CHAPTER - VI
FINDINGS AND SUGGESTIONS

The objective of this chapter is to discuss the findings, reach conclusion and state implications of all the qualitative and quantitative analysis presented in earlier chapters. This study has made use of secondary data for analyzing the interrelationships between the three research dimensions, i.e. IT and firms’ performance, CG and firms’ performance, and IT and CG. The relationships have been assessed with the application of two techniques, viz, meta analysis and content analysis on secondary data. INFORMS and Sciencedirect have been the main outlets for the given study that provided studies to carry out meta-analysis. The meta-analysis methodology developed by Neyeloff, et al. (2012) has been followed to compute summary effect and correspondingly to reveal the interrelationships among the three research dimensions. Relevant data for the content analysis has been retrieved from the corporate websites of the reviewed sample companies. The Pearson product moment correlation and multiple linear regression analysis along with Multivariate analysis of variance (Multivariate-ANOVA) have been used to find out whether there exists a relationship between the variables measured and also to find out if the relationship is significant or not. Further, to examine the level of disclosures regarding IT orientation and corporate governance practices of the sample companies, disclosure indices have been framed using the NASSCOM IT Users Awards Criteria (NASSCOM, 2012); Board Briefing, IT Governance Institute (ITGI, 2003) and Standard and Poor’s: S&P ESG India Index Methodology (April. 2011). Issues in IT Disclosure Index are classified into 5 broad categories having 64 sub-points whereas in CG Disclosure Index a total of 130 sub-points classified in 4 broad categories have been considered (see Appendices D, E).

6.1 FINDINGS OF THE STUDY

The findings of the study are presented in two sections. The first section elaborates the theoretical findings of prior related studies while the second section presents the empirical findings of the study carried out to assess the interrelationships that exist between the three research dimensions.
6.1.1 THEORETICAL FINDINGS

**Dimension I: IT AND FIRM PERFORMANCE**

Several studies have been conducted so far and are still ongoing on the examination of the relationship between IT and firm performance. It is inferred from the literature review that the results are conclusive regarding association between IT and firm performance. Number of studies has considered IT and IT applications as an important consideration in valuing firms’ productivity, profitability, innovation and consumers’ welfare. Like Ravichandran and Lertwongsatien (2005) empirically examined the same on 129 sample firms in the United States and argued that variation in firm performance is explained by the extent to which IT is used to support and enhance a firm's core competencies. The study of Azadeh, et al. (2009) also showed linear relationship between the IT status and performance of the companies. Chen (2012) stated that IT-enabled resources have synergistic effect on the firm's capabilities, as they, influence the firms' strategic objectives and improve its financial performance. Byrd and Davidson (2003) also revealed positive relationship between IT impact and firm performance. Further, Hu and Quan (2005) suggested that a causal relationship exists between IT investments and productivity at the industry level. However some researchers have viewed IT investment as a commodity where IT investment does not create a market advantage for the organization (Thatcher and Pingry, 2007).

**Dimension II: CG AND FIRM PERFORMANCE**

Numerous studies have also been carried out to determine the link between varied aspects of corporate governance and firm performance; evidence in this regard appears fairly mixed. Yang and Liang (2009) concluded that corporate governance quality is an important determinant of innovation performance. The study of Chi (2009) evidenced that good corporate disclosure practices play a significant role in firm performance. Deutsche Bank AG (2004) explored the implications of corporate governance for portfolio management and concluded that corporate governance standards are an important component of equity risk. Arcot and Bruno (2009) indicated that the positive association between performance and corporate governance is limited only to those firms with the highest levels of corporate
governance standards or disclosure. However on the other side, Bhagat and Black (1997, 2002) found no consistent evidence that the proportion of inside/outside directors affects firm performance. Dalton, et al. (1998) showed that board composition had virtually no effect on firm performance and that there was no relationship between leadership structure (CEO/Chairman) and firm performance. Ellstrand and Johnson (1999) indicated that board composition whether measured by proportion of inside directors, affiliated directors or independent directors is unrelated to corporate financial performance.

Dimension III: IT GOVERNANCE

Various studies exhibit the importance the ITG domains. The review of literature has produced conclusive results, emphasizing positive association between ITG domains with organizational success. Motjolopane and Brown (2004) recognized that achieving alignment contributes immensely to ensure that investments in IT result in improvements in organizational performance. Byrd, Lewis and Bryan (2006) who empirically examined the influence of the alignment between IS strategy and business strategy (strategic alignment) on the payoff of IT investment, indicated that there is a synergistic coupling between strategic alignment and IT investment with firm performance. Papp (1999) identified 7 measures as linked to strategic alignment within organizations being anticipated performance, liquidity, income, growth, net profitability, earnings and debt-to-equity. Sircar, Turnbow and Bordoloi (2000) examined the relationship between firm performance and IT/corporate investments and concluded IT investment as an important contributor to a firm’s performance. Abraham (2012) proposed information technology as an “enabler” in intrinsically empowering executives and stakeholders to mutually enhance the corporate governance structure. Hauswald and Marquez (2005) have also posited that improvements in dissemination technology lead to more disclosure and more successful external governance.

6.1.2 EMPIRICAL FINDINGS

Based on the detailed analysis various findings have been drawn. The findings are summarized under two heads: Findings of Meta Analysis and Findings of Content Analysis.
Phase I: FINDINGS OF META ANALYSIS

1. The empirical examination of studies pertaining to the relationship between IT and Firm performance revealed that IT has a general positive association with various measures of Firm performance.

2. Statistically no significant difference has been identified among the results indicated by sample studies exploring the relationship between IT and Firm performance.

3. The empirical examination of studies pertaining to the relationship between CG and Firm performance revealed that CG has a general positive association with various measures of Firm performance.

4. Statistically no significant difference has been found among the results indicated by sample studies exploring the relationship between CG and Firm performance.

5. The empirical examination of studies to assess whether IT governance mechanism has a general positive tendency for effective IT alignment so as to achieve competitive advantage conceded non-collusive results.

6. Significant difference has been observed among the results indicated by sample studies which emphasize the importance of IT governance mechanism for varied organizations.

Phase II: FINDINGS OF CONTENT ANALYSIS

1. Computation of ITDI weighted scores and hence their frequency distribution revealed that from the sample 169 companies only 13 companies have received a score above 60%, 26 companies have obtained a score of 50%-60%, 47 companies have a value between 40%-50%, 57 companies which is quite a big number, ranged between 30%-40% and 26 companies obtained a value below 30%. Disclosures on IT (impact and orientation) of the sample companies are overall moderate as maximum number of companies reported disclosures in the range of 30% to 60%.

1.1 Review of Item-Wise ITDI scores revealed that there is no single company
which does not disclose information regarding sub-dimensions of innovation and thought leadership, strategic approach to it implementation, IT strategic alliance, IT resource management, and IT value delivery.

1.2 Majority of sample companies (69.8%) lie in moderate zone of disclosure for innovation and thought leadership category.

1.3 Maximum sample companies valued for low and moderate zone of disclosure with 35.5% and 34.8% respectively of the total sample companies for IT excellence in achieving business goals.

1.4 Of the total sample companies, 11.1% do not disclose any dimension pertaining to scale of project and its impact. However, majority of companies (68.1%) positioned in low disclosure range for the same.

1.5 For strategic approach to IT implementation dimension 52.1 % of the sample companies are reported to lie in moderate zone of disclosure. However, 21.9% companies do valued for high disclosure range.

1.6 Majority of sample companies (55.6%) are reported to position in moderate zone of disclosure for IT governance dimension. Companies have overall disclosed reasonably fine for key domains of IT governance with exception to IT risk management domain. 39.6% of the total sample companies do not disclose at all regarding their orientation towards IT risk management.

2. Computation of CGDI weighted scores and hence, their frequency distribution revealed that from the net 169 sample companies only 8 companies received a score above 50%, 45 companies obtained a score of 40%-50%, 42 companies have a score range between 30%-40% and 74 companies received a value below 30%. Disclosures on CG practices of the sample companies are overall moderate as maximum number of companies are positioned in the disclosure range of 30% to 50%.

2.1 Item-Wise CGDI scores are based on sub-dimensions of CG, categorized into four sections such as ownership structure and shareholders rights, financial and operational information, board and management structure and process, and board ethics and corporate responsibility.
2.2 Out of the total sample, majority of companies i.e. 35.5% and 29% do not disclose information regarding shareholder capital and shareholder rights respectively. Where only 3% lie in high range for disclosing information on shareholder capital, 11.8% are positioned in high disclosure zone for providing web information on shareholder rights.

2.3 In financial information category 27.8% of the sample companies do not disclose any financial information, 30.1% and 32.6% companies lie in moderate and high disclosure range respectively. As far as operational information disclosure status is concerned more than 90% of the total sample companies are positioned in low and moderate disclosure zones.

2.4 Out of the total sample, 39.5% companies widely disclose their board and management information whereas 22.6% and 29% companies lie in low and moderate range of CG disclosure scores. However, 8.9% companies do not provide information regarding their board and management on their respective websites. But this number rises to 45.6% when information related to board and management remuneration is considered. Though 43.2% companies are moderately disclosing board and management remuneration information.

2.5 Companies which do not provide any web disclosure regarding their business ethics and corporate responsibility practices are found to be 33.7% of the total sample. On the other hand, 42% of the total sample companies belong to low zone of disclosure scores.

3. Correlation coefficients depicting significant and strong degree of relationship between IT and firms’ performance in Pearson product moment correlation analysis at 0.05 and 0.01 level of significance are found to be few in number. Some measures like market price to book value, D/E ratio, inventory ratio, return on capital employed, return on net worth and dividend are seemed to have significant correlation with some of the IT dimensions.

3.1 Market price to Book Value (MBV), a financial performance variable is found to correlate positively and significantly with research stated IT
dimensions with exception to strategic approach to IT implementation domain.

3.2 D/E ratio correlates positively with strategic approach to IT implementation.

3.3 Inventory ratio is found to have positive and significant association with IT excellence in achieving business goals.

3.4 Both Return on Capital Employed (ROCE) and Return on Net Worth (RONW) bear significant association with scale of project and impact.

3.5 Dividend is found to be positively correlated with IT excellence in achieving business goals, and with scale of project and impact.

4. Correlation coefficients depicting significant and strong degree of relationship between CG and firms’ performance in Pearson product moment correlation analysis at 0.05 and 0.01 level of significance are found to be few in number. Maximum of firms’ financial performance indicators bear no strong association with disclosure practices of corporate governance at 0.05 and 0.01 level of significance. Though market price to book value, inventory ratio, earnings per share and price-earnings ratio are found to have statistically positive and significant association with some CG variables.

4.1 MBV (a firm performance measure) correlates positively and significantly with all the CG dimensions.

4.2 Inventory ratio is found to have statistically positive and significant association with two dimensions of corporate governance i.e. shareholder capital, and ethics and corporate responsibility.

4.3 Earnings per share bear positive correlation with operational information.

4.4 Price-earnings ratio is found to have positive and significant association with four CG dimensions: shareholder capital, shareholder rights, board and management information, and board and management remuneration.

5. Out of 70 inter-correlations between IT and CG variables, 54 are positive and significant. i.e. about 77 percent of the total inter-correlations are positive
and significant. This implies that on the whole IT scales are positively and significantly associated with CG scales.

5.1 IT Disclosure Index dimensions like innovation and thought leadership, IT excellence in achieving business goals and strategic approach to IT implementation are found to correlate positively and significantly with all the dimensions of CG Disclosure Index.

5.2 IT governance domains specifically are also found to have overall significant and strong association with CG metrics.

6. Results of Multivariate - ANOVA have evidenced that overall ITDI and CGDI portray statistically significant impact on a specific group of financial performance measures of the sample firms’.

7. Analysis and interpretation of thirteen regression models meant to statistically assess the impact of IT orientation on financial performance of the sample companies supported the results of Multivariate - ANOVA but revealed the same by limited number of significant factors.

7.1 Some of the IT dimensions do have significant impact on firms’ performance but the joint contribution of the IT predictors is non-significant for each of the independent models.

7.2 The IT predictor variables i.e. innovation and thought leadership, IT excellence in achieving business goals, scale of project and impact, strategic approach to IT implementation and IT governance jointly account for less than 25% of the total variances in firms’ performance for each independent model.

8. Regression model depicting the impact of firms’ performance on IT orientation of the sample companies evidenced that firms’ performance does not really have impact on IT orientation. No financial performance measure is found to be significant with an exception to MBV and dividend.

8.1 The joint contribution of financial performance measures i.e. rate of growth (%age) of sales, rate of growth (%age) of profit after tax, rate of growth
(age) of market capitalization, market price to book value, debt-equity ratio, current ratio, inventory ratio, debtors ratio, return on capital employed, return on net worth, earnings per share, dividend (age), and price-earnings ratio is found non-significant in predicting ITDI score.

8.2 Financial performance indicators jointly account for only 11.3% of the total variance in ITDI score.

9. Multiple regression models assessing the impact of CG practices on financial performance of the sample companies depicted the same results as reported by Multivariate - ANOVA but revealed the same by limited number of significant factors.

9.1 The CG predictor variables i.e. ownership structure and shareholder rights, financial and operational information, board and management structure and process, and business ethics and corporate responsibility jointly account for less than 25% of the total variances in firms’ performance for each of the thirteen independent models.

9.2 Out of thirteen regression models, four models are found fit i.e. F-value significant at 0.01 level, where CG dimensions being independent variables and MBV, inventory ratio, EPS and P/E ratio are dependent variables respectively. The joint contribution of CG predictors on MBV account for 17.7%, on inventory ratio it is only 13%, on EPS is 10.2% whereas on P/E ratio is 8.5% only.

10. Regression coefficients presenting the relationship between CG and firms’ performance, CG being the dependent variable and firms’ performance measures constituting independent variables concluded that firms’ performance does not really have impact on CG disclosure practices. Besides MBV, no other financial performance measure is found to be significant at 0.05 level.

10.1 The joint contribution of financial performance measures is found non-significant in predicting CGDI score.

10.2 Financial performance indicators jointly account for only 13.5% of the total variance in CGDI score.
11. Multiple regression analysis performed to estimate the contribution of 10 independent IT factors on CGDI score concluded that 37.3% ($R^2$) variance in dependent variable (CGDI) can be explained by independent variables (IT dimensions). This implied strong degree of dependence or association between IT metrics and CGDI weighted scores. By putting the values of partial regression coefficients, regression equation formed is:

$$\text{CGDI} = (-23.756) + 4.901\text{Itl} + (-.423)\text{Itexl} + .052\text{Spi} + 3.511\text{SaIT} + (-.159)\text{Itsa} + (-.139)\text{ITrm} + 2.846\text{ITpm} + 1.631\text{ITrmgt} + 8.349\text{ITvd} + (-1.577)\text{ITmsc} \text{ et}$$

12. Multiple regression model tested to estimate the contribution of 7 independent CG factors on ITDI score explained variance in ITDI score due to specific CG variables. Coefficient of determination ($R^2$) indicated that about 29% of change in ITDI is accounted for by the independent variables (CG dimensions). This implied strong degree of association between CG metrics and ITDI weighted scores. By putting the values of partial regression coefficients, regression equation obtained is:

$$\text{ITDI} = 31.32 + (-.416)\text{SCH} + .872\text{SHR} + (-.101)\text{FInfo} + 1.213\text{Oinfo} + .207\text{BMI} + .292\text{BMR} + 1.249\text{BECR} + \text{ et}$$

13. Multiple regression analysis made it evident that IT and CG metrics possess statistically significant causal relationship between themselves.

14. Empirical results manifested that IT and CG share positive association in a manner that with the change in one will accompany simultaneous changes in other. Furthermore, results revealed that a strong positive relationship exists between the IT orientation and CG disclosure practices of NASSCOM companies (sample companies). This entails that companies that made more CG disclosures have more constructive outlook towards IT and its applications or/and favorable IT orientation leads to higher CG disclosure tendency of the business organizations.
6.2 DISCUSSION OF FINDINGS

The aim of this study was to shed light on the links between three research dimensions i.e. IT and FP, CG and FP, and IT orientation and CG disclosure. The main objectives have been achieved with the application of two techniques: meta-analysis and content analysis. Meta analysis, the first phase analysis has been carried out on the basis of prior studies to test the hypotheses of the study, for three domains: IT and FP, CG and FP, and ITG and its relative importance to attain competitive advantage. The results which are statistically driven have been presented through forest plots. The second phase content analysis has been undertaken by the construction of IT and CG scales which have been defined as IT Disclosure Index and CG Disclosure Index for assessing IT impact and orientation, and CG disclosure practices of NASSCOM member companies. The weighted scores of ITDI and CGDI have been computed and presented through frequency distribution tables to disclose the extent of IT orientation and CG disclosure practices of the 169 sample companies. The weighted scores obtained from ITDI and CGDI have been further put through correlation, Multivariate-ANOVA and multiple linear regression analysis to test the pre-defined hypotheses.

Computation of ITDI weighted scores and hence, their frequency distribution revealed that disclosures on IT (impact and orientation) of the sample companies are overall moderate as maximum number of companies reported disclosures in the range of 30% to 60%. From the valuation of scores’ frequency it seems that from the sample 169 companies only 13 companies have received a score above 60%, though maximum number of companies i.e. 57 companies ranged between 30%-40%. Also, computation of CGDI weighted scores revealed that disclosures on CG practices of the sample companies are overall moderate as maximum number of companies (97 companies) are positioned in the disclosures range of 30% to 50%, where only 8 companies received a score above 50%; however, 74 companies are reported to receive a value below 30%.

From the detailed analysis, the first hypothesis for meta-analysis has been accepted supporting the notion of positive relationship between various dimensions of IT and varied Firm performance measures. The results have compositely indicated the
significant relationship between IT and Firm performance, as a comprehensive and summarized result of the sample studies. So, the results are in line with the study of Bhardwaj (2000) which examined the association between superior IT capability and superior firm performance and found the relationship to be positive and significant. Similar results have been disclosed by Kim (2003); and Osei-Bryson and Ko (2004) who supported the positive role of IT investment in enhancing firm productivity. The findings revealing the significant positive relationship between IT and firm performance are found to be consistent with the findings of Lucas and Olson, 1993; Hitt and Brynjolfsson, 1996; Lubbe, 2004; Rai, et al., 2006; Prasad, 2008 and Zehir, et al., 2010. The findings of the meta-analysis, therefore, shows that IT can influence the substantial increase in the value of the firm and IT investments are hence, considered as one of the vital components for enhancing the overall Firm performance. Further, the results of the content-analysis also indicated positive linkage between IT and firms’ Performance. Multivariate-ANOVA results evidenced significant impact of IT on a group of firms’ financial performance indicators. The Pearson correlation coefficients depicted positive association among IT and FP measures but at low pace i.e. only among very few scales. It is only MBV, a variable of FP, which seems to be correlated positively and significantly with maximum IT dimensions. The regression analysis also supported significant relationship between IT and FP variables but validated by few combinations of IT and FP measures. Some variables are independently found significant but the joint contribution of predictors (FP or ITDI score) are found to be insignificant in predicting ITDI score or FP. They jointly account for less than 25% of the total variances in respective dependent variables for each independent model. So, the results are in tune with the study of Teo and Wong, 1998; Aral and Weill, 2007; and Wang, 2010 where researchers failed to find any positive relationship between the tested variables. Teo and Wong (1998) found it to be difficult to evidence the linkage between the intensity of IT investment to IS success measures such as information quality, work environment and organizational impact. Aral and Weill (2007) also concluded that firms’ total IT investment is not associated with performance, but the study revealed that investments in specific IT assets explain performance differences along dimensions consistent with their strategic purpose. Wang (2010) who found that
firms whose names are associated with IT fashions in the press do not have higher performance, is of opined that such firms have better reputation and higher executive compensation in the near term. So, from the theoretical and empirical findings it has been revealed that IT and Firm performance do have positive and significant linkage in predicting the state of each other as far as conclusions of some research studies and summary effect of random-effect model of meta-analysis for the very first research dimension is concerned. But the results of content-analysis do not support the similar results fully. The second phase analysis presented differentiated results and concluded the tested variables have significant relationship only to a certain extent.

The examination of second research dimension: CG and Firm performance under meta-analysis made empirically evident the positive relationship between CG disclosure practices and Firm performance. The results have compositely indicated the significant relationship between CG and Firm performance, as a comprehensive and summarized result of the sample studies, leading to acceptance of hypothesis 2 of meta-analysis. The findings revealed that a strong positive relationship exists between the corporate governance disclosure and the performance of sample companies of the respective sample studies. This view is found to be consistent with the study of Maher and Andersson, 1999; Kyereboah-Colemann, 2007; Rashid, 2008; Sen, 2011; Chi, 2009; and Yang and Liang, 2009. These studies might have used different disclosure scales, different CG dimensions and different FP measures but all have provided with empirical evidences that corporate governance does affect performance of the firms. Multivariate-ANOVA carried out under content analysis, also indicated significant impact of CG on a group of firms’ financial performance indicators. However, the results of Pearson correlation and multiple regression (under content-analysis) for the same research dimension do not compliment the similar findings fully. The given study has found positive and significant linkage between CG and FP but factors which evidenced the same are few in number. Both in correlation and multiple regression analysis, MBV (a FP variable) is found to possess significant association with CG dimensions. Overall, correlation and multiple regression analysis, found significant interrelationship between CG and FP variables, but the same has been supported only by few significant factors. Though
some variables are independently found significant but the joint contribution of
predictors (FP or CGDI score) are found to be insignificant in predicting CGDI
score or FP. They jointly account for less than 25 % of the total variances in
respective dependent variables for each independent model. So, the findings support
the study of such researchers (Javed and Iqbal, 2007; Ellstrand and Johnson, 1999;
Dalton, et al., 1998; Bhagat and Black, 1997; and Bhagat and Black, 2002) who do
not found any positive and significant linkage between CG and FP, to some extent.
The study of Javed and Iqbal (2007) concluded that disclosure and transparency has
no significant effect on firm performance. Bhagat and Black (1997, 2002) found no
consistent evidence that the proportion of inside/outside directors affects firm
performance. The study of Dalton, et al. (1998) showed that board composition had
virtually no effect on firm performance and that there was no relationship between
leadership structure (CEO/Chairman) and firm performance. The theoretical and
empirical findings of the meta-analysis of the second research dimension indicated
the existence of positive and significant relationship between CG and Firm
performance. The results of content-analysis also supported the existence of such
significant relationship between CG and FP variables though with smaller
magnitude.

The third dimension of the research i.e. IT orientation and CG disclosure is most
important one pertaining to the topic of the study. The core domain of the study is to
assess the interrelationship between IT impact and orientation, and CG disclosure
practices of the companies. In content-analysis, the same has been examined on the
basis of ITDI and CGDI weighted scores of the sample companies. This relationship
has been investigated in meta-analysis under the head: ‘IT governance and its
relative importance’. The interesting results have been found for this dimension. The
results of the meta-analysis for third research dimension, are not found to be
congruent with the findings of some researchers (Bruce, 1998; Papp, 1999; Sircar,
Turnbow and Bordoloi, 2000; Motjolopane and Brown, 2004; Byrd, Lewis and
Bryan, 2006; Kwon and Watts, 2006; Abu-Musa, 2007; Silvius, 2007; and Lunardi,
Becker and Macada, 2009) who have considered IT governance or its specific
domain as a necessity and have reported that companies which have adopted IT
governance practices have improved their performance. Though the sample studies
have reported moderate heterogeneity of 51.73% but the hypothesis 3 for meta-analysis has been rejected i.e. “IT governance mechanism has a general positive tendency for effective IT alignment so as to achieve competitive advantage and there is no significant difference among the results indicated by sample studies”. No doubt majority of the sample studies revealed importance of IT governance mechanism but statistically significant differences are found among the sample studies. The reason could be the difference of ITG approach or focus on different specific ITG key domains in respective sample studies. But in content analysis, the Pearson correlation coefficients disclosed positively strong and significant association among majority of the IT and CG metrics. Furthermore, two regression models tested depict through coefficient of determination (R²) that 37.3% variance in dependent variable (CGDI) can be explained by independent variables (IT dimensions). Also, coefficient of determination (R²) for ITDI indicated that about 29% of change in ITDI is accounted for by the independent variables (CG dimensions). Both the models are found to be fit, F-value significant at 0.01 level and revealed statistically significant relationship between disclosures of IT (impact and orientation) and CG disclosure practices for the sample companies. This entails that companies that made more CG disclosures tend to have strong IT orientation or vice-versa.

6.3 CONCLUSION

The study has attempted to determine the links among the three key dimensions: IT orientation and firms’ performance, CG Disclosure and firms’ performance, and Disclosures of IT (impact and orientation) and CG Disclosure practices. From the analysis, the study concludes that there is no uniformity in the disclosure of IT orientation and corporate governance practices made by NASSCOM sample companies for the time period under review. Though they all disclose their IT orientation and corporate governance practices, but what is disclosed does not conform to any particular pattern being followed by the sample companies.

Furthermore, the study concludes that a positive relationship exists between IT and Firm performance, and CG and Firm performance on the basis of homogeneity analysis of prior studies. Multivariate - ANOVA results, based on content analysis compliment the findings of homogeneity analysis and conceded ITDI and CGDI as
significant predictors for a group of thirteen financial performance measures. However, the weaker coefficients are revealed by Pearson correlation and multiple regression tests carried on the basis of web disclosures and FP parameters of the sample companies for the year 2010-11. As far as third dimension is concerned, sample studies considered for meta-analysis are found to be heterogeneous which implies that studies emphasizing the importance of IT governance might have different orientations towards ITG domains and another reason could be the difference in sample companies examined during different time periods at varied places. However, extraordinary linkage is found between IT (impact and orientation) and CG (practices) from the content-analysis of the web-disclosures of the NASSCOM sample companies. That is, a reasonably strong correlation exists between IT and CG metrics. Also, a percentage increase in corporate governance disclosure level can be explained by firms’ IT orientation to a great extent and vice-versa.

6.4 SUGGESTIONS
Multiple opportunities for strategic use of information technology exist today (Benjamin, et al., 1983). More are constantly emerging with the increasing flow of technologies. IT governance has come to play an important role in organizations where technologies are implemented in larger scales than ever before and supports numerous business operations (Posthumus and Solms, 2005). IT governance as an integral part of corporate governance has been accepted by organizations, so that organizations can be righteous on the path of using the technology of the present to develop tomorrow's innovations. What steps, then, should be taken to implement the strategic application of information technology for corporate governance within the organization. Some suggestions as implied by the study are pointed below:

1. Focus attention on information technology at the top of the corporation as a tool for enhancing transparency and informative disclosures. Web disclosures form the best example of IT application for presenting transparent image of the respective organizations.

2. Develop comprehensive approach by generating awareness of the mechanism and benefits of IT governance, like how aligning IT with
business operations helps to attain maximum value from IT investments which ultimately leads to competitive advantage (concluded by research sample studies).

3. Generate awareness of the potential advantages of IT orientation for corporate governance disclosure practices. The given research empirically evidenced that constructive outlook of companies towards IT does have positive impact on the corporate governance disclosures level. It is necessary, therefore, to maintain alertness to possible new uses of the technology at all levels of the organization - especially for maintaining transparent icon image among all the stakeholders.

4. Create an environment in which information technology is considered as an important strategic weapon. But the technologies that empower organizations can also be used for manipulative/ fraudulent purposes. So, focus should be made to build in values and beliefs to have ethics embedded culture in the corporations.

6.5 CONTRIBUTION TO KNOWLEDGE

This study has contributed the following to the study of information technology and corporate governance:

1. The study provides extensive review regarding ‘Role of Information Technology in Corporate Governance’ by making the results of two techniques available; where one technique is based on empiricism of prior studies and other, on empiricism of web disclosure of sample companies of the research study.

2. This study framed two indices: ITDI, based on the NASSCOM IT Users Awards Criteria (NASSCOM, 2012), and Board Briefing, IT Governance Institute (ITGI, 2003) and CGDI, based on Standard and Poor’s: S&P ESG India Index Methodology (April, 2011). Issues in IT Disclosure Index are broadly classified into 5 broad categories having 64 sub-points. No single study based on ITDI has been identified in the journey of carrying out the research. Whereas in CG Disclosure Index a total of 130 statements
classified in 4 broad categories are considered. This is an improvement over the indices as used in prior research works which were not comprehensive in nature.

3. Instead of considering just a single measure of information technology, this study considered five different IT dimensions to assess the impact and orientation of companies towards IT.

4. Instead of considering just a single measure of corporate governance (as some prior studies have done), this study considered four different corporate governance measures to assess the conduct of companies regarding transparency and disclosure practices. This will help researchers in this area of interest to draw inference.

5. Instead of considering just a single measure of Firm financial performance (as some prior studies have done), this study considered thirteen different performance measures.

6. Since no study has extensively covered IT issues for corporate governance as it relates to performance for empirical examination, this study will serve as a database for future research.

6.6 SCOPE FOR FURTHER RESEARCH

The limitations of the study have prompted scope for further research as listed below:

1. The meta-analysis included studies from the selective (mainly information systems) disciplines. Since, IT is utilized in almost every segment of the economy future research may inculcate IT related studies from varied disciplines. Future research can replicate this study with more published and unpublished works for meta-analysis.

2. The inclusion of new IT metrics and corporate governance instruments can also result in additional edge-worth combinations of the IT orientation and CG practices. Also, other financial and non-financial measures for number of years, to assess the performance of the companies can be taken into
account for.

3. The study has not evaluated the underlying quality of the web disclosures, nor has the attempt been made to determine the credibility of disclosures. Future research can investigate the credibility of the web disclosures. Also, in this study, all the disclosure items have been given same weight which helps to reduce subjectivity; however, some aspects of IT and governance may be considered to be a basic component or prerequisite for implementing others and thus can be given more weights.

4. This research has gone some way in exploring information technology, corporate governance and corporate performance of IT and IT enabled companies in a broader context. Further research can explore the relationship in more and specific categories for example, in non-profit organizations, in government organizations, in family companies, and in other private companies. And it would be ideal to take up larger sample size for content-analysis so as to avoid methodological restrictions.