under stress.

7. Life Causing Threat: This includes stress in life like death, health problems, accidents etc.

8. Overwork and Fatigue: A lot of unplanned work and fatigue affects the time management and it is difficult for a person to manage time for recreation, rest and relaxation .

9. Physical Threats: Colleagues or Students threatening to hurt physically if their illegal & illogical demands are not met with.

10. Social Threats: Moral sensor is activated every time on the college teachers by the society and hence Society stresses our teachers.

11. Uncertainty: If one is uncertain, one is unable to predict, and therefore feel out of control and hence may feel fear and thus feel threatened. This leads a teacher to a higher level of stress.

12. Work Pressures: Higher expectations are the main pressure arising stressors. It is invariably expected from the teachers by the superiors to get their students passed with good grades which give rise to stress.

13. Miscellaneous Threats: Victim of crime, self-abuse, sexual problems, argument, physical change, change in family, moving to new location, changing atmosphere and impact of cultural environment and increase in responsibility.

LITERATURE REVIEW

Joseph Sharit(1982), has undertaken a study Occupational Stress. He focuses on the measurement, sources, and management of stress, as well as the relationship between stress and coronary heart disease. Concepts related to stress (mental load, fatigue, and arousal) are defined and differentiated.

Daniel C. Ganster and John(1991), had undergone a research on Work Stress and Employee Health. They reviewed and summarized on the literature on work stress with particular emphasis on those studies that examined the effects of work characteristics on employee health. Although there is not convincing evidence that job stressors cause health effects, the indirect evidence is strongly suggestive of a work stress effect. This evidence comes from occupational studies that show differences in health and mortality that are not easily explained by other factors and within-subject studies that demonstrate a causal effect of work experiences on physiological and emotional responses.

Jeffrey M. Stanton(2001), had undergone a study on a General Measure of Work Stress. The focus of his study was on the development and validation of scores on the Stress in General scale. Three diverse samples of workers (n = 4,342, n = 572, n = 36) provided psychometric and validity evidence. All evidence converged on the existence of two distinct subscales,

each of which measured a different aspect of general work stress.

Sharron SK Leung(2009), has undergone Occupational stress, mental health status and stress management behaviors among secondary school teachers in Hong Kong. This study aimed to examine occupational stress and mental health among secondary school teachers in Hong Kong, and to identify the differences between those actively engaged in stress management behaviors and those who were not.

STATEMENT OF THE PROBLEM

All faculties do not respond to stressors in the same way. Various factors makes a person under stress in the workplace and home, including the need to secure financing for research, committee responsibilities, and household responsibilities, affect tenured and non-tenured, male and female individuals in different way. The present study has been carried out to identify the further reasons that are initially hidden to the previous researchers. In order to understand the consequences of stress and to be able to cope effectively, some of the major causes of stress should be identified. What are the work-related causes that lead to stress with respect to work culture in educational institutions? Whether there is any significant difference and association among demographic variables with causes of stress? and How far job profile variables of college teachers differs significantly and associated with causes of stress?.

OBJECTIVES OF THE STUDY

The prime objective of this systematic study of stress among college teachers in the Indian environmental context is very much needed. The present study is conducted with the following objectives:

1. To identify the various **causes of stress** among teachers of Engineering and Management colleges in and around Ambala from various private, aided - unaided, technology/engineering colleges, deemed universities and state university.
2. To find out and determine the significant **relationship between the Demographic variables** such as Age, Gender, Education, Marital Status, Designation etc. and Level of Stress in college teachers with various **job profile variables**.
3. To **suggest various measure that can minimize the stress levels** upto the positive limit to enhance the quality of higher education.

HYPOTHESES

Null Hypothesis H_{01}: There is no significant relationship between Age, Gender, Education, Marital Status, Designation etc. of the respondents and level of stress.

Alternate Hypothesis H_{11}: There is significant relationship between Age, Gender, Education, Marital Status, Designation etc. of the respondents and level of stress.

RESEARCH METHODOLOGY

Research Methodology is a study of systematically solving the problem. The validity of any research is based on the systematic method of formulating the objectives of the study, data collection both primary & secondary data and its analysis with interpretation. The present study is also based on both primary data and secondary data. Questionnaire was the main tool for collecting the primary data. The questionnaire was designed in a systematic way of covering adequate and relevant questions which covered almost all aspects of the study. **Random Sampling technique** was adopted to select the representative samples. The sample consists of 150 respondents. The data collected from the primary sources were arranged sequentially and tabulated in a systematic manner. Further, magazines, leading journals, books, newspapers, and websites relating to the study were also referred.

Data

The data required for the study is primary in nature. The primary data are collected through making questionnaire and sending them to the respondents through emails and telephonically. Pilot study was conducted with 25 faculty members who belong to engineering and management discipline. Based on the feedbacks and discussions with the academic experts, the questionnaire has been restructured.

Period and Area

The study was conducted during the academic year 2015-16. Ambala district is chosen for the study because large number of Engineering Colleges, Govt. Colleges, Private Deemed University are functioning within the district and a renowned State University is functioning nearby in Kurukshetra with which many colleges are affiliated and teachers commute from Ambala daily.

Sample and Tools employed for Analysis

Teachers working in two self-financing autonomous engineering and technology colleges, six self-financing non-autonomous private engineering colleges and two private/deemed universities in Ambala and one state university in the nearby district were selected for the study. Total 236 questionnaires were distributed among the selected population using convenient sampling method. Only 178 questionnaires have been returned by the respondents. Of which, only 150 questionnaires were complete in all aspects and considered fit for the study. The following

tools were employed to analyse the data with reference to the selected objectives of the study. Conventional Analytical tools were used for the purpose of analysis. Data thus collected were arranged into simple tabular form and processed for analysis using simple statistical tools like percentage analysis and chi-square test were employed.

NEED AND SIGNIFICANCE OF THE STUDY

In India, there is an increase in the general awareness among people for the need of higher education, mounting aspirations of the youth for better job opportunities and most of the parents desire a secured future for their children through better education. A very high number of students enrollment in various institutions in recent years have been approved by both Central and State government. Private self-financing engineering colleges and colleges having the autonomy status experience the extra high expectations of the students and their parents. This in turn results in the demand for better performance from the teachers in private colleges. As keeping the competition in view the management also demands good results from the faculty members and the workload of private teachers is much more than that of the faculty members of the colleges run by government. This creates an immense stress which leads to reduced efficiency in teaching. Given the dearth of research that investigated the work stress in higher education in India, there is a great need to fill the institutional and environmental gaps by examining the outcomes of work stress. The findings of the study may be immensely useful to teaching faculty members, students' community and the public in general. It may hold benefit for institutions and teachers of engineering college.

LIMITATIONS

Data being primary in nature, all sorts of limitations applicable to primary data is applicable to the present study also. This study is confined to Ambala district and the findings may or may not match results and finding of other research studies so utmost care should be taken while generalizing the result. Time was another constraint due to which the sample size was restricted to 150 respondents to elicit first- hand information.

DATA ANALYSIS AND INTERPRETATIONS

Different Levels of Stress have been measured by giving scores to stress related questions. Twenty five such questions were included in the questionnaire. Five point likert scale was used to answer the questions. The scores allotted to the answers range from one to five.

It is observed from the above table that a 21.33 percentage of the respondents who were stressed at the low level, It is followed by 38 percentage of the respondents who were stressed at the medium level and finally a majority i.e. 40.66 percentage of the respondents were stressed at the high level in their work which is more than a one-third of the total.

Table 1: Level of stress of college teachers:

S. No.	Category	No. of Respondents	Percentage (%)
1	Low	32	21.33 %
2	Medium	57	38 %
3	High	61	40.66 %
	Total	150	100.0 %

Source: Computed from primary data

Hence a majority of college teachers were stressed in their work at the high level. Other factors that influence the job stress among college teachers in the field of engineering and management within Ambala district. The level of stress experienced by the selected sample respondents is considered as a dependent variable. The Independent variables selected for the study are Age, Gender, Family size, Marital Status, Educational, Qualification, Designation, and stressors.

CHI-SQUARE TEST ANALYSIS FOR THE INDEPENDENT VARIABLES

In order to test the hypotheses and find out the relationship between independent and level of stress, we have analyzed the data with the help of chi-square test. The results of the chi-square test are shown in the following table.

It is now revealed from the data analyzed that the calculated chi-square value is greater than the table value in first three demographic variables i.e. Age, Gender, and Educational Qualifications and it is significant at 5% level.

Table 2: Independent Variables And Level Of Stress

Factor(Independent variable and level of stress)	Calculated X2 Value	Table Value	Degree of Freedom	Remarks
1. Age and level of stress	21.736	12.592	6	Not Significant
2. Gender and level of stress	13.262	5.991	2	Not Significant
3. Education qualification and level of stress	26.372	21.026	12	Not Significant
4. Marital status and level of stress	2.871	5.991	2	Significant
5. Designation and level of stress	10.324	12.592	6	Significant

Source: Computed from primary data

Hence, the hypothesis, "independent variable and level of stress are not associated" does not hold well. But last two variables i.e. Marital Status and Designations, show that the calculated chi-square value is less than the table value which proves that the relation between

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Marital Status & designation is significant with the levels of stress and hence the hypothesis is proved that some of the independent variable and level of stress are associated. It is concluded from the analysis that there is no significant relationship in these three independent variable (age, gender, marital status, education qualification) and level of stress. Whereas Marital status and Designation are the main stressors in the college teachers.

FINDINGS

1. It is inferred from the analysis, that the maximum level of stress is attained by the respondents 35-50 years of age group and the least stress is experienced by the age group of 25-35 years. The result of chi-square test proved that it not directly associated at 5 percent level of significance.
2. The analysis shown that male respondents (most of them are the only earning member of the family) are experiencing a higher level of stress than the female counterpart but at some other point of consideration females also were stressed because of their other household chores done by them. The result of chi-square test has proved that there was no association at 5 percent level of significance.
3. From the analysis, it is found that maximum level of stress is experienced by the respondents with higher education degrees, such as M.Phil. and Ph.D. holders because there is a great stress of disseminating more knowledge and responsibility of higher level of perfection, whereas the lecturers having lower level of education has low level of stress.
4. It is concluded from the above analysis that the maximum level of stress is perceived by the married respondents who are in the age group of 45-60 years are more stressed for the future of their adolescent children as well as job security was also a big issue faced by them.
5. It is also found that maximum level of stress is attained by the professors on higher level of posts and on administrative designations. The result of chi-square test proved the association at 5 percent level of significance.

SUGGESTIONS

Based on the main findings of the present study the following suggestions are being given for more improvements in the stress management in the colleges of Ambala:-

1. It is suggested that an equivalent number of teachers from all age groups are enrolled in a 50:50 proportion i.e. 50 % from the age group 25-45 years and 50% from 45-60 years. It will enhance the equal proportion of trained & experienced and fresh and inexperienced ones.
2. Since the numbers of female teachers in the private colleges are more and male teachers are less, it is suggested that male faculty members should be given more opportunities of job than the females having the duties of homes and small children to look after so that females can be relieved from dual stress, i.e. Job stress and household stress.
3. The number of Ph.D. as well as professional degree holders among the teachers of the faculties must be increased to lessen the workload and give higher level of performance in education sector.
4. The senior teachers above 45 years of age should be given proper care and secure job so that uncertainty and a less level of stress will be experienced.
5. The effective training & development facility should be given to the untrained teachers in increasing quality of higher education and national development.
6. Orientation and Refresher courses at Academic Staff Colleges have been proved more useful in gaining latest advances in the subjects, receiving technical spin in the knowledge and increasing skills to the trainee teachers.
7. Apart from technical skills, the management should introduce some leisure hours for meditation and recreation to the stressed teachers.
8. For the Professors on higher designations must be provided with efficient assistants and subordinates so that the stress level may be neutralized or at least minimised.
9. Teachers should be provided with the best of their professional life without any stress. The behavioral relationship exhibited between institution, salary and level of stress may help the institutions in designing training programmes.
10. Teachers should be motivated to do more and more research and academics rather than administrative work.
11. Inter-Faculty Exchange program is another option to enhance the versatility of the teachers. They can gain knowledge of the other fields/streams by this type of programs. This will lessen the stress which arises due to lack of knowledge.
12. Industry–Academia interaction should be done on regular basis to prepare the professionals according to latest technology and industry needs. This will make the teachers feel them confident by making the future of the nation with producing effective workforce.

CONCLUSION

The present research study reveals that the stress levels are disastrous and it is concluded that the intensity of work stressors are very high and a proper coping mechanisms must be introduced in the engineering colleges in the district if Ambala so that the higher level of quality education can be provided and a better

engineers and managers are provided to the society and nation. This can only be achieved if our inspiring teachers are provided with the best of their professional life without any stress. The behavioral relationship exhibited between institution, salary and level of stress may help the institutions in designing training programmes. Almost all the institutions have now started realizing the importance of stress management. In this scenario, such studies may enhance the accomplishments of the organizations to keep the negative stress level at minimum.

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REVIEWS ON CASE STUDIES RELATED TO THE SECTION 3(K) OF INDIAN PATENT ACT 1970

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Karteek Viswanadha**

Abstract
Many inventions like software programs/algorithms, business and mathematical methods fall under the section 3(k) of the Indian Patent Act and the provisions of the Act for claiming a patent related to these inventions are reviewed. The exact interpretation of this section is along with the specific limitations concerned to India. The objective of the paper is to discuss the inventions which are not patentable under sub-section 3(k) of the Patent Act in detail, a few thoughts and acts followed to properly claim by identifying the actual contribution. Ambiguities arising due to lack of clarity of non-patentable subject matter under the section 3(k) will be resolved.

Keywords: *Section 3(k), patent act, mathematical, business, CRI*

I. INTRODUCTION

Patent is a type of Intellectual Property Right (IPR) granted by the government to an individual or to a firm for a limited period of time. An invention which is novel, inventive and has technical advancement can be patentable. A patent is an index of country's growth and at the same time it should not become a barrier to technological advancement in the near future. All the patents are inventions but not all the inventions are patents. There are many unclarified doubts arising owing to the vagueness for a patent being rejected. There are sections in the Indian Patent Act which help in the technological advancements, help poor to avail medicines at low prices, contribute towards the economic growth of India. There are sections which even cause confusion between the stakeholders, persons skilled in the art and the general public due to the misconception of the sections by the people. One such section which is causing confusion between the stakeholders and the persons skilled in the art is section 3(k). Section 3(k) [1] carefully concentrates upon the software inventions, mathematical and business methods upon which the economic growth and technological advancements depend. Intellectual property rights awareness triggers the innovation in people improvising the creativity as 'necessity is always the mother of invention'. Section 3(k) is not an obstacle to the progress of an individual/country instead it is a gateway to innovation, creativity and productivity testing the originality and technological advancements of humans [2]. There are many never ending challenges under section 3(k) for the technological giants that indeed causes rift between persons skilled in the art and the stake holders.

Section 3(k) [4] draws a line between business ethics and technological advancements in India where a person skilled in the art decides and distincts whether the invention is purely sticking to business by creating a barrier to technological advancements or not.

A person skilled in the art should carefully take decisions while examining inventions such as Computer Related Inventions (C.R.I) [3], mathematical and business methods so that the advanced technologies are easily available to a common man or a small firm in the near future. Business methods like e-commerce [5] need to be examined carefully so that if the methods bear technical advancements. Any mathematical methods, software/algorithm alone and business methods cannot be patentable and if patentable then the conditions applicable are discussed after carefully studying some inventions which are objected under the section 3(k) of the Indian Patent Act, 1970.

II. DETAILED DISCUSSION

In India, computer software program alone cannot be patentable and as a result computer program is categorized as a Copyright and has a special provision in the Copyright Act of India. Section 2(f f c) of the Copyright Act defines 'Computer program' as a set of instructions comprised of series of steps, procedures, techniques or in any other form, including a computer program product, capable of making a computer program product to perform a particular task or achieve a particular result. Further, section 3(k) of the Indian patent Act describes that the invention related to any mathematical or business method or a computer program or algorithms are not patentable. A claim to a novel method of designing a novel hardware or product which requires the application of an algorithm or a particular computer program may be patentable. Software cannot function independently without an

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efficient hardware to support its functionality even though it is novel. For an instance a desktop/laptop embedded with a novel operating system on a known hardware is not patentable. In US, any novel and inventive method/process, system/apparatus/product may have a patent granted to it, provided it is a subject matter of patentability. There is no restriction on computer program products or software programs/algorithms in US Patent Act. In India, an invention means a product or process satisfying novelty, inventive step and thereby making it non-obvious to a person skilled in the art. It should also have technological advancement and/or has economic significance. Additionally, the new product or process should have industrial applicability for it to qualify as an invention. Patent laws of some countries like US favour patent protection for software inventions. However, few countries, which include India and European nations, have more strict laws concerning patent protection to software inventions. In India, almost all patent applications which include algorithm, computer program product *perse* are objected under the section 3(k). Algorithms are considered as a type of mathematical methods where each and every step of an algorithm is a mere mathematical method. Mathematical methods and algorithms/ computer programs in some way or the other related to each other. If the government allows mathematical methods as a patentable subject matter then stakeholders strongly urge government to make computer programs/algorithms as patentable subject matters as well. As a result section 3(k) will be overlooked. If a system/device/apparatus claims are drafted in such a way that the system/device/ apparatus is novel and inventive under the sections 2(1) (j) and 2(1) (j) (a) then the invention fulfils the eligibility criteria of patentability even though the system/device/apparatus is based on a computer program/mathematical method. The person skilled in the art has to judge whether the invention falls under the section 3(k) or not based on the scope of invention but not on the form in which it is claimed. If the alleged invention is related to a computer program then a thorough examination is carried out under section 12 of the Patent Act in order to check whether the computer program is claimed along with a novel hardware and proceed formally to determine patentability with respect to the invention. If the invention is solely about the computer program then the claim is denied. If the invention is novel and inventive in both the computer program as well as hardware then proceed legally for patentability. Many Patent Attorneys started drafting the claims in such a way that the dependent claims teach about the apparatus and the principle claims teach about the algorithm/computer program which means that the inventor has not invented any new hardware but instead claims a new computer program when embedded inside any hardware becomes novel and inventive and hence patentable. Moreover, there is no clarity on the Latin phrase "*perse*" and hence facing criticism on the subject of patentability when used in alliance with software inventions in the Indian Patent Act. Moreover, "*perse*" is still not defined in Indian statute, but the amended Patent Act now directs to interpret the word *perse* as per its dictionary meaning. Many surveys have demonstrated that software patents not only increase the monopolization but also affect the research and developments in India and thereby enhancing the costs with the increase in the software patents. Huge amount of funds are spent towards suing many innovative individuals/ firms based on the spurious claims instead of investing funds in the productive R&D. Many programmers/inventors have very less knowledge about the intellectual property rights and typically lack of resources to defend themselves against the patentees, this basically slumps technological progress and innovation. Many companies are facing legal issues for unknowingly breaching the patentee rights. Even some business methods like e-commerce, one click shopping which are solely based on the software are not patentable. Each and every company has its own schemes and goals and they have their own ideas to achieve them. Business methods of modern companies mainly comprise of marketing of their products, initiating financial transactions and customer satisfaction. Companies invest huge amounts of their resources to innovate and develop new and unique systems. Many Companies are coming out with new marketing methods everyday and thereby investing huge funds in the R&D sections. Ultimately, these companies expect their business methods to be protected. Protection of business methods severely affects the economy of India by dwarfing the small firms. As a result, business methods are regarded as non patentability subject matter under the section 3(k) of Indian Patent Act. A brief discussion of some cases where the section 3(k) plays a pivotal role is presented in the further sections.

III. CASE STUDIES

A). *Yahoo vs. Controller of Patents*

Yahoo filed a patent in 2007 for an invention based on 'method of scheduling the appearance of users' which teaches about the online presence in an Instant Messaging. The claim is "when a person logs in to his instant messaging account, other viewers are intimated of his online presence. Similarly, when the person logs out, other users view him as being offline".

B). *Decision of the Controller*

The question arose whether the invention is a computer program or the algorithm *per se*. Algorithm is a series of steps penned by a programmer before running a

computer program. The controller analyzed the invention and concluded that the user's appearance and online status in a chat window is a mere algorithm which clearly falls under the section 3(k) of the Act. A mere presence of hardware cannot put the invention cannot bypass the provisions of section 3(k). The Act states that the examiner is required to identify the novel and inventive part of the invention. If the invention in the principle claim teaches about the novel hardware then section 3(k) is not applicable.

Inference: Authors conclude that the preamble of principle claim of the above alleged invention teaches about the method to schedule online appearance of users. In the current scenario, it is quite obvious that the principle claim does not teach anything about the hardware. In the dependent claims, Yahoo referred to a server which is hardware and thus cannot work without a computer programme or an algorithm. This is obvious to a person skilled in the art because a server, consisting of a processor and memory are known devices. By embedding a novel software program/ algorithm *per se* inside an already known hardware doesn't make the invention novel and inventive under the sections 2 (1) (j) and 2 (1) (j) (a) respectively. A computer related invention (CRI) may be granted patent if and only if the hardware novel and inventive system is embedded with a known or a new software program. In this case it is quite clear that the scope of invention lies in the "instant messaging" which is a mere computer program and moreover, by claiming a computer program along with a known hardware cannot bypass the provisions of section 3(k) of the Act.

C). *Electronic Navigation Research Institute (ENRI) vs. Controller General of Patents*

This case study is about the patenting of mathematical methods in India where the Electronic Navigation Research Institute filed an application for "A Chaos theoretical exponent value calculation system". The principle claim of the invention teaches about "the cutting of a given speech signal and calculating the chaos theoretical exponent value with respect to the sampling time as the microscopic chaos theoretical exponent value". The Controller General of Patents has decided to deny a patent to the applicant on the grounds of non-patentability subject matter under Section 3(k) of The Patent Act on the date of hearing. ENRI had approached Intellectual Property Appellate Board to challenge against the Controller's decision. On July 5th, 2013, the Intellectual Property Appellate Board (IPAB) passed judgement denying a patent to Electronic Navigation Research Institute stating that the invention is a mere mathematical method falling under the non-patentability subject matter of section 3(k) of the Indian Patent Act.

D). Decision of IPAB

In the petition, ENRI, conducting research on air traffic communications, navigation and surveillance technologies, claimed that it had invented 'a system for calculating the chaos theoretical exponent value' and filed response to the first examination report (FER) in 2005.The controller general of patents and design, Trademark and Geographical Indications (CGPDTM), Mumbai, from the prima facie observed that the functions were based on mathematical methods for solving mathematical equations. The official stated that the provisions of section 3(k) do not allow mathematical methods to be patented as they will have technical effect. Hence, ENRI preferred the appeal. The petitioner contended that the invention teaches about a system which analyses the signal in the time domain using a method based on the Chaos Theory and calculating a chaos theoretical exponent value thereof. The jury, comprising Justice Prabha Sridevan and technical member D.P.S Parmer, dismissed the appeal and the verdict was given in the favour of CGPDTM stating that the invention was nothing more than "a mathematical method for solving mathematical claims which are further based on various algorithms".

Inference: Authors conclude that the claim(s) as claimed by ENRI essentially describes about a method and system for the cutting of a given speech signal and calculating the chaos theoretical exponent value with respect to the sampling time as the microscopic chaos theoretical exponent value. The calculation of chaos theoretical exponent value requires a set of instructions/mathematical formulae initially and the same get executed as computer program which indeed embedded inside the hardware. The principle claim of the invention teaches about a system for calculating the chaos theoretical exponential value. In the dependent claims, the inventor claimed only the method and did not teach anything about the system. The term "system" is unclear in the invention. The case not only falls under the section 3(k) but also under the section 10(4) (c) due to the lack of clarity in the principle claim. Moreover, title is inconsistent with the claims.

IV. CONCLUSION

In the near future, if the mathematical /business methods, computer program/ algorithms *perse* are patentable then there would be more patent wars than technical advancements. Only those who are rich enough to pay royalties, or those who benefited from government subsidies, or those who are powerful, richer and have capability to buy novel ideas for a huge will get access to the novel technologies. Section 3(k) of the act helps an individual/firm to develop new ideas which could be available to the common man/small IT firms and boost the research. Section 3(k) is not an obstacle to claim a patent or innovation instead it is a streamline to innovation, creativity and productivity

testing the originality and technological advancements of humans.

V. ACKNOWLEDGEMENTS

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THE NATIONAL IPR POLICY: KEY FEATURES, ISSUES AND CRITICAL APPRAISAL

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Abstract

As our economy becomes more knowledgeable, a need was felt to develop and enhance a policy framework that can incentivize creativity and innovation in the country and at the same time, balance the needs of the public. This balance has sought to be achieved by the National IPR Policy, 2016. This much awaited policy finally received the cabinet approval on 12th May, 2016 and managed to garner a positive response from all the sectors. This all-encompassing policy aims at establishing a holistic atmosphere, conducive for exploiting the full potential of intellectual property, for the economic, social and cultural development of the nation. The policy is one of its kinds, which involves every conceivable sector, right from a village industry, to an academic and research institution in the process of successful creation and utilization of IP on one hand, while balancing public interest on the other. India has a plethora of creative and innovative energy flowing ruthlessly, which if channelized correctly, will result in a global transformation of its economy. This has been rightly recognized by the said policy which provides for seven broad objectives, which are explained below in necessary detail, with the ultimate aim of developing an 'IntellectualEconomy'.

Keywords: *Policy, Intellectual Economy, National IPR Policy, Development, Social, Transformation.*

INTRODUCTION

National Intellectual Property Rights Policy was adopted by the Union Cabinet on May 12th, 2016. It recognizes India's well established TRIPS compliant legislative framework to safeguard IPRs, and seeks to balance India's developmental concerns by utilizing the flexibilities provided in the international regime.[1]

The Policy especially focuses on generating awareness about IPRs, and highlighting the importance of IPRs as a marketable financial asset and an economic tool. The Policy recognizes the importance of innovation and creativity in the growth and development of a knowledge economy. It equates innovation with generation of IPs. The twin focus of the policy is enabling commercialization of IPs through awareness generation; and easing administrative bottlenecks by easing procedures.

Copyrights, presently administered by the Ministry of Human Resources, are sought to be brought within the purview of the Department of Industrial Policy and Promotion (DIPP) to make them uniform with the other IPs. In order to boost commercialization and value for IPs, the policy proposes a study to examine the feasibility of an IPR exchange. Such dedicated IP exchange could facilitate investment in IP driven industries by bringing together investors and IP owners/users. The policy also urges the Government to explore the possibility of expedited examination of patent applications to promote manufacturing in India. The Policy also takes note of the rural and marginalized economy. It states that providing financial support to the less empowered group of IP owners or creators, such as farmers, weavers, artisans, craftsmen etc., through rural banks or co-operative banks, should be a priority. In order to expedite the adjudication of disputes, and ensure enforcement of IPR, the Policy suggests the setting up of dedicated commercial courts to deal with IP related matters. It also suggests that the possibility of resolving IP disputes through Alternative Dispute Resolution Mechanism should be explored.[2]

Strengthening of enforcement mechanism is yet another focus point of the Policy. This could be achieved by enhancing co-ordination among various agencies of the government as well as non-government players (such as the private sector and NGOs); and by encouraging application of technology based solutions in the enforcement of IPRs. Various other measures proposed by the policy include criminalization of unauthorized copying of movies, encouraging Corporate Social Responsibility (CSR) funds into open innovation and expanding capacity building in IPR through training, teaching, research and skill building.[3]

However, the Policy seeks to promote IP as an end in itself rather than placing it within the larger context of the innovation ecosystem. It suggests that publicly funded research institutions must convert their discoveries into IP assets, by linking career progression

[1] National IPR Policy of India and Innovation, Technical Report (July, 2016; Institute for Studies in Industrial Development); last accessed: 26 November, 2016, available at: https://www.researchgate.net/publication/ 305349240.

[2] National IPR Policy of India and Innovation, Technical Report (July, 2016; Institute for Studies in Industrial Development); last accessed: 26 November, 2016, available at: https://www.researchgate.net/publication/ 305349240.

[3] Jaffe, Adam B and Josh Lerner (2007): Innovation and its Discontents: How our broken system is endangering innovation and progress and what to do about it, Princeton: Princeton University Press.

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of the researchers in such institutions with the generation of IPs. This could impede the free flow of information in the long run.

HIGHLIGHTS OF MAJOR OUTCOME OF NEW IPR POLICY

According to Hon`ble Finance Minister ArunJaitley, there are seven objectives that guided the policy mechanism, which include IPR public awareness, stimulation of generation of IPRs, need for strong and effective laws and strengthening enforcement and adjudicatory mechanisms to combat infringements.[4]

- The policy also puts a premium on enhancing access to healthcare, food security and environmental protection. It is expected to lay the future road map for intellectual property in India, besides putting in place an institutional mechanism for implementation, monitoring and review.
- The idea is to incorporate global best practices in the Indian context and adapt to the same.
- This policy shall weave in strengths of the government, research and development organizations, educational institutions, corporate entities, including MSMEs, start-ups and other stakeholders towards creation of an innovation-conducive environment, an official statement read.
- The end product stimulates creativity and innovation across sectors and also facilitates a stable, transparent and service-oriented IPR administration in the country, it stressed. Giving due recognition to the growing criticality of IPR in the global arena, the blueprint makes out a case for increasing its awareness in India, whether it is owned by oneself or according respect to others.
- The policy, with a tagline of Creative India: Innovative India, also calls for updating various intellectual property laws, including the Indian Cinematography Act, to remove anomalies and inconsistencies in consultation with stakeholders. ArunJaitley also commented that, the aim is to create awareness about economic, social and cultural benefits of IPRs among all sections of society. The policy seeks to promote R&D through tax benefits available under various laws and simplification of procedures for availing of direct and indirect tax benefits.
- It also called for providing financial support to the less empowered groups of IP owners or creators such as farmers, weavers and artisans through financial institutions like rural banks or co-operative banks offering IP-friendly loans. For supporting financial aspects of IPR commercialization, it asked for financial support to develop IP assets through links with financial institutions, including banks, VC funds, angel funds and crowd-funding mechanisms.
- To achieve the objective of strengthening enforcement and adjudicatory mechanisms to combat IPR infringements, it called for taking actions against attempts to treat generic drugs as spurious or counterfeit and undertake stringent measures to curb manufacture and sale of misbranded, adulterated and spurious drugs. The Indian Cinematography Act, 1952, may be suitably amended to provide for penal provisions for illegal duplication of films, the policy said.

KEY FEATURES OF THE POLICY OBJECTIVES

1. IPR Awareness: Outreach and Promotion

The success or failure of any idea depends to a large extent on its outreach. How far the idea is successful in reaching the targeted segment, the strategies involved in promoting and popularizing the same, go a long way in defining the people's reaction and their acceptability towards any novel idea. This aspect has been rightly recognized as the prime objective of the policy. Gone are the days when 'Intellectual Property' was a mere topic of academic interest, or a rung in the ladder of success for the rich corporate. Today, in a country like India, with its rich and vibrant flow of creative and innovative energies, where many of the IP holders are either unaware of their capabilities to create an IP, or about the social, cultural and economic benefits of IP rights, or even worse are miffed off by the complexities involved in creating defendable IP rights, it is time to dispel this wave of ignorance and unearth the lost treasure of knowledge and creativity which lies trapped in the graves. The initiatives suggested to achieve this end include among others:[5]

- Adopt the slogan 'Creative India; Make in India'
- Organization of a nationwide program to create awareness about the benefits of IPR's, thereby fostering an atmosphere of creativity and innovation in the public and private sector, R&D centers, industries and academic institutions.
- Formulating customized programs for the different segments. i.e MSME's, startups, R&D centers, entrepreneurs, individual creators and so on.
- Special focus on the untapped rich heritage lying in the 'less visible' rural areas, by interactive campaigns, and other strategies, to instill the importance and benefits of IP among the rural masses.
- Create awareness programs specifically targeting the industry and R&D entities, by providing them a deeper

[4] Press Trust of India, How India's new IPR policy can boost R&D,innovation and entrepreneurship in the country. Available at https://yourstory.com/2016/05/indias-ipr-policy-innovation-entrepreneurship/ (Last visited on 12 Jan 2017.)

[5] National IPR Policy 2016: An Analysis, SwanitiIntiative, Available at http://www.swaniti.com /project/national-ipr-policy-2016-an-analysis/ (last accessed on November 24, 2016).

insight of IP protection and registration, and engage public funded and private research organizations, MNC's and corporate in the process.

- Include IPR's in school curriculum at the appropriate level.

2. Highlights of Major outcome of New IPR Policy

According to Hon`ble Finance Minister ArunJaitley, there are seven objectives that guided the policy mechanism, which include IPR public awareness, stimulation of generation of IPRs, need for strong and effective laws and strengthening enforcement and adjudicatory mechanisms to combat infringements.[6]

- The policy also puts a premium on enhancing access to healthcare, food security and environmental protection. It is expected to lay the future road map for intellectual property in India, besides putting in place an institutional mechanism for implementation, monitoring and review.
- The idea is to incorporate global best practices in the Indian context and adapt to the same.
- This policy shall weave in strengths of the government, research and development organizations, educational institutions, corporate entities, including MSMEs, start-ups and other stakeholders towards creation of an innovation-conducive environment, an official statement read.
- The end product stimulates creativity and innovation across sectors as also facilitates a stable, transparent and service-oriented IPR administration in the country, it stressed. Giving due recognition to the growing criticality of IPR in the global arena, the blueprint makes out a case for increasing its awareness in India, whether it is owned by oneself or according respect to others.
- The policy, with a tagline of Creative India: Innovative India, also calls for updating various intellectual property laws, including the Indian Cinematography Act, to remove anomalies and inconsistencies in consultation with stakeholders. Jaitley also commented that,
- The aim is to create awareness about economic, social and cultural benefits of IPRs among all sections of society... The policy aims to create and exploit synergies between all forms of IP, statutes concerned and agencies.
- The seven objectives of the policy, he said, include IPR awareness, stimulation of generation of IPRs, need for strong and effective laws and strengthening enforcement and adjudicatory mechanisms to combat infringements. The policy seeks to promote R&D through tax benefits available under various laws and simplification of procedures for availing of direct and indirect tax benefits.
- It also called for providing financial support to the less empowered groups of IP owners or creators such as farmers, weavers and artisans through financial institutions like rural banks or co-operative banks offering IP-friendly loans. For supporting financial aspects of IPR commercialization, it asked for financial support to develop IP assets through links with financial institutions, including banks, VC funds, angel funds and crowd-funding mechanisms.
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3. To stimulate the creation and growth of IPR's through aptly customized and strategized measures.

After organizing diligently customized awareness and outreach programs, the next objective identified by the policy is to generate an atmosphere conducive for the creation and growth of IP's. India is a treasure house of knowledge, with its talent pool spread across variety of sectors ranging from small village enterprises like handicrafts, pottery, artifacts etc, to R&D institutes, universities and technical institutes. The need of the hour is to unfreeze this fertile knowledge, and actively involve the prospective IP holders in the process of IP creation, by identifying their needs, and formulating appropriate measures to aid the process. The steps suggested to achieve this end includes amongst others:

- Formulating comprehensive IP audits across different sectors, to identify areas of strength and potentially viable areas, so as to formulate specific programs fostering IP creation.

Financial incentives in the form of:

- Reduced transaction costs linked to IP creation, right from its generation to commercialization in case of startups and grass root innovators.
- Tax benefits to promote R&D.
- Easy availability of loan guarantees schemes in order to encourage startups.
- Infusion of funds into public R&D units as part of corporate social responsibility.
- Include IP creation as a performance metric for public funded R&D entities as well as Technology Institutions.

[6] Press Trust of India, How India's new IPR policy can boost R&D,innovation and entrepreneurship in the country. Available at https://yourstory.com/2016/05/indias-ipr-policy-innovation-entrepreneurship/ (Last visited on 12 Jan 2017.)

- Expand the ambit of the 'Traditional Knowledge Digital Library'(TKDL).

4. To have strong and effective IPR laws, consistent with national priorities and international obligations, which balance the interests of rights owners with larger public interest[7]

The optimal use of the vibrant flow of creativity, innovation and knowledge can only be achieved if it is backed by a strong and balanced legal framework, compliant with the various international treaty obligations, flexible and continually updated with the changing circumstances and the need of the hour. This has been aptly recognized in the as the third objective of the policy, which amongst others provides for the following initiatives:

- Review existing IP related laws and rules, update them periodically whenever and wherever necessary to remove inconsistencies if any, and to promote transparency of operations.
- Provide for policy development in the area of protection of trade secrets, and also provide suitable legislative framework for technology transfers, and licensing for Standards Essential Patents.
- Actively engage in constructive deliberations of International agreements and treaties, in consultation with stakeholders.
- Identify important areas of study and research for future policy development.

Adopt measures to facilitate interplay between IP laws, and between IP laws and other laws to discard ambiguities, if any.

5. To modernize and strengthen IPR administration for cost effective grant and management of IP, and promoting user friendly services.

The IPR offices has engaged itself in administering and granting IP related rights, distribution of necessary research related information, are reflected to be of vital importance for the purpose of successful and well-adjusted development of the IPR system. With the increasing recognition of IPR, and its substantial contribution towards the economy of nation, the role of IP administration has also increased multifariously, resulting in the need for a dynamic IPR infrastructure, highly efficient and trained officials, well acquainted with the existing and amended IP laws and state of the art IP offices, cumulatively thereby nurturing a service oriented approach. This is the fourth objective of the new policy, highlighting the following initiatives amongst others:[8]

- To bring the administration and implementation of IP related laws, including the Copyright Act, 1957 and Semiconductor Integrated Circuits layouts Designs Act 2000 under the Department of Industrial Promotion and Policy (DIPP).
- To establish a 'Cell for IPR Promotion and Management' (known as CIPAM) under the guidance of DIPP, for creation, commercialization and promotion of IP assets.
- To restructure, revamp and upgrade IPO's, looking into the rapid growth of IP users, the higher responsibility and accountability and increased workload.
- To collaborate with various R&D Institutions, Funding Agencies and Chambers of Commerce, in order to provide advisory and technical services to improve the efficiency, management and utilization of the IP rights.
- To install mechanisms and required structures in the offices of the controller general of patent, designs and trademark (CGPDTM), in order to adopt best practices for docketing of documents, adhere to timelines when dealing with registrations, and disposing off oppositions and maintaining and digitizing records.
- To configure office of the Registrar of Copyrights to take initiatives for upgradation of copyright office, facilitation of e-filing process at all levels, digitalization of copyright records, introducing online database and search facility, and for effective management and administration of copyright societies.
- To prepare infrastructure for creation of common web portal, improving access to statutes, treaties, guidelines and other databases.
- To adopt standardized and uniform procedures in examination or grant of applications and maintenance of rights.
- To build strong interaction and cooperation with IP offices in other countries, to facilitate exchange of best practices and ideas.

6. Commercialization of IP

It is an undisputed fact that economic benefits to the IP owner in terms of monetary reward is one of the major factor that prompts such owners to come forth with more such commercially viable IP, thereby indirectly benefitting the Nation's Economy. The monetary benefits can be gained only if there is commercialization of the IP rights. Commercialization is the tool that enables the full realization of the financial value of the IPR's. The commercialization

[7]Jaffe, Adam B and Josh Lerner (2007): Innovation and its Discontents: How our broken system is endangering innovation and progress and what to do about it, Princeton: Princeton University Press.

[8]National IPR Policy of India and Innovation, Technical Report (July, 2016; Institute for Studies in Industrial Development); last accessed: 26 November, 2016, available at: https://www.researchgate.net/publication/ 305349240.

aspects of IP's has been recognized as the fifth object of the Policy, which in short aims at promoting 'entrepreneurship' with the following initiatives amongst others:

- It also tend to promote public sector initiatives for commercialization of IP's, and also licensing and technology transfers for IPR's, and also encourage collaborative efforts between R&D institutions, funding agencies and Academia.
- Take appropriate measures for the creation of a public platform, to act as a common database IPR's, thereby connecting creators and innovators to potential buyers, investors and funding institutions.
- It encourages MSME's and start-up's to acquire and create IPR's in other countries as well, by providing them with suitable incentive schemes.
- It also secures valuation of IP rights as intangible assets, by application of appropriate methodologies and guidelines.
- Promote going to market activities, by providing seed funding for marketing activities.

7. To combat IPR infringements, piracy and counterfeiting by strengthening the enforcement and adjudicatory mechanisms.

Mere encouraging innovation without securing a proper enforcement mechanism will achieve no ends. And for successful enforcement, it is primarily important to generate respect for IPR's among the general public, and also to sensitize the inventors and creators on measures for protection and enforcement of their rights. Secondly, there is a need for the capacity enhancement of the enforcement agencies at various levels, and also the IPR cells in the State police forces needs to be strengthened. This has also been very aptly recognized by the policy, which very correctly suggests measures such as holding workshops for judges to educate them on effective IPR adjudication, and also setting up specialized courts for dealing with IPR issues. Some other measures also include:

- Promotion of collaborative strategies by engaging with all levels of industry, pooling of the best practices both nationally as well as internationally, analysis of the extent of IP violations in various sectors, and also device appropriate measures for curbing digital piracy.

· Establishment of specialized IP cell for curbing IP offences, and engage in regular training of the offices involved in adjudicating such offences.

·

Role of Alternative Disputes Resolution in resolution of IP disputes.[9]

The role of ADR in resolving IPR disputes could be an intelligent way to reduce the burden of cases upon Indian courts. The following strategies could be adopted for the same purpose.

- Creation of a nationwide common database of IP offenders.
- Organization of regular workshop for judges to constantly keep them updated on the best practices of adjudicating IP disputes.

8. To strengthen and expand human resources, institutions and capacities for teaching, training, research and skill building in IPR's.

It is a well-known fact that apart from all the above mentioned initiatives, it is the 'Human Capital' that has the capability of converting an idea into reality. In this 21st century characterized by constant intellectual growth and development, the full economic potential of IPR's can be harnessed only with the aid of IP experts and professionals, skilled in the various spheres of IP administration and enforcement, and well versed with the laws and strategies in this context. Thus the need of enhancement, training and capacity development of IP expertise in the industry, legal fraternity, and judiciary and in the society as a whole is constantly felt. This importance of the Human Capital is recognized as the final objective of the policy, which suggests the following among other measures for the increased generation and utilization of the IP assets, thereby fostering their development.

- Strengthen IP chairs in Educational institutes of higher learning, to improve the quality and level of teaching and research.
- Introduce IP courses/modules in all major training institutes, and also introduce IP teaching as a part of the curriculum in schools and colleges, and also in other legal, technical, management institutes and so on.
- Aid to formation of associations like Industry association, creator association, etc, for the active discussion, training on IP issues.

PROBLEMS AND DIFFICULTIES

So far the length of this policy is concerned it is comprehensive one, encompassing the complete life cycle of a successful IPR within it. If we look at from starting i.e. creating awareness, to its successful commercialization and implementation, all the areas have been adequately covered. It has also been lauded as a well-balanced policy, equally balancing development and interest of the people on its two scales.[10]

[9]Mani, Sunil and JanakNabar (2016): "Is the government justified in reducing the R&D Tax incentives? Economic & Political Weekly, Vol 41, No 30, PP 22-25.

[10]Mani, Sunil and JanakNabar (2016): "Is the government justified in reducing the R&D Tax incentives? Economic & Political Weekly, Vol 41, No 30, PP 22-25.

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But at the same time, some inherent flaws especially in relation to the generic drug industry cannot be ignored. Concerns have been raised that the policy reveals nothing specific in the interest of the Generic Industries, except that India shall remain committed to the Doha Declaration on TRIPS Agreement and public health.

Comparative Analysis of the Issues surrounding IPR

	India	China	US/EU	TRIPS
Compulsory License (CL)				
Position	Section 84 of patents Act 1970 deals with it. Use it for the greater benefit of the public in certain areas like health.	New Measures for Compulsory licensing of patent implementation were introduced in 2012 replacing the order of 2003 & 2008.	Oppose strongly it due to excessive lobbying of corporate grants (like pharmaceutical companies)	Article 31 provides negative conditions on grant of compulsory licenses. It is to be granted only when negotiations for voluntary license with the patent holder, on reasonable terms, fail. Further, even when such license is granted, the patent holder has to receive payment.
Precedence	Granted its first CL in a pharmaceutical case (Bayer v/s Union of India).	Never granted to anyone in the past.	Have granted To some Companies during their Initial years of IP legislations but now doesn't grant.	
Arguments	Legitimate as per the TRIPS clauses.		Violation of the treaties; it is against the spirit of innovation and scientific discovery. The companies would not invest in R&D and there will be no incentive to manufacture new drugs.	
Impact	Might have an impact on foreign investment in manufacturing of drugs in the country. Access to cheap drugs to the Indian public.	Due to a more pro-business policy, current five-year plan (2010-15) and Unwillingness of government to impact trade with developed countries, China might not take this route; Emerging as a key negotiation tool with drug companies for government.	As major drug Discoverers and Manufacturers are here so these Countries are reluctant to engage in trade with those opting for CL route by imposing various Sanctions.	As a pro business measure, TRIPS seeks to promote grant of patents and restrict issuance of compulsory licenses.
EVERGREEN				
Position and Arguments	Section 3 (d) of IP act deals with it. Justifies on the grounds of significant improvement over the previous product. Merely changing the Basic formula/ composition or minor modifications cannot contribute to a significant discovery and hence does not warrant the awarding of a patent.	Have granted patents to the companies even with minor modifications or slight improvement in the original product composition.	Grants patents And allows ever greening of Patents thereby Allowing for Companies to Establish a monopoly over the patented product.	Does not specifically deal with the issue, however Article 27 lays down that patents should be granted for all inventions, either products or processes, in all fields of technology without discrimination.

The policy, though aimed at fostering innovation, the major thrust is on IP enforcement and hence does not adequately address the innovation gaps in the Generic drug industry, i.e. generating an atmosphere conducive to develop medicines to combat diseases often plaguing the third world countries, is not aimed at by the said policy. In this context, the concern raised by Mr. D.G. Shah, secretary general, Indian Pharmaceutical Alliance, over the disastrous effect of mere alteration in the legislative framework, without the necessary funding to secure access to medicine for all, on both the Generic Industry as well as on the people cannot be ignored.

Secondly the policy clearly states that it is open for necessary legislative changes, as and when the need arises. Further, it is also very evident that India is

under tremendous pressure from the developed countries to amend its patent laws. In such a scenario, a fear always looms that the 'suitable legislative changes' should not proceed in a direction solely favoring the Global Pharma Companies. Rather than a lacuna, this can be rightly termed as a genuine fear, and the recent grant of patent to the Hepatitis-C drug 'Sovaldi', manufactured by 'Gilead', reversing its earlier rejection by the patent office last January, does nothing to douse this fear. (The drug is reportedly the costliest medicine in the world, priced at $1000 per pill in the U.S. by its manufacturer.)

To conclude, it can be rightly said that on the whole, the policy is a positive step in the process of creating a 'dynamic, vibrant and balanced intellectual property rights system', with the aim of uplifting India to the highest rung in the global intellectual property arena, and also adequately providing for the reasonably foreseeable challenges that may plague the Indian Intellectual property industry in the future. But again, much of its success depends on the immediate and efficient implementation of its objectives, backed by a strong legal framework, without which, the policy would be rendered nugatory, and will remain active only on the paper.

CONCLUSION

Intellectual property rights (IPRs) will become an important pillar in India's future growth story. By providing an impetus to local research and innovation, IPR could provide a boost to economic activity in all sectors of the economy. But equally importantly, a national IPR regime needs to balance the interests of foreign manufacturers and innovators with those of indigenous innovators – particularly budding entrepreneurs and small and medium enterprises. It further needs to ensure that the interests of the weakest and most deprived sections are not jeopardized – especially in social sectors like health. These conflicting pulls and pressures can be managed only through a stable and predictable IPR policy. The National IPR Policy is a significant step in that direction.

The policy does seek to balance the goals of economic growth and social justice, and makes important recommendations towards the same, as noted in this brief. However, there are some areas where the document could have made more comprehensive recommendations. In particular, it would be important to ensure that India's rich repository of traditional knowledge – particularly in areas like medicine – is offered the same level of intellectual property protection as other products and processes. The policy suggests some measures in this regard, such as expanding the ambit of the Traditional Knowledge Digital Library (TKDL) to also include fields other than Ayurveda, Yoga, Unani and Siddha; and a generic suggestion to promote India's rich traditional knowledge, something more specific would have been more impactful.

It is equally important for state governments to play the role of constructive partners in creating and maintaining a robust, equitable and predictable IPR regime. They need to do this by establishing State Level Innovation Councils and strengthen them through financial and other support. They also need to organize awareness drives to sensitize their people about the importance of IPR. In this, higher education institutions will need to play a pivotal role. The Policy does mention that the Union should work closely with the state governments for curbing IP offences, and to include them in the broad consultation process, it falls short of suggesting anything concrete for a more active involvement of the states in the proposed IPR roadmap. Overall, this policy document is a significant, though not entirely adequate, step forward towards evolving a holistic, just and fair IPR policy regime.

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START-UPS AND ENTREPRENEURSHIP ARE CRITICAL TO INDIA'S EFFORTS TO RESTART PRIVATE INVESTMENT INTO THE ECONOMY

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Abstract

This initiative is an effective effort by the government to assist startups in starting new business ventures especially those with innovative ideas and skills. It will help in improving the status of small and new entrepreneurs as well as creating new job opportunities for others. PM Modi has requested to each banks to support at least one dalit and one woman entrepreneur in opening their business. There is no lack of talented and skilled youths with innovative plans in India however they need some effective support to be encouraged and go ahead without fear of getting failed. All the IITs, central universities, IIMs, NITs and other institutions of India were live connected to each other for the successful launch of this campaign. India is seventh-largest country by area and the second-most populous country with over 1.2 billion people. Large population implies a large potential market in India; however, it also leads to heavy employment pressure in Indian society. In recent years the self-employment consciousness among college students are increasing and the students are less likely to rely on parents or schools or wait for opportunities. Instead, they tend to take initiative to look for new chances for themselves. This research aims to investigate the challenges of financing startups in India. This paper is intent to explore the main difficulties faced by startups in India, and discuss the financing resources of startups in India by Using a literature-based analysis.

Keywords: *Startups; Financing; SMEs; Venture Capital; Graduates*

INTRODUCTION

Definition of Startup A startup company or startup or start-up is a young company that is just beginning to develop. Startups are usually small and initially financed and operated by a handful of founders or one individual. These companies offer a product or service that is not currently being offered elsewhere in the market, or that the founders believe is being offered in an inferior manner. In the early stages, startup companies' expenses tend to exceed their revenues as they work on developing, testing and marketing their idea. As such, they often require financing. Startups may be funded by traditional small business loans from banks or credit unions, by government sponsored Small Business Administration loans from local banks, or by grants from nonprofit organizations and state governments.

STARTING UP TO STAND STILL

The Start-up India Action Plan lists out a comprehensive set of structural and regulatory reforms in order to achieve this. Income tax exemption, easing compliance through reduction of regulations and having fixed qualifications as to what a 'start-up' is, were expectations at the top of the entrepreneurial bucket-list.But the Action Plan goes further. It goes on, for instance, to provide an 80 per cent waiver on patent filing fees by start-ups, provide advisory services and create a Rs.10,000 crore fund-of-funds which is to be managed by professionals drawn from the private sector. These are just a few of the 'sweetheart' deals for start-up entrepreneurs under the Action Plan.

MONEY MATTERS'FUND-OF-FUNDS'

But the Action Plan also appears to have a few flaws which need to be addressed. For instance, it sets up an 'Inter-Ministerial Board' led by the Department of Industrial Policy and Promotion which 'validates' the innovative nature of an enterprise, thereby qualifying it as a start-up – an involvement of government in this ecosystem that is hardly desirable. It also requires a start-up to obtain a recommendation from an incubator in order to be eligible. The most obvious and tangible benefits to start-ups under the Action Plan are the tax breaks and funding support. The Action Plan waives income tax on profits for a period of three years and also exempts taxes on capital gains which are invested in the 'fund-of-funds'. This move will help to reduce cash outflows and bring down the cost of running a start-up. In conjunction with the waiver of the 'angel investor' tax under the Finance Act, 2013, start-ups now can have improved access to funding opportunities. Pending reforms like the GST regime, would also make it easier for small start-ups to operate across the country. The Rs.10,000 crore 'fund-of-funds' is a significant financial commitment by the Government under the Action Plan. It is set to start with Rs.2,500 crore initially with the amount set to recur for 4 years.

This mega fund will not directly invest in start-up ventures. Instead, it will do so via SEBI registered

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venture funds. This fund will contribute a maximum of 50 per cent of the daughter fund size, providing a significant boost to the corpus of investments that start-ups have access to. It is important that this corpus is not managed by Politicians or bureaucrats, but smart, savvy fund managers who have a track record on investing. On the cost saving side, an 80 per cent rebate on patent filing costs alongside an exemption from having 'prior-experience' to be eligible under the public procurement process are steps taken to promote tech-based start-ups in particular. While tax incentives, cost saving measures and funding support will undoubtedly drive up investment into innovative start-ups it is essential that the government not lose sight of non-tech start-ups. It should make special provisions to ensure that this support structure extends to the agriculture, manufacturing, and handicrafts sectors.

EASE OF DOING BUSINESS

Promoting start-ups by improving ease of doing business is clearly at the forefront of the Action Plan. A significant benefit a start-up accrues under this policy is the waiver from labour inspections for 3 years.Now, anyone who has run a business and navigated the maze of bureaucracy understands the quagmire that labour laws can be, especially for a start-up. Along with the ease in environmental checks, these changes to labour inspections are a step in the right direction — particularly for those start-ups which are based in the manufacturing sector. But the Action Plan exempts starts-up from inspection under a fixed number of labour laws — six to be specific. There are about 45 laws at the central level and about four times this number at the state level. The Centre needs to work with the States to ensure a smooth rollout of the benefits under the Action Plan and avoid discord between policies at the two levels.

'START-UP INDIA HUB'

This campaign was launched with its complete action plan on 16th of January in 2016 by the Modi government. This is a scheme which will promote bank financing for start-ups means youths of country. It will also offer incentives to them in order to boost entrepreneurship and job creation in the country. This programme is a big step taken by the Indian government regarding development in India by encouraging entrepreneurship among youths. According to this scheme, each of the bank branches will support at least one Dalit, Adivasi and women entrepreneur in order to easily encourage them. It will be proved very effective scheme in the development of India as it encourages and enables start-ups of the country who have strong mind and innovative ideas (necessary to bring nation on the new track).

This initiative will be proved a new dimension to the entrepreneurship and help new comers in setting up their businesses as well as make a live network of start-ups through connection. Highly skilled and multi talented youths of the country will be completely benefitted through this campaign and able to generate new jobs. This campaign is the result of commitment of Modi government to make India a developed country by 2022 with the availability of house, electricity, job and other basic needs to all.

WHAT IS STARTUP INDIA STANDUP INDIA CAMPAIGN

There is facility of incentives for manufacturing units to generate more jobs. Such initiatives are warm welcomed as they are very necessary to enhance the economic growth, betterment of people's lives and making India a developed country. Startup means youths of the country who have ability to standup India however need some help by the government. This programme is a big help to all the talented startups to look so far to lead India. At least one dalit or tribal entrepreneur and one woman entrepreneur will be supported by each of the 1.25 lakh bank branches in India. A new campaign named as Startup India, Standup India was announced by the Prime Minister Narendra Modi during his speech on Independence Day 2015. This is an effective scheme launched on 16th of January 2016 by the Modi government to help youths of the country. This is an initiative by the Indian PM to give opportunities to the youths to become industrialists and entrepreneurs which need the establishment of a startup network. Startups means youths of the country will be supported through finance from banks to strengthen those startups better so that they can create more employment in India. This programme is a big start to enable startups through financial support so that they can use their innovative ideas in right direction. PM has also requested to all the banks to support at least one dalit and one woman entrepreneur. This scheme will motivate and promote new comers towards business and grow their career and economy of the country.

ACTION PLAN OF STARTUP INDIA STANDUP INDIA SCHEME

A complete action plan of this scheme was launched on 16th January 2016. This scheme will boost entrepreneurship in the country at grassroots level ensuring youth benefits from the lowest strata of society. Youths have fresh mind, new ways, and new thinking so they are better to support as startups. Various IITs, NITs, central universities and IIMs of India were connected through the live connectivity during the successful launch of campaign. The main

aim of this scheme is to promote bank financing as well as offer incentives for start-up ventures to boost the entrepreneurship and new job creation techniques among them. The Action Plan also creates a centralised system under the 'Start-up India Hub' which assists start-ups by providing advisory services on financing, business structuring and improving management skills. It also provides for a mobile app which allows start-ups to self-certify themselves and also acts as a single point of contact between entrepreneurs, regulators and the government. This is a positive move in simplifying the registration process. This is perhaps the most pertinent question which has been answered by the Action Plan. In order to obtain the wide ranging benefits which have been detailed in the 40-page Action Plan, it is essential for an enterprise to qualify as a 'start-up'. An uncontroversial requirement, but the devil is in the details. The Action Plan requires an enterprise or partnership to be innovative by developing and commercialising a new product or service — a step to promote truly innovative ideas. But it institutes an inter-ministerial body led by DIPP to examine whether an enterprise is 'innovative'. It also requires a 'recommendation' from an incubator setup by the government or be supported by an incubator in a post-graduate institution recognised by the government — this need for validation and recommendation goes against the very steps the Action Plan takes to reduce government involvement. This additional layer of bureaucracy could slow down the starting up process and needs to go.Start-up India is consistent with the PM's call for innovation when he launched Digital India. The Start-up India Action plan is a good start to this – but will need continued support and evolution to make this a true, deep revolution for the youth of India.

CONCLUSION

This initiative is the necessity to lead India in right direction. The most important point about this campaign is that it involves youths of the country as start-ups as they have fresh mind, innovative ideas, required strength, energy, skill, and new thinking to lead business. Youths are the energetic and highly skilled section of the society so they are better target for this campaign.

This initiative seeks the participation of almost all the major higher educational institutions in India through the online connectivity in order to be successful. This programme will help India to be a start-up capital of the world. The complete action plan of this scheme has been launched with the launch of Start-up India Stand up India campaign. Establishing a high-level, inter-ministerial panel has also been planned to create a friendly ecosystem to look after the innovation as well as evaluate startup proposals to ensure that whether they are qualified for incentives or not. India is a country of many great legends who were famous all over the world because of their works, sharp mind and high skill. However, our country is still on the developing track because of the lack of some solid support and ways to work in right direction. Youths in India are very talented, highly skilled and full of innovative ideas. This scheme is a big help to them to go in right direction using their new and innovative ideas.

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HARMONIZATION OF PATENT REGIME: ISSUES RELATED TO PRIOR ART AND PATENT ABUSES

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Abstract
In the present time, the intellectual property right is emerging as a major discipline of studies and discussion. In the same context, the un-harmonized patent regime can be seen as one of the major challenges. Despite the presence of TRIPS and WTO, the patent law and practices of the patent office is still very dissimilar in a different part of the world. The shift in the First to File from First to Invent in US patent regime is a step towards the same however, there are still lots of issues needed to be discussed and resolved. One among all the issue is the way prior art is seen in the different patent regime, how the different jurisdiction analyzes the prior art differently, the different operational definition of the prior art and few patent cases of abuse which may appear due to the operational definitions and practices of patent offices. In this paper, we have studied various issues related to the prior art which is needed to be studied for harmonization of patent regime. All the discussion in this paper is around four patent regimes i.e. US, EPO, China, and India. The paper is divided into two parts. In one part the analysis of the operational definition of the grace period, prior art for divisional, secret prior art and examination strategies, with respect to the prior art, adopted by the patent examiner, or patent office practices, in the different jurisdiction are studied. Further, we have tried to analyze how different problems and differences have emerged in different patent regime due to the different operational definition of the various elements such as grace period used to define prior art, secret prior art, prior art for divisional and practices of the patent office in dealing with prior art. In the other part, the paper discusses few patent cases of abuse or problem which has emerged due to the patent office practices and the US, EP and Japan patent regime. In this section, we try to see how the different practices of US patent office and legal structure has led to the abuse of the patent system in the US. Also, the problem of the Patent thicket in EPO and Japan is discussed. We have also attempted to provide some solution for the same. In the end, the paper gives some recommendations which may be important for the harmonization of the patent law.

Keywords: *Section 3(k), patent act, mathematical, business, CRI*

I. INTRODUCTION

The history of patent harmonization can be traced back to Paris convention for the Protection of Industrial Property held in 1883. But nothing substantial happened until 1991 when provision related to the terms of patent protection and rights conferred by a patent were incorporated into the TRIPS (Trade Related Aspect of Intellectual Property Rights) agreement. However, there was no consensus on the issues such as Novelty, etc.

In the year 1995, the patent law treaty was adopted which was seen as a consolidated step towards the harmonization. Attempts were also made by WIPO to formulate Substantive Patent Law Treaty (SPLT), but negotiation was put on hold in 2006 after deciding the scope of discussion, which was to be limited to prior art, grace period, novelty, and inventive steps only.

In this paper, an attempt is made to asses why Prior art, with emphasis on the secret prior art, or Grace Period are two important aspects for harmonization in the patent regime. In addition, the paper is further trying to assess the differences in examination strategy adopted by the different patent office which may impact the harmonization process. In the end, the paper looks into the different kind of abuses and their causes which have appeared in US and other patent system which may impact the harmonization of the patent regime and also need to be considering while formulating rules for a harmonized regime.

WHY HARMONIZATION OF PATENT REGIME IS NEEDED

One major reason patent harmonization is promoted is the rising cost to obtain the patent protection of an invention worldwide. According to the estimates for the year 2008, if a company wants to have IP protection in Japan and US then they need to spend around $19000, and this analysis doesn't include the cost of prior art searching, drafting and other kind of pre filing cost and attorney cost (Chun 2011). Also, if we include the legal cost, then the legal cost can be around $10,000 to $30,000 that too just for US patent. (Peters et al. 2013).

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A patent law firm Richards Patent Law states that for drafting a patent application one has to pay $8,548.00 for a 10 page patent application and that will increase if the complexity of the invention is more. And if we just assume that drafting principals are different in different countries then one may have to spend money in each country to fulfil the requirement of each country to write the similar thing. Also, different legal requirement for different countries generates various other transaction costs such as i) costs of collecting information, ii) costs of legal disputes, iii) costs of setting incentives for pushing through legal claims, and iv) other transaction costs (Chun 2011).

Another important argument given in the support of the harmonization is the duplication of the work. The same invention is filed in many countries, and the invention is examined for the prior art in each jurisdiction. Nearly 242,000 application were duplicated in the three patent office (US, EU, and Japan) in 2006 (Chun 2011). It is found in the previous studies that if the patent laws are harmonized then this duplication can be avoided and patent quality can be improved using work sharing strategy (Landers 2013; Chun 2011). Many more studies were conducted on the cost benefit analysis of the harmonization of patent regime which are not discussed since main focus of the paper is prior art and issues around prior art.

PRIOR ART

Prior art is a very integral part of the patent regime of any jurisdiction. Perhaps, European patent office (EPO) provides the best one line definition of the same: "*Prior art is any evidence that your invention is already known."* The EPO further defines that the prior art can be anything; it may be published or not published. Though the concept of prior art seems simple by definition but it is equally complicated. Every country define prior art (*or we can say novelty requirements for granting a patent*) differently (Nevpryaga 2011; WIPO 2010), and that is where complexities begin. Initially, the patent act was designed to promote local innovation and development which were limited to national boundaries, but with time, Intellectual Property (IP) became a global subject (Chun 2011). Since the prior art is differently perceived by different countries in their patent act, it was seen as a major road block towards the harmonization of patent regime (Cronin & Vanderheyden 2015) and it is evident from the fact that WIPO considered novelty, prior art and grace period, which is somewhat related to prior art, as topics of discussion while discussing the formation of SPLT.

One important point here is that in 2006, when the discussion points about SPLT were decided, America had a complete different set of rules for determining the basic prior art. At that time, anything which was orally disclosed outside US was not considered as prior art, unlike most of the other countries. In addition, America had 'first to invent' patent system while most of the other countries were using 'first to file' patent system. Also, China also had similar provisions which doesn't identify oral disclosure or use outside of China as prior art (Lin et al. 2004). However, the China and US both amended their patent act in 2009 and 2013 respectively and adopted an absolute novelty approach (Galgano 2014). As of now most of the countries have adopted the absolute novelty approach however differences still remains when it comes to grace period and secret prior art.

Grace period is a limited time period given to a patent applicants in which applicant can file a patent application after the public disclosure of the invention. The grace period prevents the disclosure made by the inventor, about his invention, from becoming prior art against his patent application for a limited time period (WIPO 2010). The rules under which the grace period is given are different in different jurisdictions.

Secret prior art is the art that is not available in the public domain as of the filing date or invention date of the relevant patent application (Nagpal 2015). Both the concepts are discussed in detail in the following subsections.

GRACE PERIOD

The grace period is one of the most conflicting things when it comes to harmonization of patent regime. The US and India adopt much broader perspective and provide a grace period of 1 year and conceptually allow inventor to make any kind of disclosure. On the same hand, EPO have given very less freedom in this aspect provide only 6 months in grace period that too if the disclosure was without the consent of the inventor. EPO also provide a grace period of the same duration for displaying the invention in officially recognized international exhibitions. China grace period policy is little broader then the EPO, and they also consider display of invention in scientific or public meeting eligible for the grace period. Now, if one goes by the books, then it can easily be pointed out that any

accidental disclosure by the inventor can affect the perspective of patenting in Europe and China. Also, if a person wants to market their invention before filing for patent since patenting is a very costly affair as already discussed in the previous section, one has to be really cautious if their perspective market is Europe and China. Some studies has found that many invention which were invented in Europe are not protected by patent in Europe because of the lack of grace period (Edmondson 2013).

If we consider the harmonization of the grace period in the present scenario the countries which are leading globally in patent applications, i.e., Japan, and Korea , they are tending to expand grace periods Japan ranks no. 1 globally in patent applications and Korea is no. 4, just behind the US and China much ahead of Germany, France and the UK (Edmondson 2013). In 2012, Japan expanded its grace period to include more or less any form of disclosure by the inventor, including sales in the realm of grace period. Korea also extended its grace period from six to 12 months in March 2012 and also included that any form of inventor disclosure not to be marked as prior art during the grace period (Edmondson 2013). Despite all these, the basic definition and scope of the grace period was harmonized, but the procedural things were still different. So the differences around the grace period persisted. For instance, US doesn't count the disclosure made by third parties as prior art during grace period. On the other hand, Japan only allow the grace period for those documents which were identified by the inventor in the proof document (Edmondson 2013). Also, the Japan give a 6 month grace as compare to 12 month provided by the US. (Edmondson, 2013).

Intellectual property office of Britain conducted a comparative study between US and UK to find out the impact of grace period. It was found that US has advantage for the businesses because of the grace period (IntellectualPropertyOffice 2015). It was also pointed out in the same study that academic institutions rely mostly on the grace period and many inventions could be patented in US only because of the grace period. On the same hand, many couldn't be patented in EPO because of the lack of grace period.

If the grace period is not given to the inventor, then the inventor always have a fear that their own invention may become the prior art for their patent (ARMITAGE 2003). The empirical studies conducted also brought out a point that due to unavailability of the grace period inventor doesn't disclose their complete invention in the academic publication for a long time. Further, whenever the inventor is aiming for the international market he also avoided the use of grace period, which also delayed the complete disclosure of the invention into the public domain. It was also seen that the quality of patent increase significantly if the grace period was present. (Franzoni & Scellato 2010). In the same study, it was concluded that an efficient international law should include the grace period.

SECRET PRIOR ART

The treatment of the secret prior art is another important aspect, which differ in different jurisdictions. The same is also termed as the conflicting application (Helfgott 2013).

Table 1: Differences between prior art and secret prior art (Nagpal 2015)

	Prior art	Secret Prior art
Type of art	Any type of public disclosure such as article, patent application, a patent, a conference proceedings, etc.	Only patent application or utility modal
Geographical restrictions	Prior art can be from anywhere	Geographical restriction apply as secret prior art should be from same territory
Public domain	Prior art is available in the public domain at the filing stage of a patent application	Secret prior art is not available in the public domain at the filing state of the patent application
Worldwide treatment	The treatment of prior art in different patenting systems is largely the same	Secret prior art is considered differently in different patenting systems
Novelty and inventive steps	Prior art poses bar for novelty and obviousness both	Majorly, secret prior art poses bar for Novelty only with few exceptions such as the USA, where it can be considered for obviousness rejection as well

The secret prior art are those documents which are yet to be published and are not available in public domain. In most of the jurisdiction, geographical restrictions are applied while dealing with the secret prior art. Generally, secret prior art is not scrutinized over obviousness parameter, but USA is the exception among major patent filing jurisdictions. The same is summarized in the Table 1, taken from (Nagpal 2015).

Like the grace period, issue of secret prior art is also complex enough. How much the issue is complicated

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can be understood from the following figure 1 showing a comparison how secret prior art is dealt in IP5 countries, five countries with maximum patent applications:

Comparative table of "secret prior art"

Identicalness of both inventions	Required		Not required
	Photography novelty	Enlarged Novelty	Novelty And Obviousness
	EPC	JP, KR, CN	USA
	Easy ◄·····► Difficult Difficulty to overcome		
Exception by same applicants/ inventors	Yes (Non self-collision)		No (Self-collision)
	JP, KR, USA		EPC, CN

Figure 1: Comparative table for secret prior art in IP5

The European Patent Office require photographic Novelty which means that earlier filed application has to be identical of the later filed application to be consider as prior art and all variations and any incremental innovation is considered as novel. This feature of EPO has allowed innovator to claim minor innovation and has allowed them to create a patent thicket around a invention more easily (Helfgott 2013). However, in Japan, Korea, and China photographic novelty is not required for earlier filed application to be considered as prior art. Instead, conceptual similarity will also be considered as the prior art. However, US has most strict rule for dealing with secret prior art, and any previous filed application is scrutinized on the basis on of both the novelty and obviousness. This way it becomes difficult for an inventor to claim the incremental innovation for a previously filed patent application, theoretically. (Helfgott 2013).

In addition to this, secret prior art in EPO and china has a self-collusion effect which means that secret prior art of the same inventor will also be counted as prior art. But in USA, Japan, and Korea the secret prior art does not have self-collusion effect.

Also, things become more complicated when we see which part exactly will become the prior art from the earlier filed application. Like in India only prior filed claims will be considered for secret prior art. That means if the same invention is been claimed earlier then only the earlier application will be considered as prior art otherwise not (Nagpal 2015). Somewhat same practice is seen in the Japan where the portion of the earlier filed invention which is not claimed yet can be claimed in the later filed application by the same inventor by doing any minor increment. This practice in Japan has allowed inventor to build a patent thicket around his invention more closely then permitted in EPO (Helfgott 2013).

If considering the PCT applications, the rules are more or less are same, and it is considered as prior art only if the PCT was marked for the respective country and if PCT was published in the official language. However, post AIA (America Invent Act) US consider any PCT marked to US in any language as prior art. (Nagpal 2015)

A lots of literature can be found about the secret prior art. However, the main objective of this section was to introduce the complexity around secret prior. So this section can be concluded that the issue of secret prior art is also need to be resolved if we want to achieve a better patent harmonization.

EXAMINATION OF THE PATENT APPLICATION

Whenever a patent application is filed with the patent office, it is examined for the novelty. Every patent office has different way of examining the patent application. In this subsection, we will see how EPO and USPTO have adopted different examination practices. It will be tried to assess the possible implication due to the differences.

In EPO, when it comes to the examination of the patent application, the EPO examine the application on basis of the subject matter of the patent application. In general, the claims prove to be sufficient for the scope of invention but sometime there are multiple inventions present in the disclosure then the inventor is intimated, and only a limited portion of the disclosure is searched. Also, the applicant is advised to formulate the claims on the part of the disclosure on which the search is made. The applicant may also be given a time frame of two months to highlight the area of search (Rule 62a and 63) However; the applicant can file divisional application to claim the unclaimed subject matter. The EPO restrict the addition of any new matter into the divisional application and the broader claim, in comparison to the previous filed application, is not granted.

On the other hand in US search is done on the basis of the claimed subject matter by the applicant (Section 1.104, Nature of examination, of the patent rules of USPTO). And in case if there are multiple inventions in the disclosure then the applicant can file the divisional to claims rest of the subject matter. The examiner has

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no responsibility to identify the extra subject matter. However, the applicant is not allowed to claim more than one invention in one patent, and if the examiner founds that the applicant is trying to claim more than one invention, then the applicant is asked to choose one invention for the examination. The applicant can always go for the divisional application in case he wants to claim the other unclaimed matter. Further, the applicant can add into the previous subject matter and file a continuation application. This concept of divisional and continuation has resulted into widespread abuse of the patent system (Lemley & Moore 2003).

Now why the search strategy matters? The search strategy matters because if an applicant accidently discloses more than one invention in a single application then in US the applicant may not have to worry about it since he always can use the concept of continuation and file another application without losing the priority date. However, in EPO any such disclosure may prove to be costly to applicant since in EPO applicant are not allowed to add any new subject matter in divisional (Rule 36). Also, if due to any drafting error narrow invention was claimed then in EPO broader invention cannot be claimed at a later stage. However, in US such practices are allowed (Lemley & Moore 2003).

Due to these things feature of the EPO, the applicant may have to remain more cautious while drafting the patent application for EPO which proves to be more costly to applicant. Further, Yi Deng in his paper concluded that the uniform examination and granting procedure at the EPO has effectively eliminated the inter-country differences in the patentability standards and have increased the quality of the patents. It has also significantly decreased the differences in patent value across these countries (Deng 2007). In the next section, a brief discussion on the patent abuses is present. The issues of the patent thicket in EPO and Japan are already discussed in the earlier section. Hence the next section will look towards the patent abuses in the US patent system.

ABUSES IN US PATENT SYSTEM

Due to the presence of loop holes, the law can be abused to draw more benefits. Same things has happened with the US patent act in past. The abuses are important to discuss because if the patent system is harmonized then, these abuses will have larger impact in the harmonized regime.

The abuses which we will discuss are following:

Burying (Over disclosure)
Non-disclosure of the prior art (Under disclosure)
Abuse of the continuation.

BURYING (OVER DISCLOSURE)

US patent act put a responsibility on the applicant to disclose all the relevant prior art, applicant knows, in good faith (Steensma et al. 2015). However, at times it has been seen that the applicant discloses the unnecessary references which are not at all relevant to the patent application. This practice is used to hide the relevant references among large flood of references (Taylor 2012). It has been seen that if lots of prior is disclosed in the patent, then it is difficult to invalidate a patent in the later litigation. (Cotropia 2009). Due to this practice of the inventor, the work of patent office has increased and if any reference is missed, due to huge number of references, by the examiner then some patents are issued which were too broad for the state of the art (Taylor 2012). Also, due to this practice of the applicant the examiner doesn't even look at the submission made by the applicant and solely rely upon his own search. But when the patent is in court, it is assumed that all the citation were analyzed by the examiner(Cotropia et al. 2013; Taylor 2012). Due to this habit of the applicant and court's attitude, it becomes difficult to invalidate the patent with large citation at a later stage (Cotropia 2009).

NON-DISCLOSURE OF THE PRIOR ART (UNDER DISCLOSURE)

Like we saw in previous section how the applicant discloses too much amount of information to the patent office to get a help from it at a later stage. Sometime it happens that the inventor doesn't disclose the relevant prior art which is known to the applicant in a hope that he may get a broader patent then he deserves. (Cotropia et al. 2013). The main encouragement of doing so is the high litigation cost in the US (Mann & Underweiser 2012). This also have led to the abuse of US patent system and many fraudulent patent were issues in past. (Mann & Underweiser 2012) and one of the best example of this case is the patent issued to Amazon for photography with a white background recently.

Both the over disclosure and under disclosure are use to abuse the patent system. The abuse happens mostly

because of the loose implementation of the law. So there is a need to learn from these two abuses so that no such issue could incorporate in the harmonized patent regime.

ABUSE OF THE CONTINUATION

US patent system allows an applicant to do incremental innovation in the previously filed application as described in the previous sections. Also, the US allow inventor to claim the narrower claim first and then the broader claim with the same priority using the divisional application (Lemley & Moore 2003). This system is highly misused by the inventor in US. They first claim a narrow patent and kept filing the divisional and continuation application to extend the examination period and whenever the technology matures they claim the broadest possible patent to capitalize on the market. (Lemley & Moore 2003). The study conducted by Lemley & Moore concluded that it will be beneficial if we just end the practice of continuation since it is more used for the patent abuse then to help an applicant.

CONCLUSION

One of challenges for the modern world is to create a harmonized patent regime. The attempts are made in the same field, but they were mostly failed due to wide differences in the law and the practices of the patent office.

In this paper, we tried to see the problem directly or indirectly related prior art in harmonization of patent regime. We saw that the even after the harmonization of basic definition of the grace period lots of differences are still there in the practice which needs to be harmonized. The other issue we highlighted was the issue of secret prior. Secret prior art poses many issues as practices adopted for dealing with secret prior art is not uniform and have lead to the issues of patent thicket in EPO and Japan. Also, one area where not many people have looked is the examination practices. The examination practices in EPO are different from the examination practices in US. The literature in this dimension is not much present. It was postulated in the paper that these practice may affect the drafting cost of patent. Also, these differences may become relevant in the harmonization of patent regime.

In the other section, we discussed in brief about few abuses present in US patent system which are over disclosure, under disclosure, abuse of the continuation and issue of patent thicket in EPO and Japan. These are few issues which have come up due to the practices adopted by the patent offices and legal structure.

The most important conclusion of this paper is that while following the process of harmonization, we need to learn from the shortcomings of various patent offices and legal structure which result into the abuse of the patent system. Also, while harmonizing the legal clauses and definition we need to we need to define the procedures and practices which could be well accepted by a harmonized patent regime.

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INTELLECTUAL PROPERTY RIGHTS AND ITS COMMERCIAL ASPECTS FROM BENCH TO BEDSIDE FOR BIO MEDICAL DEVICES IN AN INSTITUTE OF INDIGENOUS DEVELOPMENT OF TECHNOLOGIES

Rajkrishna Rajan*

Abstract
The technology of developing medical devices gets realized only when the knowhow and the Intellectual Property Rights are translated into products that would reach the industry and finally to the patients. This can be facilitated through involvement at different stages of the development supporting the development team to attain the final goal of translating the products from the bench to the bedside. The intellectual property considerations at various stages of the product lifecycle for a medical device/ is considered and discussed. Before keeping the product in the market we have to consider how best to protect our new medical device.

1. INTRODUCTION

Medical devices in an SCTIMST which focuses on high quality indigenous development of technologies for biomedical devices and materials cover a broad spectrum of products from pH SENSITIVE NANO PARTICLE FORMULATION FOR ORAL DELIVERY OF PROTEIN/PEPTIDES to highly technical complex and bespoke products such as surgical implants like AN IMPROVED HEART VALVE ASSEMBLY. The list also includes diagnostic kits and delivery systems for drugs. add more details on the impact and commercialization .

1.1 From bench to bedside

The technology gets realized only when the knowhow and the Intellectual Property Rights are translated into products that would reach the industry and finally to the patients. This can be facilitated through involvement at different stages of product life cycle of the development supporting the development team to attain the final goal of translating the products from the bench to the bedside.

After developing a medical device & before placing it on the market intellectual property protection has to be taken. The intellectual property considerations at various stages of the product lifecycle for a medical device/ is considered and discussed. There should me some lines on importance of IP.

1.2 Stage Of "Idea/Concept"

1.2.1 Importance of confidentiality

When an idea of new medical device is conceived, the concept, technical details and all design drawings or other credentials which reveal the shape/process of the medical device has to be kept confidential to protect our IP from prior disclosure. All the inventors and related staff must be educated for understanding the importance of confidentiality in IP Protection.

All IP rights created/developed in the normal course of their tenure has to be assigned to the institute.

Every employee has to sign an undertaking at the time of joining, which states that every ip created by them during the tenure in the institute will be assigned to the institute and the confidentiality will be maintained all through the tenure.

When an external agency is involved in the creation/development of Ip, The sharing of ip and others will be clearly written in the Mou signed between both the parties. In the Mou we will make sure that all the required ownership rights, Ownership rights can often only be transferred in writing so you should formalize ownership and assignment details clearly in a written contract.

1.2.2 Regulatory Requirements

Medical devices must comply with the requirements set out in Govt of India. The recent development in India is that Govt of India published the regulatory requirements under ministry of health and family welfare as per the following gazette publication.**(**Department of Health and Family Welfare),NOTIFICATION, New Delhi, the 17th October, 2016,G.S.R. 983(E) for public response and is under processing.

2. SCRUTINY FOR "HOW BEST TO PROTECT"

Before moving in to the provisional specification stage an analysis is carried out. IP protection is available for new product designs, websites, marketing material, brand and trading names .We consider how best to protect our new medical device; by patent protection, design rights or by keeping your technical information confidential. After finalizing the IP permission is taken for filing the application and for paying the cost of registration of IP like patents, designs or trade mark.

*Engineer, IP Cell, BMT wing, SCTIMST

2.1 IP Search

To avoid wastage of research and development on inventions that already exist, an IP search on what already exists in the field we are working is done.

2.2 Development of Idea/Prototyping

This is when our medical device has developed from the idea/concept stage to the prototype stage i.e now medical device is active and the confidentiality is also maintained. Non-disclosure agreements (NDAs) have to be established between any third party involved at this stage to prevent leakage of confidentiality. Design drawings, lab notes, log books etc for the prototype(s) together with the dates and author details, is kept safe for disclosing the time and inventor ship of the IP if required and also to establish the three patentability criteria of novelty, non obviousness and industrial application. An IP landscape is regularly done to avoid any further confusion.

3. PRE-CLINICAL STAGE AND ITS IP OVERVIEW

3.1 Patents – an overview

Since the institute develops technology of Medical devices, Patentability is the primary consideration when IP is concerned since Patents are meant for products and processes and it protects technical inventions which are novel and involve an inventive step/ non obviousness & industrial applicability. To proceed with we seek priority date through provisional/complete specification in patent protection before the invention is disclosed outside the confines of strict written confidentiality agreements. Also in order to avoid overlapping of patent protection we check whether anyone else owns valid patents which our new product might infringe before moving to the patent application. We have developed an internal process in place so that our research and development staff understand about confidentiality and have a system for letting management know about their inventions. And which allows making an early evaluation as to whether the results of the research, including any improvements, are patentable and available for use.

Patent protection lasts for 20 years from the filing date and gives the institute a complete monopoly in the invention that the patent covers (assuming the patent is valid) and also we can take legal action against third parties who use the invention without permission. Patents are also licensable and assignable. At the time of Technology transfer, potential industrial partners will want to know whether you have good patent protection in place.

3.2 Freedom to operate searches

Searches are carried to find out whether any third parties have rights which would stop you from protecting your invention. Freedom to operate searches may be required throughout the medical device development programme. Once the medical device concept is developed, a thorough search on available knowledge is done and monitored. These search is done internally by the developer of the concept, with the available resources within the institute and at times seeks help from the institutes attorney & Whoever does the searches or commissions the searches will have a tight interaction with the project team on a regular basis to keep shoulder to shoulder of all developments &The project team has to "Look up" any conflicting rights which are identified as a result of the searches, or sometimes we may need to obtain a licence from the earlier rights holder if a "invent around" is not possible when compared to the existing knowledge (Requirement of this kind not yet aroused). A freedom to operate searches is performed in the territories where we intend to make and/or market our product. Searching is done using a combination of patent classification codes, key words, and may be even with what we are disclosing in our draft claims. The search is restricted to concentrate on particular area that you are concerned with

The search is done on the following criterias

(i) Search for novelty: Identification of what exists already, to assess our product is exactly new or just an improved version of the existing product or concept.
(ii) Area &Countries to be included;
(iii) Specific/general terms/words, or even claims.
(iv) Competitors in the same field,

After the identification of the new features which the search should concentrate on. We will consider the impact of already existing granted patents. At this time we can even move against an already existing granted patent for the lack of the patentability criteria of Novelty/ non obviousness or industrial applicability. Some opposes patents by hiding their identity under patent attorneys.

Patent applications revealed after the search even the claims of a patent (which identify the scope of protection), can change during the prosecution of a patent application. Examiners in different countries may accept different amended claims, so when the patents are granted there may be differently worded claims in different countries even though they are all based on the same original patent application. At the time of filing a patent application we must also consider the chances of divisional applications which can be filed after the parent application; our patent application may not be infringed by the granted claims of the parent application but it may fall within the scope of a divisional application.

We have to generalize the claims in the assumption that the divisional application claims can infringe ours.

3.3 Patentability of Medical Devices

Patents for medical devices cover the product and process of medical device. Patents cannot be granted for "methods for treatment of the human or animal body by surgery or therapy and diagnostic methods practised on the human or animal body". However, this prohibition does not apply to "products/Process", in particular substances or compositions, for use in any of these methods". For example

1. A BLOOD PUMP &
2. A PROCESS FOR THE PREPARATION OF A BIOCOMPATIBLE POLYMERIC COMPOSITION OF AN INTER-PENETRATING POLYMERIC NETWORK(IPN**)**

You can seek patent protection for surgical, therapeutic or diagnostic instruments or apparatus. But you cannot protect such instruments or apparatus if they are only new as a result of the way they are intended to be used in therapy or surgery. Here blood pump is new in its design and working & process for preparation of IPN is novel in its process and also we ensure that our patent application is drafted to avoid the exclusions relating to medical methods. For example, a method for operating a pacemaker so that its output to the heart was adjusted was refused patent protection because this amounted to a method of treatment.

We cannot obtain patent protection for a known medical device in respect of a second medical use. For example, if an injector pen is known for injecting insulin to treat diabetes, you will not be able to obtain patent protection for the same injector pen to deliver another drug to treat a different illness.

3.4 Consider Patentability

At this pre-clinical stage, you should consider whether patent protection is available for your new medical device/Process. You should consider seeking patent attorneys' advice since they can assist you in this complex task and provide information on the timing, territoriality and costs of patent protection.

Patents are national rights. This means a protection will be provided only within the boundaries of the nation where application is filed. International patent approach must be considered initially itself because once the application is filed and published means that the invention is no longer new in other territories, and so cannot be patented after one year from the first patent filing. Medical devices/products inventions are handled differently by different countries, and have a significant impact on the way you treat your application

4. CLINICAL STAGE – AND ITS DIFFERENT IP CONSIDERATIONS

When our product attains the Clinical Stage, we can access easily whether our product is worth for further investment/or even there is any significance in continuing with the IP protection and which protection we have to proceed with patent or design registration.

4.1 Designs – an overview

Design registration is relatively inexpensive way when compared with patent for protecting our entire medical device or parts of its design. They protect what our product looks like and can be used to stop competitors making or selling a similar looking product.

4.1.1Priority

Priority for a design can be received only that if It have N0VELTY i.e. The feeling it produces on the user is unique from the overall impression other existing designs gives to the user. The date from which the product is considered as "new" is treated as the "priority date". Disclosure of design must not be done anywhere in the world before its registration for Design.

4.1.2 Classification of Designs

Design registrations are not limited to any particular use. For example the designs for a blood pump and a water pump may have a similar appearance & one registration will cover both uses hence a search becomes difficult to be certain that we found all earlier similar designs. For the purpose of registration of designs, articles are classified into thirty-one classes and a miscellaneous class 99, as described in The Third Schedule of The Design Rules, 2001.Before registration we have to identify to which class/sub class our product belongs to mainly we prefer classes 24 and 28

4.1.3 Searches

While searching for earlier designs please ensure that all classes which medical devices fall in to be covered, so searches as a minimum should include classes 24 and 28.

4.1.4 So what can you register?

Line drawings which clearly show distinctive features are the best way to represent the design. Designs are registered by different companies for the same type of medical device. For example, Blood oxygenator designs have registered by different companies.

4.1.5 Keep full records of every stage of the design and preserve original drawings and prototypes

All the ownership rights must be registered, by way of a written assignment, for attaining this full records of every stage of the design must be preserved & original drawings and prototypes must be readily available.

5. CLINICAL STAGE – TRADE MARK CONSIDERATIONS

If the medical device developed must have a distinctive brand name which enables consumers/health care professionals to identify the origin of the product, those Distinctive brand names (and logos) are protectable under the IP of trade mark but SCTIMST usually transfers the technology to the Industry and the brand name is decided by the company .

5.1 Trade Marks – an overview

The brand name must be protected to stop third parties from copying an identical or similar name &takes the benefit of our brand name's well wish and reputation. The registration lasts for 10 years, and can be renewed for further 10 year intervals on payment of renewal fees.

5.2 Trade Mark search

The trade mark searches have to be done pre-existing registered trademarks which are similar or identical to your proposed mark. Then you have to apply for an alternative trade mark or make changes.

5.3 Trade Mark Protection:

Medical device manufactures always prefer to file in several classes to prevent and to avoid competitors to use the loop hole and take the advantage. The classes where the biomedical manufacturers prefer to file in India are

- class 5 (pharmaceutical and veterinary preparations) and
- Class 10 (surgical, medical, dental and veterinary apparatus and instruments).
- Class 9 (electrical and electronic items)

And also precautions are taken that the marks selected for trade mark registration are not purely descriptive of the product but will be unique and distinctive as much as possible and Special interest are taken to file our trade mark application without any delay. The manufacturer of medical device always consider and will have a back-up for filing the application in case their first choice is refused or opposed.

6. MANUFACTURING STAGE & ITS IP CONSIDERATIONS

Artwork and text on packaging, instructions leaflets and advertising is likely to be protected by copyright.

6.1 Copyright –

Copyright protects original artistic and literary works. The works have to be original with creative involvement of the author. If a third party involvement is there an agreements may be there between the two parties. It is helpful to mark any packaging, instructions leaflets and advertising with a © notice as this may deter potential infringers and is generally prima facie evidence of ownership.

7. COMMERCIAL USE & ITS IP CONSIDERATIONS INCLUDING INFRINGEMENT

The products after coming in to the market we find competitors making and selling products which are too similar to our own devices and they also feel the same. It is useful to have an internal procedure to deal with infringements, whether offensive (suing a third party infringing your IP) or defensive (being sued by a third party for infringing their IP rights). The costs and procedures of IP litigation vary in different countries and we have to decide whether we have to proceed with the litigation but it is sensible to set aside a fund for IP cases so that you have a fighting account if needed.

8. CONCLUSION

As far as an institute which focuses on high quality indigenous development of technologies for biomedical devices and materials is concerned they transfer the technology after proper IP protection, the manufacturing and commercial stage is carried by Industries who purchase the technologies. At the commercial stage IP infringement mostly occurs, the fighting accounts usually share between the institute and the industry to which the technology is transferred as per the Mou between them.

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