

CORPORATE SOCIAL RESPONSIBILITY REPORTING: A REVIEW IN INDIAN PERSPECTIVE

Prantik Roy¹ and Uday Krishna Mitra²

¹Research Scholar, Department of Commerce, The University of Burdwan, Bardhaman, West Bengal, email: roy.prantik7@gmail.com

²Associate Professor, Department of Commerce, Khalisani Mahavidyalaya, Hooghly, West Bengal

Abstract

The present study reviews researches undertaken on Corporate Social Responsibility (CSR) Reporting in Indian perspective during the period 2017-2022 to evaluate the current status of CSR reporting in India and to identify main gaps therein. Additionally, it evaluates the limitations mentioned in earlier CSR reporting studies and gives suggestion for further investigation. In order to conduct this study articles that specifically discuss CSR reporting in India are analysed. Findings of the study demonstrate that research on CSR reporting has dramatically grown in India. However, quite a few sectors continue to be underrepresented in the CSR reporting literature. A number of scholars have also pointed out problems related to methodology and sampling. The review suggests directions for further research based on these findings. As review analysis of previous studies has been utilized for gathering the CSR reporting information in India, therefore, this study does not provide any empirical results and is only limited to the Indian perspective within the given time frame. However, the present study seeks to provide a theoretical construct of knowledge on Indian CSR reporting and also factors that influence them. Consequently, it has effect on a variety of interested parties including investors, accounting bodies, companies, regulatory bodies, general public, academicians and researchers.

Keywords: Corporate Sustainability, Corporate Social Responsibility, Social Reporting, Business Responsibility Reporting, ESG Disclosure

1. Introduction

Corporate Social Responsibility (CSR) Reporting more or less became a standard practise for major companies in India and also in other parts of the world. CSR reporting is a critical tool for guaranteeing organisations' transparency as they strive for the long-term success. The stakeholders of a business require information of both financial and non-financial in nature for making complete assessment of performance of the concerned business. Globally stock

markets have raised pressure on policy makers and businesses to report data on CSR.¹ CSR reporting has been gradually becoming more widespread amongst large firms throughout the world. Despite a growing trend towards CSR reporting, the quality aspect of such reports remains heavily a subject matter of debate. CSR reporting practices have been criticised for being irrelevant and unreliable. For the stakeholders to make accurate and fair performance assessment and to take necessary action, information accuracy is crucial. The academicians have recognised the significance of honest, translucent and sensible investment made on environmental and social initiatives in the recent decades. A new transparency paradigm can ensure that stakeholders have access to necessary information concerning environmental and social challenges. When managers' green investment picks are reflective of importance they basically put on accompanying collective social benefits, investors are more likely to react positively to disclosure.²

Voluntary disclosures yield incomparable and contradictory data. The implementation of standardised formats such as, ESG reporting, EU Directives³ and Global Reporting Initiative (GRI) tend to supply uniform and comparable information on matters relating to CSR. The criteria for disclosure of non-financial information become indispensable when the businesses intend to report their environmental, social and other like initiatives in their annual reports. Thus, various standards have been developed to this end for monitoring the reporting of non-financial information by the businesses. These standards are primarily concerned with the management practises (qualitative data) and performance indicators (quantitative data).⁴ However, the companies those follow GRI standards are tend to be more dedicated to disclose their CSR information than those that don't follow.⁵ Businesses must be transparent with their sustainability reports and follow the disclosure standards to satisfy the expectations of both internal and external stakeholders. In Europe, for example, States have implemented non-financial disclosure legislative requirements through EU Directives⁶. GRI provides a uniform

¹ Beretta Sergio & Bozzolan Saverio, *Quality versus Quantity: The Case of Forward-Looking Disclosure*, 23 J. Account. Audit. Finance, 333-376 (2008).

² Martin R. Patrick & Moser V. Donald, *Managers' Green Investment Disclosures and Investors' Reaction*, 61 J. Account. Econ., 239-254 (2016).

³ European Union Directives, No. 2014/95/EU, the European Parliament and the Council of the European Union (2014).

⁴ Everaert Patricia et al., *Voluntary Disclosure of Corporate Social Responsibility by Belgian Listed Firms: A Content Analysis of Annual Reports*, 2007/29 Working Papers, Hogeschool-Universiteit Brussel, Faculteit Economie en Management (2007). <https://ideas.repec.org/p/hub/wpecon/200729.html>.

⁵ Hammond Kim & Miles Samantha, *Assessing Quality Assessment of Corporate Social Reporting: UK Perspectives*, 28 J. Account. Forum, 61-79 (2004).

⁶ European Union Directives, *supra* note 3.

coding system across industries and voluntary reporting frameworks that can be used by any business.⁷

Business organisations typically report on their social and environmental actions once a year to properly express CSR strategies to its stakeholders.⁸ Numerous businesses publish CSR reports that evaluate their operations from the viewpoint of their impact on society, the economy, and the environment. Reporting on CSR is not only mandated under law but is also considered to be useful for organisations, investors, and various other actors.

2. Objectives of the Study

The study primarily focuses on to address the following objectives:

- (i) To examine studies on CSR reporting- in terms of: scope of CSR reporting, an overview of published works, commonly used methodology, and the theoretical viewpoints utilised to assess the phenomena.
- (ii) To highlight self-reported CSR reporting research limitations.
- (iii) To find gaps in current evidence on CSR reporting in India.

3. Methodology of the Study

The present review is based on a qualitative and descriptive research method that primarily focuses on analysing the results, findings and limits of previously conducted studies. The study is based on secondary sources of data. More specifically, the present work is prepared based on a review of previous research papers published especially between the year 2017 and 2022. Google Scholar, Scopus and Web of Science were among the sources that mined for publications that eventually formed the basis of this review. The keyword combinations that were used for the search of relevant publications include namely, corporate reporting, corporate non-financial reporting, corporate accountability, corporate social responsibility, corporate social disclosure, corporate social reporting, corporate social reporting norms, etc. Each publication's title, keywords and abstract were checked in order to determine whether or not an article would be considered as part of the present review process. Full texts of all selected papers were then evaluated in terms of the objectives of the present work.

⁷ Aras Guler et al., *Multidimensional Comprehensive Corporate Sustainability Performance Evaluation Model: Evidence from an Emerging Market Banking Sector*, 185 J. Clean. Prod., 600-609 (2018).

⁸ Abdillah A. Afif & Husin M. Norhayati, *A Longitudinal Examination Corporate Social Responsibility Reporting Practices among Top Banks in Malaysia*, 35 Procedia Econ., 10-16 (2016).

4. Evolution of CSR Reporting in India

In India, CSR reporting practice has been developed as a cultural standard over the period of time. Indian businesses are increasingly becoming conscious of significance of transparency in corporate reporting practices. The reporting on a company's social responsibility should demonstrate how the organisation has contributed to the well-being of the society and environment in its immediate vicinity. Although, India has a long tradition of CSR reporting, many multinational firms (MNCs) that have no emotional or cultural ties with India disregard or ignore totally country's effort in this regard. It is true that reporting on CSR has not yet received complete awareness in India, but the advent of globalisation has caused Indian enterprises to view social reporting as a vital component of their business activities.⁹

Businesses all around the world are concerned about environmental issues such as, depletion of natural resources, environmental degradation, pollution, climate change etc., among others issues.¹⁰ The growing consciousness among the people likely to increase or lift up the pressure that may come from multiple sources such as, various stakeholders, regulators, NGOs and media houses. The companies operating in the present day environment are subject to significant amounts of pressure to promote stakeholders' welfare and to adopt a definition of stakeholder welfare that is more comprehensive one.¹¹ According to Guthrie et al.,¹² the role of business has now been met with a considerable change as a result of the recognition of duties towards a variety of stakeholders.¹³ Under the UN Global Compact as well as the GRI, businesses are strongly urged to develop and execute socially responsible practises as well as to report on the progress they have made in doing so. The reporting on a company's CSR has emerged as an increasingly significant tool for the companies in recent years to address the issues of their customers and also to build an environment that is open and welcoming. The

⁹ Maqbool Shafat & Zamir M. Nasir, *Corporate Social Responsibility Reporting in India: A Study of SENSEX Companies*, 44 *Manag. Labour Stud.*, 209-223 (2019).

¹⁰ Gautam Richa & Singh Anuj, *Corporate Social Responsibility Practices in India: A Study of Top 500 Companies*, 2 *Glob. J. Manag. Bus. Res.*, 41-56 (2010).

¹¹ Waddock Sandra et al., *Responsibility: The New Business Imperative*, 16 *Acad. Manag. Perspect.*, 132-148 (2002).

¹² Guthrie James et al., *Using Content Analysis as a Research Method to Inquire into Intellectual Capital Reporting*, 5 *J. Intellect. Cap.*, 282-293 (2004).

¹³ Ghosh Anupam & Chakraborti Chhanda, *Corporate Social Responsibility: A Development Tool for India*, 9 *IUP J. Corp. Gov.*, (2010).

concept of CSR reporting has been expanding gradually in India like in other countries, yet different people have different understanding of what it really means.¹⁴

5. Literature Review

Srivastava and Dhiman (2022)¹⁵ in their work studied the CSR reporting procedures and how are they implemented in both the classes of companies namely, public and private companies in India. The views and involvement of stakeholders in CSR reporting are also explored in the study. The study, however, demonstrates that CSR reporting has been developed into an effective business strategy that helps companies to achieve their long-term objectives.

Maqbool et al. (2022)¹⁶ in their study analysed the pattern and trend of CSR based reporting of the Indian companies especially post implementation of the new CSR law regime. Thus, 30 Sensex companies are chosen as samples in study conducted for a 4-year period (2014–15 to 2017–2018). Disclosure in the areas of community support, environmental sustainability, employee welfare, product safety and customer satisfaction are all measured using content analysis. The results of this study reveal an increase in CSR reporting by some companies observed during the study period. The findings of the study, thus, demonstrate that Indian businesses have made substantial progress in their CSR reporting practices especially after the new CSR law regime has been introduced in the country.

Maurya and Singh (2022)¹⁷ investigated the sustainability (ESG) reporting methods of listed banks in India and also the influence of some company variables on the nature and extent of sustainability disclosure. Specifically the study aims to emphasise the gap in the existing works by examining the correlation between ESG disclosure and company characteristics with a focus on the banking sector in developing nations like India. All the banks included in the S&P BSE Bankex are selected as samples in the study and together they represent a large percentage of the Indian banking industry. The data show that the selected banks are the worst at reporting on issues related to the environment, human rights, and the workplace. However, age,

¹⁴ Kansal Monika et al., *Reporting of Corporate Social Responsibility in Central Public Sector Enterprises: A Study of Post Mandatory Regime in India*, 151 J. Bus. Ethics, 813-831 (2018).

¹⁵ Srivastava Vimal & Dhiman Rahul, *Sustainable Development through CSR Practices in the Area of Community Services: Evidence from Select Indian Public and Private Manufacturing Firms*, 18 World Rev. Entrepreneurship, Manag. Sustain. Dev., 348-370 (2022).

¹⁶ Maqbool Shafat et al., *Corporate Social Responsibility Reporting in the Post-Mandate Period: An In-Depth Content Analysis of Indian Top-Listed Companies*, In *Emerging Economic Models for Sustainable Businesses: A Practical Approach* 9-24 (Jayati Talapatra et al., eds., Springer Nature, 2022).

¹⁷ Maurya Sushma & Singh Rajinder, *Impact of Corporate Attributes on Sustainability (ESG) Reporting: Evidence from Listed Banks in India*, 13 J. Bus. Thought, 71-83 (2022).

profitability, and global presence had no impact on quantity of sustainability disclosure but size and leverage had a favourable and considerable impact.

Mani (2022)¹⁸ investigated the Indian banking sector's sustainability reporting practises. Stakeholder inclusion, credibility, materiality and sustainability are four reporting parameters used to analyse and contrast the top ten Indian banks' sustainability reports. Moreover, the study primarily aims at providing an absolute status quo of sustainability reporting practises of Indian banking sector against existing global standards and guidelines. The study finds that out of ten banks, only four banks have so far implemented the international sustainability reporting framework.

Fahad and Nidheesh (2021)¹⁹ in their study examined firm variables influencing CSR disclosure and its sub-categories including ESG based disclosures. The companies listed in the BSE 500 are taken as samples for the purpose of the study. The study period ranges from the year 2007 to 2016. The study among others has adopted panel regression technique for data analysis. The variables such as, size of the firm, age, foreign ownership, financial leverage, promoter ownership, export performance, popularity and innovation level are considered for the study. The study, however, observes that age of the firm and financial leverage positively impact CSR, environmental and social disclosures score, while impact negatively the governance score. Foreign ownership, on the other, has a beneficial influence on CSR, environmental and social disclosures score, yet promoter ownership has negative impact. The governance score does not correlate with any of the ownership characteristics.

Danisch (2021)²⁰ in his work has undertaken a thorough study of 144 voluntary GRI reports of companies (listed) during the time range extends from the year 2015 to 2018. The author in the study has developed environmental and social disclosure indices to measure the extent of the report's disclosure. The ESG score is utilised as a proxy for environmental and social performance. The author proposed that this strategy could be more suitable for addressing the difficulty of methodological variability in the literature. The study, however, finds that there exists a correlation between environmental performance and environmental disclosure, but no correlation is observed between social performance and social disclosure. As predicted by the

¹⁸ Mani Mukta, *Sustainability Practices and Reporting: A Comparative Analysis of Top Ten Indian Banks*, 15 J. Sust. Clim. Change, 68-80 (2022).

¹⁹ Fahad, P., and Nidheesh, K.B., *Determinants of CSR Disclosure: Evidence from India*, 13 J. Indian Bus. Res., 110-133 (2021).

²⁰ Danisch Christian, *The Relationship of CSR Performance and Voluntary CSR Disclosure Extent in the German DAX Indices*, 13 Sustainability, 4904 (2021).

voluntary disclosure theory, there exists evidence for at least a partial performance-driven reporting behaviour since the entities are found to communicate their greater environmental performance through superior disclosure.

Handoyo (2020)²¹ in his work made an attempt to identify the determinants of CSR disclosure with the help of multiple regression technique. The author has predicted some of the variables such as, age of firm, size, EPS, stock price and industry type that could be the determining factors of CSR disclosure. The study is carried on the companies listed on the Indonesian Stock Exchange that publish sustainability reports. To evaluate CSR disclosure, a content analysis of such sustainability reports based on GRI standards is performed. The study finds size of firm, EPS and stock price are some of the prime determinants of CSR disclosure. The empirical observations obtained in the study add to a better understanding of CSR disclosure in developing nations, particularly in Southeast Asia. Moreover, the data provide significant information for performing comparison among studies across countries.

Aspal and Singh (2020)²² in their study noted that disclosure of CSR is on the rise in the business sector. It is a relatively new notion that has been developed as a key area of research over the past decade. The company's financial and social performance is the solid foundation for sustainable development. In India, the companies at present are demonstrating a real apprehension in the advancement of stakeholders' and community's interests. Consequently, the main purpose of the present study has been to assess the nature and extent of CSR based disclosures making by companies in India. The study is carried out on the sample companies chosen from top 200 companies listed in BSE. The time range for the study extends from the year 2014 to 2016. The CSR based disclosure score is obtained using content analysis method applied on a four dimensions based CSR checklist developed in the study. The dimensions chosen are community welfare and development, employee relations, consumer issues and products, and environmental stewardship. The study finds that the proportion of companies revealing CSR information has increased during the course of the study. Consumer and product dimension has been the most disclosed dimension among all followed by community, environment, and employee relations dimensions. Moreover, the analysis demonstrates that the extent of CSR disclosures made by sample industries too has got increased during the course

²¹ Handoyo Sofik, *The Determinants of Corporate Social Responsibility Disclosure: Empirical Evidence from Indonesia Listed Firms*, 3 J. Account. Audit. Bus., 147-160 (2020).

²² Aspal K. Parvesh & Singh Manjit, *Nature and Extent of Corporate Social Responsibility Disclosure in India: A Study of Selected BSE Companies*, 16 Asia-Pac. J. Manag. Res. Innov., 60-71 (2020).

of the study. Moreover, the industry wise CSR disclosure analysis shows that (oil and gas) industry ranks highest among all, while (chemical, leather) industries rank lowest.

Khan et al. (2020)²³ conducted an extensive review of the research on CSR reports. It also includes recommendations for optimal practises and future research after assessing the key constraints found in previous CSR reporting. Over a ten-year period, certain keywords were used in a systematic search of nine big databases. As a result, a descriptive analysis was performed on 221 articles that focused specifically on CSR reporting both in developed and developing nations. Review findings show a remarkable increase in CSR reporting-related academic work around the world. However, there remain a sizable number of countries and enterprises that are under-represented in CSR reporting literature. Some authorities in the area have also pointed out issues with the research methods and the samples used. The review presents directions for further study based on the results.

Anatami et al. (2019)²⁴ in their study noted that social responsibility is a sort of concern shown by businesses towards their stakeholders through tackling social and environmental issues. The authors further noted that social responsibility disclosure is the most effective means for businesses to communicate their commitment to various stakeholders. This study aims to evaluate the factors that influence CSR disclosure based on GRI-G4 indicators with environmental performance serving as moderator. This study's sample consists of companies belonging to the manufacturing sector registered on the Indonesia Stock Exchange during the time ranges from 2013-2017. The authors have adopted multiple linear regression analysis for the purpose of study. The study finds that size, profitability, industry type, board of directors and audit committee have significant effects on CSR disclosure.

Pradhan and Nibedita (2019)²⁵ studied the perceived worries of the associated stakeholders with respect to CSR reporting. The study aims to analyze the factors that could have significant bearing on the CSR reporting through choosing samples from Indian businesses. According to the cross-sectional model's findings, size, asset tangibility, or profitability ratio is all significant predictors of CSR reporting engagement. On the other, implied volatility and leverage have a deleterious effect on the CSR reporting efforts by Indian businesses. This research strengthens

²³ Khan Muzammal et al., *CSR Reporting: A Review of Research and Agenda for Future Research*, 43 *Manag. Res. Rev.*, 1395-1419 (2020).

²⁴ Anatami N. Dian et al., *The Determinants of Corporate Social Responsibility Disclosure with Environmental Performance as Moderating Variable*, 18 *Int. J. Bus. Econ. Law*, 236-247 (2019).

²⁵ Pradhan K. Ashis & Nibedita Barsha, *The Determinants of Corporate Social Responsibility: Evidence from Indian Firms*, 22 *Glob. Bus. Rev.*, 753-766 (2019).

the existing CSR reporting policies that aim to affect the organizational and financial priorities of Indian businesses.

Joshi and Hyderabad (2018)²⁶ in their study demonstrated that CSR has gained considerable significance in recent years. The study investigates factors that influence disclosures on CSR among businesses. Specifically, the study investigates factors such as, age of corporate, board size, size of corporate, leverage and profitability in order to assess if they have any influence on corporate CSR disclosure practices. The study for the said purpose has developed a CSR Index considering 20 items of disclosures following a precise content analysis of the 199 annual reports of the businesses belonging to NIFTY Large Midcap 250 index from 2011 to 2017. Positive and substantial correlations are observed between the size of corporate, size of board, age and CSR disclosures, while on the other negative and negligible correlations are observed between the profitability, leverage, and CSR disclosures.

Mitra et al. (2018)²⁷ in their study observed that notion of CSR reporting in India in context of certain large companies has experienced a transformation especially after the new CSR law contained in Section 135 of the new Companies Act, 2013 came into effect. It has rather resulted in transformation from a voluntary and occasional CSR reporting process to one that is mandatory, structured and also accountable to various parties external and internal to the companies. In view of the above corporate reporting practices on CSR has become highly relevant. In addition, the study of compulsory CSR with reference to the provisions of the new Act provided the scope for creating a new knowledge base on the domain. Though the relationship between CSR reporting and firm performance have been studied in past several works by various groups of authors, yet observations made in this study seem to have a wider implications as the same has been carried out immediately subsequent to the implementation of new provisions of the law considering the time period ranges from 2015-2017.

Mulky (2017)²⁸ in his study made an analysis of the connections between the company CSR activities and SDGs. The study is carried out on samples of 50 large Indian companies. The study finds that the CSR activities of sample companies are mostly directed towards certain common goals relating to gender equality, education, water, health, sanitation, employment,

²⁶ Joshi S. Ghanasham & Hyderabad L. Raju, *Determinants of Corporate Social Responsibility Reporting in India*, 6 J. Manag., 1-10 (2018).

²⁷ Mitra Nayan et al., *Communicating Corporate Social Responsibility in the Post Mandate Period: Evidence from India*, 3 Int. J. Corp. Soc. Responsib., 1-16 (2018).

²⁸ Mulky Avinash, *Are CSR Activities Directed Towards Sustainable Development Goals? A Study in India* [Paper Presentation], 5th International OFEL conference on governance, management and entrepreneurship, Zagreb (p. 266) (Apr 2017).

economic growth, and land-based life. It was suggested in the study that, Indian businesses should also engage in CSR initiatives to combat hunger as it is a critical SDG.

Sethi et al. (2017)²⁹ in their study examined variances in quality and extent of reports on CSR produced by the major financial institutions of the world in 2012. The authors in the study have adopted a novel method of measuring the quality of CSR reports. The authors have considered certain legal, national and firm-level factors that may have influence on quality and breadth of key dimensions produced in these reports. The study finds that legal issues and CSR environment in a company's home country put a significant effect on the quality of the company's CSR report. The quality of reports on CSR has been found to be consistently higher in the common law countries than in the written (code) law countries. Also the quality of CSR reports has been found substantially higher in the countries having higher CSR based norms and rules. In contrast, firm size has no significant effect on the quality of reports under study. Further, the study finds that among individual dimensions of CSR reporting, larger companies report on the philanthropy, corruption and bribery at a higher level of quality. Moreover, corruption and bribery are reported with greater accuracy in countries with either a common law system or stringent legal or CSR regimes. Furthermore, the study finds that more focus is given on integrity aspect in countries belonging to common law tradition. The study concludes with recommendations for further improvement in the quality of CSR reports at firm specific level, and to pursue more and more research on the subject matter.

6. Discussion

A pattern has been discovered in CSR reporting following a wide-ranging review of literature carried out on the topic. The pattern is ever-changing in response to the shifting social and business demands. The idea of social responsibility is nothing new. Apart from generating profits, business people in the past were expected to contribute to the society by building temples, mosques, and wells. Businesses grew more powerful over time, and consequently society's expectations also grew. Charitable giving has been evolved into something far more than that. It has been evolved over time into an ethical principle necessitating business houses to take up responsibilities for all likely adverse consequence of their activities. Even though environmental and social issues have a long history, businesses in the modern era were the first to take up environmental and social responsibility seriously and to report on it. Given the

²⁹ Sethi P. Som et al., *An Evaluation of the Quality of Corporate Social Responsibility Reports by some of the World's Largest Financial Institutions*, 140 J. Bus. Ethics, 787-805 (2017).

increasing globalisation of the trade and investment, corporate social reporting has emerged as a useful method for communicating with a wide variety of stakeholders. Several developed countries in the world have passed laws and regulations mandating increased transparency about CSR and reporting thereon. The importance and efficacy of non-financial reporting have come to be widely acknowledged all over the world. This practice is now spreading to the developing countries.

In India there has been a discernible and continuous improvement in matters relating to CSR. The policy makers in India have performed a foremost role in promoting CSR in the country. Businesses also have now understood the significance of CSR and reporting thereon. Indian businesses have been moved into action by the dramatic expansion of CSR in recent years as evidenced from their CSR reports. Of late, the enactment of the new Act³⁰ has brought about a significant change in matters of regulating company affairs in India. Section 135 of the Act³¹ and relevant Rules laid down there under made a significant reform in matters of CSR. Moreover, the companies covered by the above mentioned provisions of the law are now required to undertake CSR compulsorily and report thereon in the manner and form so prescribed therein. The SEBI Regulations on Business Responsibility Reporting for Indian listed companies are other key state-led initiatives that would definitely raise disclosure of CSR based information. Thus, all these developments together would eventually promote a fair and transparent CSR reporting ecosystem in the country.

7. Conclusion

In order to strengthen the fields of social accounting and social reporting, the UGC, ICSSR and other regulatory and funding institutions of similar nature in the country should promote academic study and researches in those areas. Businesses should be provided incentives to engage in the social programmes by giving more preferential tax treatment, subsidies, refund, exemptions, guarantees, allowances, etc. Businesses should also establish social goals, create strategies to accomplish those goals, put strategies into action, and then monitor, evaluate and improve their social performances. Greater attention needs to be paid to CSR reporting by upper management. There is no way for a scientific report to cover every facet of CSR. Even though a number of studies including the present one have been conducted on CSR reporting in India, yet there is a scope for extensive research in this area. The managers' and after all,

³⁰ The Companies Act, 2013, No. 18, Acts of Parliament, 2013 (India).

³¹ *Ibid.*

societies' ability to quantify and evaluate social benefits and costs will hopefully increase as a result of further researches in the domain likely to be carried out in future.