Chapter-4

ANALYSIS OF RISK FACTORS EXHIBITED BY INDIAN COMPANIES IN THEIR IPO PROSPECTUS AND IDENTIFICATION OF MUTUALLY EXCLUSIVE RISK CATEGORIES

This chapter include analysis the risk factors exhibited by Indian companies in their IPO prospectus. Complete content analysis of risk factors section of IPO prospectus in conjunction with 'Our Business', 'Industry Overview' and 'Management's Discussions' and 'Analysis of Financial Condition and Results of Operations' sections is performed and developed a model to absorb all the homogeneous risks into one standardised risk category. Mutually Exclusive Risk Categories are identified to see the impact of this categorization on IPO Performance.

4.1 INTRODUCTION

In any investment decision, the two main factors are return and risk. As investors are risk-averse, they wish to minimise the risk of any expected level of return. The prospectus contains a "Risk factors section" where the issuer makes disclosure about the number of potential risks that the firm faces. Risk factors which are disclosed also have a prophylactic effect against liability under the "bespeaks caution doctrine". Issuers cannot be held liable where they gave a sufficient warning about a risk that subsequently materialised (Spindler, 2009). This study is an attempt to empirically analyse the risk factors disclosed by Indian firms as well as their impact on returns being represented on the Indian stock exchange after the listing of their IPO.

The prospectus provides the necessary adequate information to the investors to enable them to make an informed assessment of the risks and to take investment decisions in full knowledge of the facts. The Risk Factors section should present a concise synopsis of risks that are explained in more detail in other parts of the offer document. It should be carefully designed to describe the risks in general, the specific risks which the company faces in the current business environment, as well as the potential risks in the future. Linsley & Shrives (2006) argue that information relating to future risks will be more useful to stakeholders than information relating to past risks, and IPO company disclosures show that listed firms may shift the balance of information offered even further toward future risks.

Rather than just including general information, each risk factor should specify and disclose a risk that is relevant to the issuer or the securities in question. The risk factor section of Indian prospectuses describes the major risks associated with the companies' businesses, operations, industry and the risk related to the offer in a number of statements. The lead key sentences of each risk factor statement are written in bold and present a brief summary of the risk factor, and the statement is accompanied by explanatory paragraphs which give further detail of each risk factor, stating its impact on business, results of operation, and financial condition.

4.2 ANALYSIS OF RISK FACTORS EXHIBITED IN INDIAN IPO PROSPECTUSES

The Risk Factor Section of almost every Indian IPO prospectus begins with the following introductory lines:

"An investment in common stock carries a high level of risk. Before investing in our Equity Shares, you should carefully examine all of the information in the Draft Red Herring Prospectus, including the risks and uncertainties outlined herein. The risks described in the document are not the only ones relevant to us or our equity shares, the industry and segments in which we currently operate or propose to operate. Additional risks and uncertainties, about which we are not aware of or believe are insignificant at this time, might harm our companies, results of operations, financial condition, and cash flows. If any of the following risks, or other risks that are not currently known or are currently deemed immaterial, actually occur, our businesses, results of operations, financial condition, and cash flows could suffer, our Equity Shares' trading price could fall, and you could lose all or part of your investment. To obtain a complete understanding of our company, prospective investors should read this section in conjunction with "**Our Business**", "**Industry Overview**", "**Management's Discussions", and "Analysis of Financial Condition and Results of Operations**" on pages _____, as well as the financial, statistical, and other information contained in this Draft Red Herring Prospectus/Red Herring Prospectus." Prospective investors must do their own due diligence on us and the conditions of the offer, including the merits and risks associated, before making an investment decision. You should discuss with your tax, financial, and legal professionals the specific tax, financial, and legal implications of investing in our stock shares. Prospective investors should be aware that our firm and subsidiaries are formed under Indian law and are

subject to a legal and regulatory environment that may differ from that of other countries in some aspects. This offer document also includes forward-looking statements that are subject to risks, assumptions, estimates, and uncertainties. Our actual results may differ considerably from those predicted in these forward-looking statements due to a variety of factors, including those discussed here and elsewhere in this offer document. See "Forward-Looking Statements" on page____ for further information. Keeping in view the above statement, the risk factor section of sample prospectuses is analysed in conjunction with 'Forward-looking Statements', 'Our Business', 'Financial Statements', and 'Management's Discussions' through content analysis of sample prospectuses. The results are tabulated in Table-4.1.

Table-4.1: Page count comparisons of IPO Prospectus by average length

Sectors	**IPO Prospectus Sections**					
	Risk Factors	Forward-looking Statements	Our Business Description	Financial Statements	Management Discussion and Analysis	Total
Finance	5.83%	0.31%	14.88%	25.60%	5.91%	52.53%
Healthcare	5.37%	0.32%	13.32%	26.37%	4.53%	49.91%
Consumer Durable & Non-durable	5.95%	0.36%	14.08%	25.44%	4.80%	50.63%
Consumer Services	5.42%	0.28%	14.99%	24.35%	5.08%	50.13%
Commercial Services	5.73%	0.32%	13.21%	33.58%	5.22%	58.05%
Software & IT	6.50%	0.27%	13.75%	26.21%	5.42%	52.16%
Construction, Engr & Infra.	5.73%	0.28%	13.78%	30.21%	5.16%	55.17%
Transportation & Logistics	5.67%	0.29%	14.80%	23.12%	4.04%	47.91%
Producer Manufacturing	5.78%	0.36%	13.83%	27.27%	5.13%	52.39%
Miscellaneous	5.85%	0.33%	13.97%	24.56%	4.90%	49.61%
All Sectors	5.77%	0.32%	14.13%	26.52%	5.11%	51.85%

(Source: Compiled by Researcher)

4.2.1 Disclosure by the numbers

Proportional length for each section for each company is calculated as the percentage of pages counted in each section to the total page count of the prospectus. Average length is counted by taking the average proportion of each section, viz. the Risk Factor Section, Forward-looking Statements Section, Business Description Section, Financial Statements Section, and Management Discussion and Analysis Section, as well as the average of all the companies.

The proportion of the risk factors section in the IPO prospectus is a significant measure for empirical analysis. A complete and accurate risk factor disclosure helps the investors have a clear understanding of the risks related to the IPO Company. In the study, 131 IPO firms are empirically analysed, including 27 firms from the Finance sector, 15 firms from Healthcare, 20 Consumer Durable and Non-durable firms, 12 Consumer Services sector firms, 7 firms from the Commercial Service sector and 7 firms from the Software & IT sector, 13 firms from the Construction, Engineering, and Infrastructure sector, 6 firms from the Transportation & Logistics sector, 14 firms from Producer Manufacturing firms, and 10 Miscellaneous firms. Risk factors reflect 5.77% of the average length of the IPO Prospectus by page count. Sector-wise, the proportion ranges from 5.37% for healthcare to 6.50% for the software & IT sector, while company-wise; this proportion ranges from less than 4% to more than 9%.

Forward-looking Statements are those descriptions which outline any company's plans, objectives, intentions or goals and strategies. These statements reflect organization’s current views as on the date of Red Herring Prospectus but not an assurance of future success Such forward-looking statements are focused on assessments of current plans, presumptions and aspirations and are subject to risks, uncertainties and assumptions that could cause actual results substantially different from those indicated in the forward-looking statements. In view of these risks, investors should carefully analyse this section in conjunction with risk factor section. All most all the companies have shown their forward-looking statements in 1 to 2 pages only which constitute merely 0.32% on average.

Our Business Description states what the business is? What the company does? Where located? From whom the land and plant & machinery has been acquired or proposed to be acquired for the business? It specifies the operations of the business, its business strategies, intellectual property rights, its management, promoters and group of companies and subsidiaries. This section also narrates history and corporate structure as well dividend policy of the issuer. Business Description section represents 14.13% average proportion of pages in Indian IPO prospectuses. Consumer Services Sector shows the highest proportion nearly 15% while lowest proportion of 13.21% is represented by Commercial Services Sector on average basis. On a company basis, a wide page proportion range is noticed in between 10% to 20%.

A large pages proportion is covered by Financial Statements in IPO prospectus which is figured as 26.52% on average basis. The regulatory authority of each country specifies that offer document and prospectus must contain certain financial statements and other financial information regarding the issuer's financial condition and results of operations. SEBI (ICDR) Regulation, 2009 also mandated that the 'Consolidated Financial Statement' prepared on the basis of AS- 21 shall be incorporated in the offer document. All notes to the accounts, important accounting policies and qualifications of the auditors shall be included. This financial information and data presentation highlights significant trends in the company's financial condition and results of operations. Generally, companies are required to disclose selected financial data for the prior five years. The details of related party in accordance with the AS-18 should also be disclosed here. This section helps the investors in taking their investment decision.

Management's Discussion and Analysis provides an opportunity to the management to discuss their perspective on the company's financial condition, changes in financial condition and results of operations in narrative form. This section also provide information for investors to help them understand how and why the financial results of the company have changed over the period covered by the financial statements and factors that management expects could impact the potential financial position or operating results of the company. MD&A is management's assessment of the financial condition and outlook of the firm. Maximum page proportion disclosure about 6% of this section is disclosed by Finance Sector while all firms' page

proportion is 5.11% on average basis. The minimum page proportion of both the sections viz MD&A and Financial Statements is represented by 4.04% and 23.12% respectively by Transportation & Logistics sector. Around 32% of the average proportion of prospectus comprises the management discussion and analysis (MD&A) and financial statements sections while the remainder 20% comprises the risk factor, forward-looking statements and business description sections.

Table- 4.2: Description of Complete Risk Factor Section of Prospectus

Sectors	**Risk Factor Section**					
	Number of Statements	Word Counts	Character Counts	Sentence Counts	Page Counts	Flesch Reading Ease Score
Finance	70	22459	143591	815	30	24.13
Healthcare	70	20164	129891	771	28	25.67
Consumer Durable & Non-durable	65	18632	118516	687	25	25.70
Consumer Services	69	19705	126916	799	27	26.82
Commercial Services	62	19986	129187	735	28	24.35
Software & IT	66	21044	136040	790	27	23.49
Construction,Engr. & Infra.	70	19724	127464	767	29	27.62
Transportation & Logistics	71	21732	134316	815	29	24.94
Producer Manufacturing	68	20618	128645	741	27	26.12
Miscellaneous	66	16650	105617	627	26	26.64
All Sectors	68	20207	128980	756	28	25.55

(Source: Compiled by Researcher, Data: Average is of all companies and of companies in each sector)

Table-4.2 gives a summary of word counts, character counts, sentence counts, page counts and the number of risk factor headings with detailed explanation, on average basis, over time period of the study. More the wordier the risk factor section of the prospectus more will be the disclosure and less will be the informational asymmetry as more quantity of disclosure is available to the public. The higher relative size of the Prospectus Summary leads to lower change in the offer price during the book-building process and the subsequent initial return is lower one (Hanley & Hoberg, 2008).

Risk Factor section of prospectus has average 28 pages in length and ranges from 15 pages to more than 40 pages for individual companies. Sector-wise this average page

length ranges from 25 to 30. Companies have identified their risk factors and narrated them in number of statements with bold captions which range from 45 to more than 100 for individual company. The risk factors statements in each sector are near about 70 on average basis. Total word counts of risk factors section is 20207, character counts 128980 and 756 sentences on average basis. Total counts of risk factors include both introductory language and ending prominent notes as these contain significant information. The word counts ranges from 10000 to over 34000 as per individual company basis. Sector-wise, the sentence counts ranges in between 627 to 815, on average basis. In Finance Sector, the word counts (22459), character counts (143591) and sentence counts (815) have been noticed the highest. The use of word and sentence counts to derive measures of length and complexity of the Risk Factor section of the prospectus.

Along with the use of word and sentence counts to derive measures of length and complexity of the 'risk factors section' of the prospectus, the Flesch Reading Ease (FRES) score is applied to determine the readability of the content of the prospectus. This score shows how easy something is to read**.** The content with the higher score is considered easier to understand, while the content packed with difficult words and long sentences is regarded as a complex one. As per the FRES method, content with a score of 0-30 is considered very difficult. In the present study, the FRES score is recorded at less than 30 on an average basis in all the sectors, hence it is more challenging to understand the contents of the risk factors.

4.2.2 Existing Pattern of Risk Factor Categories

Within the risk factors section of the prospectus, the risk factors are divided into three broad categories- (i) Internal Risk Factors, (ii) External Risk Factors, and (iii) Risk Factors related to Equity Shares or Offer related Risk Factors. Analysing the internal risk factors mentioned in the Indian IPO prospectuses, the following results are noticed which are tabulated in Table-4.3.

Table- 4.3: Description of Internal Risk Factors mentioned in Prospectuses

Sectors	Internal Risk Factors			
	Number of Statements	Words Count	Characters Count	Sentences Count
Finance	51	16693	107567	596
Healthcare	50	14321	92847	546
Consumer Durable & Non-durable	47	13094	83680	484
Consumer Services	53	14484	93431	605
Commercial Services	45	14771	95555	537
Software & IT	48	15315	99678	568
Construction, Engr. & Infra.	52	14552	93302	558
Transportation & Logistics	45	14407	89217	531
Producer Manufacturing	50	15109	94505	539
Miscellaneous	50	12062	74289	441
All Sectors	50	14653	93678	545

(Source: Compiled by Researcher)

Indian firms floating IPOs have disclosed their internal risk factors through a number of statements, which figured 50 on an average basis, containing 14653 words, 93678 characters, and 545 sentences on an overage basis. Internal risk factor word and character counts are highest in the finance sector, while the sentence counts are highest in the consumer service sector. The internal risk statements range in between 45 to 53 among all the sectors.

Table-4.4 reflects that the Transportation & Logistics Sector counts the external risk factors as 16 statements, 4951 words, 30847 characters, and 149 sentences on an average basis, which is the highest among all sectors. However, the average of all the sectors is figured as 10 risk factor statements, 3005 word counts, 19292 character counts, and 110 sentence counts. Individually, companies have identified their external risk factors from a couple of risk statements to more than 20 statements.

Table-4.4: Description of External Risk Factors mentioned in Prospectuses

Sectors	External Risk Factors			
	Number of Statements	Words Count	Characters Count	Sentences Count
Finance	10	3048	19331	111
Healthcare	11	3199	20714	126
Consumer Durable & Non-durable	10	2953	19004	107
Consumer Services	9	2738	11771	102
Commercial Services	9	2592	16669	98
Software & IT	10	3102	20282	109
Construction, Engr. & Infra.	11	3000	19469	115
Transportation & Logistics	16	4951	30847	149
Producer Manufacturing	11	2642	17012	96
Miscellaneous	10	2548	16479	95
All Sectors	10	3005	19292	110

(Source: Compiled by Researcher)

Table-4.5: Description of Offer Related Risk Factors mentioned in Prospectuses

Sectors	Offer Related Risk Factors			
	Number of Statements	Words Count	Characters Count	Sentences Count
Finance	9	1921	11779	73
Healthcare	8	1604	10064	60
Consumer Durable & Non-durable	7	1551	9329	50
Consumer Services	8	1552	9485	55
Commercial Services	8	1662	10207	63
Software & IT	8	1563	9640	59
Construction, Engr. & Infra.	7	1476	8906	56
Transportation & Logistics	10	2153	12790	94
Producer Manufacturing	8	1862	10442	65
Miscellaneous	6	1312	7914	49
All Sectors	8	1675	10178	62

(Source: Compiled by Researcher)

Table 4.5 shows that offer-related risk factors are reflected by Indian firm through 8 statements on average basis with 62 sentences comprising of 1675 words, and 10178 characters on average basis. Like other external risk factors, the transportation and logistics sector has also reflected more offer-related risks among all the sectors. This sector has shown 10 risk factor statements, 2153 word counts, 12790 character counts, and 94 sentences on an average basis. Representation of offer related risk factors ranges from a single risk statement to 17 risk statements by individual companies

4.2.3 Identification of Risk Factors Categories

Further analysing the sample IPO prospectuses through content analysis, 255 individual risk factors across the 131 firms are identified, which includes 203 internal risk statements, 27 external risk statements, and 25 risk offer-related risk statements. These risk factors are shown in Annexure-I in the form of specific key risk sentences. If a particular form of risk is present, a value of 1, otherwise 0 is assigned. Then, for each risk factor, the sum is calculated to know the number of firms disclosing the particular risk.

It is noticed that there are no standardised criteria to categorise the risk statements under three broad categories, namely internal risk factors, external risk factors, and offer-related risk factors. The categorization of risk factors depends on the issuer's nature of business. Some risks may be internal risks for some firms, while the same may be external for others. Some firms have shown only two categories-internal risk factors and external risk factors-in their prospectus only. Moreover, external risk factors and offer related risk factors seem to be overlapping in many IPO prospectuses. Some firms have reflected a particular risk in the internal risk factors category, while others have exhibited the same under external risks or in offer-related risks. The table-4.6 shows some of the risk statements which are categorised differently by different companies, although some companies belong to the same industry/sector.

Table-4.6: Categorization of risk statements under generic risk categories

Risk Statements	**Name of Company**		
	Internal Risks	External Risk	Offer-related
Our ability to pay dividends in the future will depend upon future earnings	Spandana Sphoorty Financial Ltd., Eris Lifesciences Ltd.		MAS Financial Service Ltd

We will not receive any proceeds from the Offer for Sale	Dr Lal Pathlabs Ltd., CreditAccess Grameen Ltd	Thyrocare Technologies Limited	ICICI Securities Limited
Failure to protect our intellectual property could harm our ability to compete effectively	Newgen Software Technologies Ltd., Quess Corp Ltd	L&T Infotech Ltd.	
Any future issuance of Equity Shares may dilute your shareholding and sales of our Equity Shares by our Promoter	CreditAccess Grameen Ltd.	ICICI Securities Limited	HUDCO Ltd.
Our business operations could be materially adversely affected by strikes, work stoppages or increased wage demands	Metropolis Healthcare Ltd.	Dr Lal Pathlabs Ltd.	
No guarantee of accuracy of third-party statistical, financial and other data or information in RHP	MAS Financial Service Ltd., HUDCO Ltd.	Syngene International Ltd., Capacit'e Infraprojects Ltd.	
Our Company is required to prepare financial statements under Ind AS from April 1, 2018, our financial statement may not be comparable to our historical financial statements	MAS Financial Service Ltd.	HUDCO Ltd.	
Investors may not be able to enforce a judgment of a foreign court against us or our management		RBL Bank Ltd., Dr Lal Pathlabs Ltd.	ICICI Securities Ltd
Rights of shareholders under Indian laws may be more limited than under the laws of other jurisdictions		Metropolis Healthcare Limited	MAS Financial Service Ltd
QIBs and Non-Institutional Investors are not permitted to withdraw or lower their Bids		Spandana Sphoorty Financial Ltd	Metropolis Healthcare Ltd.
Significant differences exist between Indian GAAP and Ind AS and other accounting principles	Spandana Sphoorty Financial Ltd, Bandhan Bank	ICICI Securities Limited, HDFC Asset Management Company Ltd.	RBL Bank Ltd.
We have in the last 12 months issued Equity Shares at a price that could be lower than the Offer Price	Ujjivan Financial Services Ltd., Dr Lal Pathlabs Ltd		PNB Housing Finance Ltd., RBL Bank Ltd
We are subject to several tax regimes. Any failure or adverse development in the taxation regime may have a material adverse effect on our results of operations	Quess Corp Ltd.	MAS Financial Service Ltd.	

(Source: Compiled by Researcher)

Indian firms have not categorised risk factors in sub-categories. This study is also an attempt to critically examine the various risk categories disclosed in the IPO Prospectus issued by the companies and develop a model to absorb all the homogeneous risks into one standardised risk category. The risk statements are grouped into 15 components, namely Regulatory Risks, Litigation Risks, Operational Risks, IT/Cyber Risks, Economic Risks, Project Management Risks, Business Risks, Financial Risks, Technological and Innovation Risks, Competition/Industry Risks, Manpower Risks, Management Related Risks, Company Policy Risks, Third Party Risks, and Equity Share Related Risks. The grouped risk sub-categories include the following:

i. **Regulatory Policy Risks**- This category includes risks related to stringent regulatory requirements, regulatory uncertainty, non-compliance with observations made by regulatory authorities, and Safety, health, environmental, labour, workplace and related laws and regulations, Changes in tax laws and accounting standards etc.

ii. **Litigation Risks** Litigation risk is the risk that an individual or company will face legal action. Litigation may involve a director, a promoter, a group company, or a subsidiary. Legal action can come from a company's customers, vendors, other businesses, or even shareholders.

iii. **Operational Risks**- Such risks include risks associated with any shutdown, slowdown, or underutilization of manufacturing facilities, failure to implement standard operating procedures, obsolescence, destruction, and equipment breakdowns, inability to maintain operational efficiencies and manage growth, product liability, and inability to generate adequate cash flows to maintain equipment and workforce, among other things.

iv. **IT/ Cyber Risks-** IT and cyber risks mean deliberate and illegal breaches of confidentiality in order to gain access to information systems. It includes systems failures, misuse or breaches of data security and frauds and cyber-attacks etc.

v. **Economic Risks**- Economic Risks comprise exchange rate fluctuations, interest rate fluctuations, seasonal trends in the economy, downgrading of India's debt rating, changing global economic conditions, inflation and financial instability in other countries, etc.

vi. **Project Management Risks**- These risks include inability to qualify for, compete for, and win projects; non-completion of projects in a timely manner; product/project/professional malpractice liability; non-adhering to the schedule of implementation and delays in the acquisition of private land or eviction of encroachments; inability to procure adequate, good quality raw materials; higher expenses; contamination, adulteration, and product tampering, inability to maintain an optimal level of inventory; inadequate forecasting of demand; and non-availability of essential utilities etc.

vii. **Business Risks-** Business risks include dependence on a limited number of clients/certain key customers, changes in consumer taste, preferences, perceptions, spending patterns, dependence on certain third-party manufacturers/service providers, and quality control problems and risks of fraudulent activities, pricing pressure from customers/competitors, spurious or counterfeit products, inability to maintain brand image and inability to diversify product offerings, etc.

viii. **Financial Risks** Financial risk issues are like restrictive debt covenants, need for additional financing, working capital deficit, deficiency in customer credit evaluation, our business credit rating, negative cash flows, non-recovery of secured loans, reduction in or termination of tax incentives, discretion over use of proceeds, previous losses, related party transactions, contingent liabilities, inability to obtain adequate funding on acceptable terms, increases in average cost of borrowings, strategic investments or disinvestments, acquisitions and joint ventures risks, and certain restrictive conditions under financing arrangements etc.

ix. **Technological/ Innovation**- Risks include the risk of not coping with new technology, research and development capabilities, product obsolescence, inadvertently infringing on the patents of others, and unsuccessful innovation, etc.

x. **Competition/ Industry Risks**- These risks include an inability to effectively compete, a fragmented industry, a lack of prior experience and an inability to identify and understand evolving industry trends, technological advancements, customer preferences, and the development of new products, a failure to protect intellectual property rights, the termination of trademark licence

agreements, and intellectual property infringement claims by other companies, among others.

xi. **Manpower Risks-** These risks include the inability to attract or retain skilled, qualified, or highly specialised personnel, risks of strikes, work stoppages, or any other dispute with employees, increased wage demands, increases in employee benefit expenses, and under-utilization of our workforce etc.

xii. **Management/Shareholders Related Risks-** These risks include the inability to attract or retain skilled, qualified, or highly specialised personnel, risks of strikes, work stoppages, or any other dispute with employees, increased wage demands, increases in employee benefit expenses, and under-utilization of our workforce etc.

xiii. **Company Policy Risks**-These include the risks of not implementing or failing to enforce company policies.

xiv. **Third Party Risks**- Third-party risks include reliance on third-party service providers/suppliers for operations, increases in charges by third-party service providers/suppliers, delays in obtaining third-party certifications and accreditation, and delays or non-delivery by supply chain/third parties, among other things.

xv. **Equity Share Risks**- Risks related to equity shares include non-guaranteed listing of equity shares in a timely manner, share price and volume fluctuations, volatility in securities markets in other countries, restrictions on exercising pre-emptive rights, restrictions on daily movements in the price of the equity shares, issue of equity shares to our promoters at prices lower than the offer price, capital gain taxes and conditions in the Indian securities market etc.

4.2.4 Characteristics of Disclosure of Risk Factors

Each individual risk factor of each company is assigned to one of the 15 identified risk factor sub-categories. Any company disclosing at least one risk factor in any category is considered to be disclosing the specific risk category. The percentage of companies in total and by sector disclosing a risk factor in each category is shown in Table-4.7. More than 80% of the companies, on average, are placed in the category disclosing Regulatory Risks (82%), Operational Risks (85%), Financial Risks (82%), Competition/Industry Risks (82%), Management Related Risks (82%) and Equity

Shares Related Risks (85%). 97% of companies on an average basis are disclosing litigation risks, while sector wise, 100% of companies, almost all the sectors-finance, healthcare, consumer durable & non-durable, commercial services, transportation & logistics, software & IT, producer manufacturing, and miscellaneous sectors are disclosing litigation risks and are proving the universality of this risk factor category.

Table-4.7: Percentage of companies disclosing risk in each category

Risk Categories	**Sectors**										
	Finance	Healthcare	Consumer Dur. & Non-durable	Consumer Services	Commercial Services	Transportation & Logistics	Software & IT	Construction, Engr. & Infra	Producer Manufacturing	Miscellaneous	All firms
Regulatory Policy Risks	85%	80%	90%	83%	86%	100%	100%	85%	71%	90%	82%
Litigation Risks	100%	100%	100%	92%	100%	100%	100%	85%	100%	100%	97%
Operational Risks	81%	87%	95%	100%	100%	100%	100%	85%	86%	90%	85%
IT/ Cyber Risks	22%	27%	25%	25%	29%	33%	14%	0%	21%	40%	22%
Economic Risks	78%	60%	85%	75%	71%	83%	86%	69%	79%	100%	66%
Project Management Risks	19%	53%	55%	33%	14%	33%	0%	54%	43%	50%	24%
Business Risks	37%	40%	60%	75%	57%	67%	57%	69%	57%	40%	40%
Financial Risks	93%	80%	95%	100%	100%	83%	100%	85%	93%	100%	82%
Technological / Innovation Risks	44%	37%	45%	50%	43%	83%	100%	54%	43%	30%	40%
Competition/ Industry Risks	89%	40%	80%	92%	100%	100%	57%	62%	93%	70%	82%
Manpower Risks	37%	40%	75%	50%	43%	67%	0%	62%	79%	60%	49%
Management related Risks	74%	87%	100%	75%	100%	100%	100%	77%	86%	90%	82%
Company Policy Risks	30%	67%	70%	67%	43%	100%	43%	38%	50%	70%	50%
Third Party Risks	48%	13%	50%	42%	43%	50%	57%	62%	43%	40%	36%
Equity Share Risks	85%	93%	80%	100%	100%	100%	100%	100%	100%	90%	85%

(Source: Compiled by Researcher, The percentage frequency represents the proportion of all the firms in each sector with at least one risk factor added to the relevant risk factor category)

Similarly, 100% of companies in the Consumer Services, Commercial Services, Transportation & Logistics, and Software & IT Sectors are displaying Operating Risks.85% of companies or more in the remaining sectors are disclosing operating risks. Financial Risks are present in 100% of the companies classified as Consumer

Services, Commercial Services; Software & IT Sectors, and Miscellaneous Sectors Correspondingly, 100% firms of Consumer Services, Commercial Services, Transportation & Logistics, Software & IT Sectors, Construction, Engineering & Infrastructure and Producer Manufacturing Sectors are reporting Equity Shares related risks. The reflection of management-related risks by firms in different sectors ranges from more than 70% to 100% of firms. Economic risk factors are reported by firms of different firms whose percentage ranges from 60% to 100%. 100% of firms in the Commercial Services and Transportation & Logistics Sectors report on competition/industry risks. Project Management Risk and Manpower Risk do not matter for the software and IT sector. Correspondingly, IT/Cyber risks do not appear to represent a risk factor for the construction, engineering, and infrastructure sectors.

Table-4.8: Frequency of risk categories disclosure in each sector

	Sectors										
Risk Categories	Finance	Healthcar	Consumer	Consumer	Commerc	Transport	Software	Construct	Producer	Miscellan	All firm
Regulatory Policy Risks	12%	9%	7%	7%	7%	6%	11%	7%	7%	8%	8%
Litigation Risks	6%	9%	7%	7%	8%	8%	11%	6%	5%	6%	7%
Operational Risks	11%	11%	12%	12%	12%	11%	9%	13%	12%	12%	12%
IT/ Cyber Risks	2%	2%	1%	1%	1%	1%	1%	0%	1%	2%	1%
Economic Risks	6%	5%	6%	7%	6%	7%	5%	7%	7%	6%	6%
Project Management Risks	1%	3%	5%	2%	1%	2%	0%	7%	3%	5%	3%
Business Risks	5%	5%	8%	7%	4%	5%	5%	4%	8%	6%	6%
Financial Risks	21%	15%	18%	17%	19%	17%	12%	19%	18%	17%	18%
Technological / Innovation Risk	3%	5%	4%	4%	4%	5%	7%	3%	4%	5%	4%
Competition/ Industry Risks	3%	4%	2%	3%	2%	2%	4%	1%	3%	2%	3%
Manpower Risks	2%	2%	3%	3%	3%	3%	0%	3%	4%	3%	3%
Management/ Shareholder Risks	8%	8%	8%	8%	9%	8%	8%	9%	7%	8%	8%
Company Policy Risks	2%	3%	3%	3%	3%	3%	1%	2%	3%	4%	3%
Third Party Risks	3%	2%	2%	3%	3%	2%	3%	3%	2%	2%	2%
Equity Share Risks	15%	17%	15%	16%	16%	20%	23%	16%	16%	14%	16%

(Source: Compiled by Researcher, Frequency of risk disclosure is based on percentage of total number of risk statements in each sector)

4.2.5 Prevalence of Risk Factors across the Sectors and Categories

Risk factors are grouped into 15 different 'baskets' to represent company-specific risk differences and account to normalize the results. Examining the spread of risk factor categories, based on the total number of risks factors disclosed by each sector and overall across all the companies, table-4.8 provides insights into the relative portion of each risk factor category for each sector.

There are four risk factor categories which are most common in the finance sector, representing more than 50% of all the risks reported by this sector. These are Regulatory Policy Risks (12%), Operational Risks (11%), Financial Risks (21%), and Equity Share Related Risks (15%). Representation of the remaining risk categories ranges between 1% and 8%. The same four categories are also considered the main for the healthcare sector, also representing their portions as 9%, 11%, 15%, and 17% respectively.

The main categories for consumer durable and non-durable, consumer services and commercial services sectors are Operational Risks Category, Financial Risks Category and Equity Shares Risks Category, showing 12%, 18% and 16% of all the risk factors cited in each sector**.** For the remaining other sectors, these three risk factors remained major risk categories. The Software & IT Sector has not reflected any risk factors in the Project Management Risk and Manpower Risk Categories.
The Construction, Engineering, & Infrastructure Sector have shown no risk in the IT/Cyber Risk Category. Disclosure of litigation risks remains at 6% to 11% across all the sectors. Overall Regulatory Policy Risk Category (8%), Litigation Risk Category (7%), Operational Risk Category (12%), Financial Risk Category (18%), Management Risk Category (8%), Equity Share Related Risk Category (16%) and Economic Risk Category (6%) can be considered as prominent risk categories showing a significant concentration of risks out of total risks across all the companies in Indian prospectuses.

Further, table 4.9 provides the consolidated relative proportions of each risk factor category for each sector. Finance sector companies are showing maximum risk statements in almost each risk category, i.e., Regulatory Policy Risks (26%), Litigation Risks (17%), Operational Risks (19%), IT/Cyber Risk (29%), Economic

Risk (20%), Financial Risks (23%), Competition Risks (23%), Management Risks (19%), Third Party Risks (22%), and Equity Share Risks (18%). Project Management Risks are represented at their maximum by the Construction, Engineering & Infrastructure Sector.

Table-4.9: Total Risk Factors Frequency by Category and Sector (Figures in % age)

Categories / Sectors	Regulatory Policy Risks	Litigation Risks	Operational Risks	IT/ Cyber Risks	Economic Risks	Project Mgt. Risks	Business Risks	Financial Risks	Technology / Innovation Risks	Competition/ Industry Risks	Manpower Risks	Management / Shareholder Risks	Company Policy Risks	Third Party Risks	Equity Share Risks
Finance	26	17	19	29	20	8	18	23	14	23	12	19	15	22	18
Healthcare	11	13	10	16	9	11	10	9	12	15	10	11	12	7	11
Consumer Dur. & Non-durable	13	15	16	10	15	24	21	16	16	13	16	16	17	14	15
Consumer Services	9	10	11	11	11	6	12	10	11	10	13	10	9	8	10
Commercial Services	5	7	6	6	5	2	4	6	7	6	6	6	7	8	6
Transportation & Logistics	4	6	5	4	6	4	4	5	6	4	7	5	7	6	7
Software & IT	5	7	3	1	3	0	3	3	7	6	0	4	2	5	6
Construction, Engr. & Infra	8	9	11	0	11	43	6	10	6	4	10	10	8	11	10
Producer Manufacturing	11	9	12	11	14	24	15	12	12	13	16	11	12	11	11
Miscellaneous	7	7	8	10	8	24	8	8	9	6	10	8	11	8	7

(Source: Compiled by Researcher)

The Consumer durables and Non-durable Sectors reflect the most Company Policy Risks (17%) and Technology/Innovation Risks (16%).Software and IT Sector have not shown any risk statements in the Project Management Risk and Manpower Risk categories. Moreover, Software & IT Sector has shown comparatively fewer risk factor statements.

4.3 DETERMINATION OF MUTUALLY EXCLUSIVE RISK CATEGORIES USING FACTOR ANALYSIS

Factor Analysis is used to reduce and summarise data. Its primary goal is to condense a large number of individual items into a smaller number of dimensions. Factor Analysis is used in the present study to standardise and make the 15 risk categories more acceptable. A five-point Likert scale (1=Strongly Not-Followed, 2=Not Followed, 3=Neutral, 4=Followed, 5=Strongly Followed) was developed to record the responses of the companies to the 255 risk disclosure statements derived from IPO prospectuses of 131 Indian companies. The total number of risk factors in each category is set at 100 %, indicating that a specific risk is strongly followed on a five-point Likert scale. Category 5 was assigned to the company that adhered to the majority of risk statements of specific risk factors disclosed in the IPO prospectus (Strongly followed). Category 1 was assigned to the company that covers the least risk statements of specific risk factors mentioned in the IPO prospectus (Strongly Not Followed). The disclosure of the various risk factor statements in the IPO prospectus are recorded on the Likert Scale (within this parameter) which are shown in Annexure-II. Further, the mean score and Principal Component Analysis are employed in order to group the similar statements and identify latent factors.

Factor Analysis necessitates a large sample size. It is based on the correlation matrix of the variables involved in the question, and correlations generally require a large sample to stabilize. The Kaiser-Meyer-Olkin Measure of Sampling Adequacy and Bartlett's Test of Sphericity provide a minimum requirement that must be reached before a factor analysis can be applied. The following are the results of the present study:

4.3.1 Reliability and Validity

Cronbach (1951) advocated a reliability standard alpha value of 0.70. Nunnally, (1967) suggested acceptable lower limits of acceptability for Cronbach's alpha value

as low as 0.50 appropriate for exploratory research. Bagozzi R.P. and Yi (1988) recommended a standard value of 0.60. Hair et al. (2006) state that while a reliability value of 0.70 is widely accepted as acceptable, reliability values as low as 0.60 are appropriate for exploratory research. The reliability value for our data is 0.667 as shown in Table-4.10, which is more than 0.60. Hence, the scales used for data analysis are sufficiently reliable.

Table-4.10:Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.638	.667	15

This is greater than 0.60 showing the data is sufficiently reliable for applying factor analysis

Source- Authors' Computation (SPSS Output)

Tests of Statistical validity

Table-4.11: KMO and Bartlett's Test Statistics

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.639
Bartlett's Test of Sphericity	Approx. Chi-Square	352.458
	Df	105
	Sig.	0.000

This is greater than 0.60, showing reasonable items for each factor.

This is significant (less than .05), indicating that the correlation matrix is significantly different from an identity matrix.

Source- Authors' Computation (SPSS Output)

The Kaiser-Meyer-Olkin (KMO) Test determines whether each factor predicts enough items and whether the value distribution is sufficient for conducting Factor analysis. As per the KMO measure, a value greater than 0.9 is marvellous, higher than 0.8 is meritorious, more than 0.7 is middling, greater than 0.6 is mediocre, above 0.5 is miserable, and less than 0.5 is unacceptable. Table-4.11 shows that the data has provided a KMO sampling adequacy value of 0.639, indicating mediocre. The multivariate normality of a group of distributions is measured by Bartlett's test of sphericity. It also determines whether or not the correlation matrix used by the FA is an identity matrix. It is based on a chi-square transformation of the correlation matrix's determinant. A significance value less than 0.05 implies that the data is not generating an identity matrix and therefore sufficiently multivariate normal and suitable for Factor Analysis (George and Mallery, 2003). The data of this analysis has

a significance value of 0.000, suggesting that the data is appropriate for applying Factor Analysis in the present study.

4.3.2 The Communalities

The Communalities table-4.12 reflects the %age of variation specified by the Factors for each variable. This table contains the initial commonalities prior to rotation.

Table-4.12: Communalities

Risk categories	Initial	Extraction
RPR	1.000	.616
LR	1.000	.829
OPR	1.000	.528
ITR	1.000	.596
ER	1.000	.592
BR	1.000	.619
FR	1.000	.589
TIR	1.000	.769
IR	1.000	.696
MPR	1.000	.564
MRR	1.000	.543
CPR	1.000	.609
TPR	1.000	.672
ESR	1.000	.592
PMR	1.000	.731

(Extraction Method: Principal Component Analysis)

These initial communalities represent the relation between the variable and all other variables (i.e., the squared multiple correlation between the item and all other items) before rotation.

These values indicate the proportion of each variable's variance that can be explained by the retained factors.

The initial values on the diagonal of the correlation matrix are determined by the squared multiple correlation of the variable with the other variables. A higher communality value implies that a variable has a lot in common with the other variables when considered as a group (Islam and Mamun, 2005). All the initial communalities values in our case are greater than 0.30, which is a positive sign. Extraction column shows the reproduced variances from the factors that have been extracted. Variables with high extraction values are well represented in the common factor space, while variables with low extraction values do not. We don't have any especially low values here.

4.3.3 Extraction of initial factor solution

The minimum number of factors which will account for the maximum variance in the data is derived using Principal Component Analysis (PCA). Kaiser and the Scree test help with this factor extraction.

Eigen values refer to the total variance described by each factor in terms of the number of 'items worth' of variance each explains.

% of co-variation among items accounted for by each factor before and after rotation

Table-4.13: Total Variance Explained

Component	Initial Eigen values			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.146	20.970	20.970	3.146	20.970	20.970	2.009	13.392	13.392
2	1.520	10.135	31.105	1.520	10.135	31.105	1.671	11.143	24.536
3	1.364	9.092	40.197	1.364	9.092	40.197	1.623	10.818	35.353
4	1.259	8.393	48.590	1.259	8.393	48.590	1.599	10.660	46.013
5	1.186	7.905	56.496	1.186	7.905	56.496	1.392	9.279	55.292
6	1.072	7.144	63.640	1.072	7.144	63.640	1.252	8.348	63.640
7	.983	6.556	70.196						
8	.804	5.358	75.554						
9	.711	4.738	80.292						
10	.653	4.357	84.648						
11	.630	4.201	88.850						
12	.552	3.680	92.530						
13	.477	3.178	95.708						
14	.429	2.861	98.569						
15	.215	1.431	100.000						

(Extraction Method: Principal Component Analysis)

The data contained in Table-4.13 shows the output of Principal Component analysis through the extraction method. This Total Variance Explained Table depicts how the variance is divided among the 15 possible factors. Under the PCA method, the size of the eigenvalue should be used to determine the number of factors to account for maximum variance in the data set. The factors with the largest eigenvalue should be retained. As per the Kaiser criterion, here, six factors with eigenvalues higher than 1.0 are extracted. These six factors appear to explain most of the variability in the data. Factor 1 has an eigenvalue of 3.146, which explains 20.97 percent of the total variance. Factor 2 contributes 1.520, or 10.135 percent, of the total variance. Factor 3 has an eigenvalue of 1.364, which shows 9.092 percent of the total variance. Likewise, Factor 4, Factor 5 and Factor 6 have Eigen values of 1.259, 1.189, and

1.072, representing 8.393, 7.905 and 7.144 percent of total variance, respectively. The cumulative percentage of variability explained by these six factors is 63.64%.

After factor extraction, the factors are rotated orthogonally using varimax rotation with Kaiser Normalization to see whether the conclusion from all of them points to the same output. If the rotation outputs differ, it indicates that final factors are not consistent for all scenarios. When the factors are rotated in the present study, the contribution of the first factor in explaining the total variance is reduced to 13.39%, while the remaining five factors explain comparatively more variability. But the overall relative percentage of total variance explained by all the six retained factors remained the same, i.e. 63.64%. As a result, final factors are consistent for both scenarios, regardless of whether the factor structure has been rotated or not.

4.3.4 Scree plots

Scree plots are graphical representations of the number of factors against their respective eigen values. The plot resembles the side of a mountain, and the term "scree" refers to the rubble that has fallen from the mountain and is lying at its base. As a result, the scree plot suggests that analysis be terminated at the point where the mountain ends and the wreckage begins. Cattell (1966) argues that all those factors that lie above the point of inflexion must be retained in factor analysis. The scree plot and the eigenvalues both suggest that these 15 variables/components can be reduced to 6 components. Note that the scree plot flattens out after the sixth component. Thus, the graphical output under Scree plot also supports the statistical output of PCA and confirms the extraction of six factors under factor analysis.

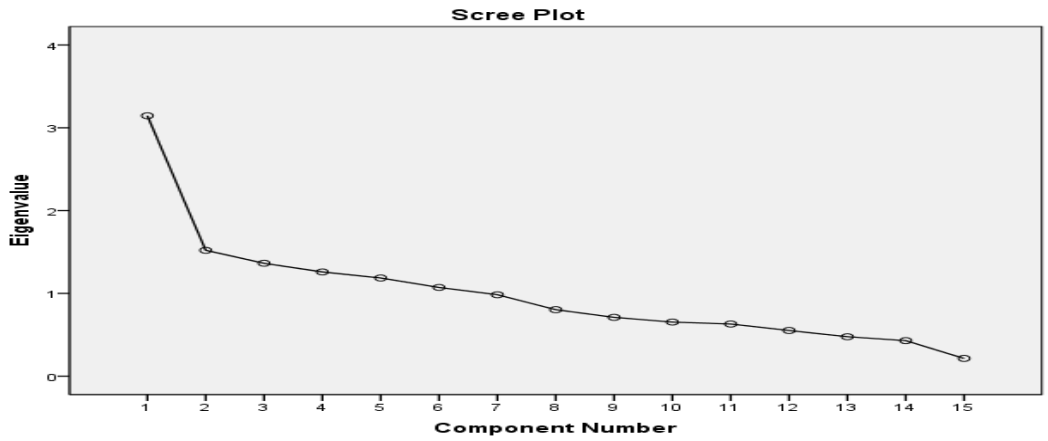

Figure 4.1: Scree Plot (Source: SPSS data output)

4.3.5 Factor loading

The Rotated Factor Matrix helps in understanding the results of the analysis. Table-4.14 shows the factor loadings of various factors in factor analysis output.

Table-4.14: Rotated Component Matrix[a]

	Component					
	1	2	3	4	5	6
PMR	.835					
BR	.629					
LR	.575	.406				
OPR	.437					
ITR		.747				
CPR		.671				
TPR			.797			
MPR			.643			
MRR			.434			
ESR				.743		
ER				.730		
RPR					.638	
IR					.638	.452
FR					.558	
TIR						.869

Extraction Method: Principal Component Analysis..Rotation Method: Varimax with Kaiser Normalization. a. Rotation converged in 11 iterations

4.3.6 Component Transformation Matrix

This matrix simply displays the component correlation matrix prior to and after rotation.

Table-4.15: Component Transformation Matrix

Component		1	2	3	4	5	6
dimension0	1	.639	.357	.428	.446	.260	.126
	2	-.211	.819	-.308	-.264	.347	.012
	3	.209	-.263	-.547	.067	.290	.706
	4	-.450	-.267	.427	.003	.735	.063
	5	-.429	.098	-.260	.852	-.071	-.089
	6	-.343	.228	.416	-.036	-.428	.688

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

Table-4.14 has sorted the 15 variables into certain overlapping groups of variables. Actually, every variable has some loading from every factor, but in the present study, loadings less than |.40| are excluded from the output. The subgroups of factors are categorised as per their factor loading in the specific groups. The rotated component matrix explained the association between the fifteen variables that comprise six factors.

4.3.7 Factor Labelling

As per the percentage of factor loadings, the results of the Rotated Component Matrix are grouped and labelled as shown in Table-4.16

Table-4.16: Factor Labels

Factor	**Factor Label**	
F1	**Operating Risk**	Project Management Risk (0.835)
		Business Risk (0.689)
		Operational Risk (0.437)
F2	**Compliance Risk**	IT Policy Risk (0.747)
		Company Policy Risk (0.571)
		Litigation Risk (0.406)
F3	**Managerial Risk**	Third Party Risk (0.797)
		Manpower Risk (0.643)
		Management Related Risk (0.434)
F4	**Equity Investment Risk**	Economic Risk (0.730)
		Equity Shareholder Risk (0.743)
F5	**Financial Risk**	Regulatory Policy Risk (0.638)
		Financial Risk having (0.558)
F6	**Technological and Competitive Risk**	Technology and Innovation risk (0.869)
		Competitive/ Industrial Risk (0.452)

- The first factor (F1) labelled **'Operating Risk'** comprises three variables, i. *e.* Project Management Risk with 0.835 loading, Business Risk with 0.689 loading and Operational Risk with 0.437.

- The second factor (F2) called **'Compliance Risk'** comprises these variables, i. *e.* IT Policy Risk with 0.747 loading, Company Policy Risk with 0.571 loading, and Litigation Risk with 0.406 loading.

- The third factor (F3), embraced as **'Managerial Risk'** includes three variables, namely Third Party Risk, Manpower Risk, and Management Related Risk, showing loads of 0.797, 0.643, and 0.434 respectively.

- The fourth factor (F4) is named "**Equity Risk'** which includes two variables. Economic Risk with 0.730 loading and Equity Shareholder Risk with 0.743 loading.

- The fifth factor (F5), labelled **'Financial Risk'** includes two variables, namely "Regulatory Policy Risk" and "Financial Risk," having a loading of 0.638 and 0.558 respectively.

- The sixth factor (F6) is tagged as **'Technological and Competitive Risk'** which embraces Technology and Innovation Risk, having a factor loading of 0.869 and Competitive/ Industrial Risk with a 0.452 loading.

4.3.8 Ranking of Factors

After the classification of latent factors, the new emerging factors are ranked by using the Factor Scale Rating (Cheung, 1999)

$$F_i\,(SR) = \sum_{j=1}^{n} \frac{(SR)ij}{n} = \text{Mean of Items Score /Number of items in Factor}$$

Where

$Fi\ (SR)$ = Factor Score based on scale rating, SRij = Mean Scale Rating of j^{th}

Table-4.17: Ranking of Factors

Sr. No.	Factor	Mean Score	Ranking
1	Operational Risk	2.479	4
2	Compliance Risk	2.236	6
3	Managerial l Risk	2.687	3
4	Equity Risk	2.778	2
5	Financial Risk	2.835	1
6	Technological and Competitive Risk	2.301	5

The factor ranking scores are tabulated in the table-4.18. The ranking scores indicate that investors remain very worried about the company's investment and financial risk while investing in the IPOs. The financial risk factor has been ranked in first position. This risk category illustrates firm-specific financial characteristics such as its financial credibility, financial reputation, prospective investment plans, and policy regulation-related investment risks. It also shows the firm's use of financial leverage and debt financing, etc. It is followed by equity risk, which is ranked as the second highest risk in the ranking criteria. This category of risk is associated with the company's financial stability, fluctuations in inflation, interest rates, global economic conditions, and the company's repeated changes in top leadership, among other things. Such issues often instigate investors to be conscious when making investment decisions. Managerial Risk is ranked third among all risk categories based on its mean ranking. A company may face problems due to the unavailability of experienced management personnel. This vulnerability brought up concerns about the company's manpower as well as third-party involvement. Managerial Risk secured the third rank as per its mean score among all the risk categories. This risk highlights the uncertainties related to the manpower of the company and third-party associations. This risk includes the menaces associated with recruitment and selection, wages, employee level disputes, fringe benefits, issues related to distributors and other third-party disputes. Such issues dent the internal and external reputation of the company. The factor lying in the middle range (fourth rank) of the ranking list is operational risk. It involved all the risks related to functioning business, managing the various projects, and related to the various operations of the company, promoters, directors, and audit reports. The last two factors, Technological and Competitive risk and compliance risk (fifth and sixth rank, respectively), shed light on the fears of investors related to the company's decision regarding inculcating new technology, innovations in the company's products, IT policies, and companies' policies related to handling various issues.

4.4 CONCLUDING REMARKS

It can be concluded that quantitative risk disclosures are sufficient in Indian IPO prospectuses but generic in nature. So identification of six mutually exclusive risk categories namely Operating Risks, Compliance Risks, managerial Risks, Financial Risks, Equity Risks and Technological & Competitive Risk category gives investors a better understanding of risk before investing in IPOs.