INTRODUCTION

Environmental Sustainability is currently a burning issue worldwide. It has become a major cause of concern for governments, corporates and individuals. The rapid globalisation and industrialisation in the past few decades have significantly contributed towards environmental degradation in the form of pollution, greenhouse gas emissions, ozone depletion, global warming etc. Brundtland (1987) defined sustainable development as – “development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs.” The consumers, investors and other stakeholders are increasingly becoming conscious about environment and society. They keep environmental and social considerations in mind while taking buying and investment decisions. Thus the companies are under a constant pressure to perform well on these grounds and to think beyond profits.

Corporate social responsibility means that the organisations should be accountable towards all the stakeholders including consumers, investors, environment, employees, community, government and public at large. They should align their operations and decisions in accordance with the expectations of stakeholders (ISO 26000). There is a growing trend among companies to adopt “go green” strategy in order to gain an edge over their competitors. Therefore, the concepts of green marketing and sustainability reporting have become significant. According to Global Reporting Initiative (2011) - “Sustainability reporting is the practice of measuring, disclosing, and being accountable to internal and external stakeholders for organizational performance towards the goal of sustainable development”. Green marketing is a holistic marketing phenomenon used by an organisation to promote the environment-friendly image of its products and the organisation as a whole. It encompasses innovation and modification in product development, manufacturing, packaging and advertising.

Green marketing is used as a weapon by companies to compete in the global market. In today’s age of sustainability it is often said that “green is the new black”. The practice of green marketing is being misused by companies in order to build their false green brand image in the eyes of consumers and investors. This is nothing but greenwashing. According to Greenpeace (www.stopgreenwash.org) – “greenwashing is the act of misleading consumers regarding the environmental practices of a company or the environmental benefits of a product or service.” It involves use of deceptive and manipulative sustainable claims by companies to portray a superficial eco-friendly image than it actually is, by investing more resources on marketing its products as ‘green’ rather than actually minimizing its adverse impact on the environment.

Delmas and Cuerel Burbano (2011) classified the drivers of greenwashing into market, non-market, organisational and internal stakeholders for organizational performance towards the goal of sustainable development. These are shown in Figure 1 below.

**Figure 1 – Drivers of Greenwashing**

Source: Delmas and Cuerel Burbano (2011)

Greenwashing is a practice followed by organisations in which unsubstantiated or misleading claims are made to gain an edge over their competitors. Therefore, the companies are under a constant pressure to perform well on these grounds and to think beyond profits.

In this paper, we analyse the greenwashing practices of select popular companies. The following sections describe greenwashing practices, regulations & certifications, review of literature, objectives of study, hypotheses, research methodology, results, recommendations, limitations and scope for further research.

**GREENWASHING PRACTICES**

The environmental consciousness among the consumers and companies has its origin in mid 1960’s which led to the adoption of green marketing strategies by companies worldwide. The environmental disasters such as Bhopal gas tragedy (1984), Chernobyl nuclear power-plant disaster (1986), Exxon Valdez oil spill (1989), etc. prompted the companies to prac-
tice greenwashing in an attempt to improve their distorted image. The term “Greenwashing” was coined in 1986 by the environmental activist Jay Westerveld of United States. According to a report by CBS News (2008), the eco-friendly products in US have increased approximately 65 times from 2002-2007. The research conducted by American Marketing Association (AMA) in 1991 concluded that 58% of environment-related advertisements possessed at least one misleading green claim. The Green Gap Survey of 2008 conducted on over 1000 American adults by Cone LLC and The Boston College Center for Corporate Citizenship (2008) found that 40% consumers prefer environment-friendly products and 48% consumers believe that the products advertised as green have positive impact on environment. Some notable companies who have been found to be involved in greenwashing are as follows:

Royal Dutch Shell:
One of the most popular oil giants ‘Royal Dutch Shell’ has been repeatedly accused and penalised for its greenwashing campaigns. It’s most famous ad campaign - “Don’t throw anything away- there is no away” emphasizing the claim of growing flowers out of CO2 emissions but it was found to be deceptive and heavily criticized.

General Motors:
General Motors has changed the colour of its logo from blue to green in order to portray its green “gas-friendly to gas-free” image. This is sheer greenwashing as only one of its brands “Chevrolet Volt” is an electric eco-friendly car, not its entire range. Moreover, GM is observed to be among the top 10 most polluting car manufacturers in the world.

Nestle:
Nestle’s Eco Shape bottle for its Pure Life Natural spring water is also more of a marketing gimmick than reality. In an attempt to be earth-friendly, it claims to have used 30% less plastic without substantiating ‘less than what’. Also some hidden trade-off is involved as manufacturing of the plastic bottle in itself pollutes the environment. Further the use of words like “Pure” and “natural” also raises doubt on its authenticity.

REGULATIONS AND CERTIFICATIONS

There is lack of specific regulations in the area of green marketing. Every country has its own marketing and advertising laws which also govern environment related market- ing. However the US based federal trade commission issues environmental marketing guides (green guides) which were first issued in 1992 and were last revised in October 2012. These guides provide detailed guidance to the companies to ensure that they make non-deceptive and authentic environmental claims. The list of well known marketing regulations and environmental certifications has been provided in Table 1 below.

| S.No | Regulations/Certifications | Country | Scope/ Coverage                      |
|------|-----------------------------|---------|-------------------------------------|
| 1    | Federal Trade Commission    | USA     | It provides voluntary guidelines for environment-related advertising claims and issues FTC the right to prosecute false and misleading advertisement claims. |
| 2    | Lanham (Trademarks) Act     | USA     | It prohibits trademark infringement, trademark dilution, and false advertising. |
| 3    | Competition and Consumer Act, 2010 | Australia | It punishes the companies that provide misleading environmental claims. |

| S.No | Regulations/Certifications | Country | Scope/ Coverage                      |
|------|-----------------------------|---------|-------------------------------------|
| 4    | Canada’s Competition Bureau & Canadian Standards Association | Canada | They discourage companies from making “vague claims” towards their products’ environmental impact. |
| 5    | Norwegian consumer ombudsman | Norway | It ensures that marketing of good-and-sand services is done in accordance with Norwegian marketing law. |
| 6    | The Business Protection from Misleading Marketing Regulations, 2008 | UK | It prohibits misleading advertising. |
| 7    | Food Safety and Standards Authority of India | India | It lays down science based standards for articles of food and regulating manufacture, processing, distribution, sale and import of food so as to ensure safe and wholesome food for human consumption. |
| 8    | EcoCert | International certification based in Europe | It certifies fair trade in food, cosmetics and textiles. |
| 9    | EnergyStar Program | U.S. based, used worldwide | It is a U.S. Environmental Protection Agency (EPA) voluntary program that approves products with superior energy efficiency. |
| 10   | ISO 14001 | International | It assesses effective business environmental management. |
| 11   | USDA’s Organic Certification Standards | USA | It certifies organic food and organic agricultural products. |
| 12   | Nordic Ecolabel | Nordic countries | It evaluates product’s impact on the environment. |
| 13   | EU Ecolabel | Europe | It is a labelling system for foods & consumer products. |

LITERATURE REVIEW

A study analysing the authenticity of CSR communication was conducted by Bazillier and Vauday (2013). The study used 3 sets of data – Vigeo’s CSR ratings, Hard (verifiable) information and Soft (non-verifiable) information. Their study is based on the model given by Dewatripont and Tirole (2005). They suggested two forms of greenwashing: hard greenwashing and light greenwashing. Hard greenwashing refers to environmental communication without CSR, while light greenwashing occurs when the company reduces its CSR efforts and focuses more on advertising green claims. The study found a negative relationship between level of CSR of a company and its green communication. Thus, higher the investment done by companies towards CSR activities, lower is the probability of greenwashing practised by it.

We expect a negative correlation between company’s CSR ratings and extent of greenwashing. Thus, higher CSR ratings usually indicate better CSR performance. A study in this regard was conducted by Chatterji et al. (2007). They investigated the reliability and effectiveness of commonly used KLD social ratings in determining the environmental performance of the company. The sample consists of 588 public US companies and the test period is 1991-2003. The amount and number of fines for violations of environmental laws and the emissions level as per TRI report have been taken as proxies for measuring environmental performance. They used firm size as the control variable which was measured by log of revenue and assets. The study found that predictive ability of KLD ratings for environmental concerns is low but significant. However, the predictive ability of KLD ratings for en-
vironmental strengths is not significant. They also observed that a company’s KLD ratings are highly associated with its past environmental performance.

According to a research by Brennan and Binney (2008) marketers prefer profits over environmental interests. Thus there is a need for marketers to be environment-oriented and think beyond profits. It is observed that whenever an environmental disaster occurs, the firms intensify their CSR and green marketing initiatives in order to enhance their public image. Cherry and Sneirson (2011) executed a case study on British Petroleum’s infamous oil spill and demonstrated that the company was indulged into false advertising and securities fraud as it could not provide sufficient evidence for its so called environmental and social claims. They further suggested that change must be genuine and verifiable.

There is a growing trend among companies to use eco labels and certifications to promote their contribution towards saving the planet but a study by Parguel and Benoit-Moreau (2013) suggested that such labels and certification (even if given by experts) cannot mitigate greenwashing and it can assist only expert consumers to form their perception about a particular brand. According to Ramus and Montiel (2005) - the environmental plans and programmes among various industries do not vary significantly; however, their implementation does vary.

Lyon and Maxwell (2011) designed a framework to ensure that the firms should disclose a complete picture of their environmental performance which includes both positive as well as negative contributions to the ecology. The environmental audit should be regularly conducted and the defaulters should be penalised to deter greenwashing. The absence of negative environmental disclosure would hamper the trust of the consumers and investors which is not beneficial for the long term interest of the company.

Terrachoice, a North American environmental marketing consultancy classified seven sins of greenwashing in its greenwashing report of 2009. These sins are as follows:

**Sin of hidden trade-off** – committed when the marketer depicts only a limited range of qualities to divert the attention of consumers from other significantly negative environmental impacts.

**Sin of no proof** – committed when the marketer makes claims which cannot be verified through conveniently available information.

**Sin of vagueness** - committed by the marketer when he uses broad misleading words like “pure”, “natural”, “organic”, “eco-friendly” etc

**Sin of irrelevance** - committed when the marketer makes a green claim which is either insignificant or made under regulatory pressure.

**Sin of lesser of two evils** - committed by the marketer when he makes a true claim in a particular group but has an overall hazardous impact on the environment.

**Sin of fibbing** - committed by the marketer make untrue green claim.

**Sin of worshipping false labels** - committed by the marketer when he demonstrates the environment friendliness of the product through fake labels and certificates (Terrachoice Environmental Marketing, 2009).

The relationship between greenwashing (i.e. Sustainability messaging) and Corporate Socio-environmental performance (i.e. Sustainability initiatives) can be well illustrated through Figure 2 shown below.

**Source:** Chan and Sukhdev (2012)

Figure 2 – Relationship between Sustainability Performance and Greenwashing

On the whole, the review of literature suggests that there is some sort of disconnect between the CSR performance of the company and its communication which is largely taking the form of greenwashing. Thus, there is a need to empirically analyze the association between CSR and greenwashing.

**OBJECTIVES OF THE STUDY**

This paper aims at achieving the following objectives:

1) To determine the extent of greenwashing practised by large companies with the help of rating scale.

2) To correlate the greenwashing score so obtained with overall CSR score of the companies of all four sectors taken together and also to find out sector-wise correlation.

3) To analyse whether the mean greenwashing score significantly varies between automobile and electronic sector; food & beverages and personal care sector.

**STATEMENT OF HYPOTHESES**

This paper intends to examine the following seven hypotheses which have been stated below in their alternate form:

- **Ha1:** There is a significant correlation between greenwashing score and overall CSR score of companies.

- **Ha2:** There is a significant correlation between greenwashing score and overall CSR score of companies in Automobile Sector.

- **Ha3:** There is a significant correlation between greenwashing score and overall CSR score of companies in Electronics Sector.

- **Ha4:** There is a significant correlation between greenwashing score and overall CSR score of companies in Personal Care Sector.

- **Ha5:** There is a significant correlation between greenwashing score and overall CSR score of companies in Food & Beverages Sector.

- **Ha6:** There is a significant difference between the mean greenwashing scores of companies in automobile sector ($\mu_A$) and electronics sector ($\mu_E$), i.e. ($\mu_A - \mu_E \neq 0$)

- **Ha7:** There is a significant difference between the mean greenwashing scores of companies in food & beverages sector ($\mu_F$) and personal care sector ($\mu_P$), i.e. ($\mu_F - \mu_P \neq 0$)

**RESEARCH METHODOLOGY**

The paper applies statistical techniques like t-test, Pearson’s correlation analysis and descriptive statistics with the help of MS Excel. The following sub-sections describe our sample, variables and data sources.

**7.1 Sample Description**

The sample consists of 40 global companies with 10 com-
panies each from four sectors- automobile, electronics, personal care and food & beverages. These sample companies are shown in Table 2 below.

### Table 2 – Sample Description

| S.No. | Sector              | Company Name                        |
|-------|---------------------|-------------------------------------|
| 1     | Automobile          | Nissan Motor Co. Ltd                |
|       |                     | General Motors                      |
|       |                     | Volkswagen AG                       |
|       |                     | Mitsubishi Motor Corp               |
|       |                     | Toyota Motor Corp                   |
|       |                     | Mazda Motor Corp                    |
|       |                     | Ford Motor Corp                     |
|       |                     | BMW                                 |
|       |                     | Honda Motor Co. Ltd                 |
|       |                     | Fiat Auto                           |
| 2     | Electronics         | Philips                              |
|       |                     | Electrolux AB                       |
|       |                     | Videocon Industries Ltd             |
|       |                     | Samsung Electronics Co. Ltd         |
|       |                     | Panasonic Corporation               |
|       |                     | Dell, Inc                           |
|       |                     | Sharp Corporation                   |
|       |                     | LG Electronics Inc.                 |
|       |                     | Hewlett-Packard Co. (HP)            |
|       |                     | Sony Corporation                    |
| 3     | Food & Beverages    | Coca Cola Company                   |
|       |                     | Kellogg Company                     |
|       |                     | General Mills                       |
|       |                     | PepsiCo                             |
|       |                     | Unilever PLC                        |
|       |                     | Tata Global Beverages               |
|       |                     | H.J. Heinz Company                  |
|       |                     | Whole Foods Markets                 |
|       |                     | Starbucks Corporation               |
|       |                     | McDonald’s Corporation              |
| 4     | Personal Care       | Oriflame Cosmetics SA               |
|       |                     | L’oreal                             |
|       |                     | Henkel KGAA                         |
|       |                     | Dabur India Ltd                     |
|       |                     | Revlon, Inc                         |
|       |                     | Johnson & Johnson                   |
|       |                     | Beiersdorf                          |
|       |                     | Unilever PLC                        |
|       |                     | Proctor & Gamble Company            |
|       |                     | Kimberly-Clark Corporation          |

### 7.2 Variable Description

The study uses secondary data and involves two key variables- Greenwashing score and overall CSR score. The CSR score has been extracted from CSRHub which furnishes Corporate Social Responsibility and sustainability ratings of companies from over 100 countries. The greenwashing score has been assessed on the basis of a 5-point scale based on following five criteria as shown in Table 3 below:

#### Table 3 – Greenwashing Scale

| Criteria                          | Description with examples               | Weight |
|-----------------------------------|----------------------------------------|--------|
| No Proof/No supporting evidence   | BP’s Beyond Petroleum campaign          | 5      |
| Use of vague/ broad words or images or visuals | “all natural”, “reduced emissions”, “eco-friendly”, “organic” e.g. 7UP’s 100% natural drink | 4      |
| False eco labels and certifications | LG’s false claim of energy star certification | 3      |
| Hidden Trade off                   | Hybrid cars e.g. Toyota Prius           | 2      |
| Irrelevant claims (mandated by law/ legislative pressure) | CFC free claim which is already banned by law. | 1      |

The greenwashing scores have been determined by analysing the green claims made by companies through advertisements, their websites and CSR/Sustainability reports. A score of 1 to 5 has been assigned to each criterion where 1 means No Greenwashing and 5 means Total Greenwashing. A weighted average score for each company is then calculated. The score so calculated is then converted into percentage form. According to our scale, any company with a weighted average score of 3 or more (i.e. 60% or more) is practising greenwashing in some way.

### DESCRIPTIVE STATISTICS

The descriptive statistics that comprises of mean, median, mode, standard deviation, minimum and maximum values for Automobile, Electronics, Personal Care and Food & Beverages sectors are shown below in Tables 4, 5, 6 and 7 respectively.

#### Table 4 - Descriptive Statistics of Automobile Sector

| Particulars | CSR Score | Greenwashing Score |
|-------------|-----------|--------------------|
| Mean        | 57.1      | 54.4               |
| Median      | 57.5      | 60                 |
| Mode        | 57        | 22                 |
| Standard Deviation | 4.46 | 20.57            |
| Minimum     | 48        | 22                 |
| Maximum     | 63        | 86                 |
| Observations | 10      | 10                 |

#### Table 5 - Descriptive Statistics of Electronics Sector

| Particulars | CSR Score | Greenwashing Score |
|-------------|-----------|--------------------|
| Mean        | 60        | 52.156             |
| Median      | 62.5      | 55.445             |
| Mode        | 63        | 70.67              |
| Standard Deviation | 5.228129 | 20.16438         |
| Minimum     | 49        | 25.33              |
| Maximum     | 65        | 81.33              |
| Observations | 10      | 10                 |

#### Table 6 - Descriptive Statistics of Personal Care Sector

| Particulars | CSR Score | Greenwashing Score |
|-------------|-----------|--------------------|
| Mean        | 62.1      | 62.801             |
| Median      | 63        | 69.335             |
| Mode        | 63        | 66.67              |
| Standard Deviation | 3.665151 | 20.58324          |
| Minimum     | 54        | 20                 |
| Maximum     | 67        | 80                 |
| Observations | 10      | 10                 |
Table 7 - Descriptive Statistics of Food & Beverages Sector

| Particulars          | CSR Score | Greenwashing Score |
|----------------------|-----------|--------------------|
| Mean                 | 60        | 53.5               |
| Median               | 62.5      | 50.665             |
| Mode                 | 63        | 48                 |
| Standard Deviation   | 5.228129  | 13.41913           |
| Minimum              | 49        | 32                 |
| Maximum              | 65        | 74                 |
| Observations         | 10        | 10                 |

RESULTS OF HYPOTHESIS TESTING

The results of hypothesis testing have been summarized below in Tables 8 and 9.

Table 8 - Results of Correlation analysis between Greenwashing Score and CSR Score

| Hypothesis | Particulars                  | Pearson’s Correlation Coefficient | p-value |
|------------|------------------------------|-----------------------------------|---------|
| Ha1        | Overall (across four sectors)| 0.009                             | 0.954   |
| Ha2        | Automobile Sector            | 0.215                             | 0.547   |
| Ha3        | Electronics Sector           | -0.337                            | 0.342   |
| Ha4        | Personal Care Sector         | -0.100                            | 0.783   |
| Ha5        | Food & Beverages Sector      | 0.089                             | 0.805   |

Table 9 - Results of t-test

| Particulars                      | p-value |
|----------------------------------|---------|
| Automobile and Electronics Sectors | 0.808   |
| Personal Care and Food & Beverages Sectors | 0.247   |

Table 9 - results of t-test

From Table 8, we observe that there is negligible and insignificant correlation between greenwashing and CSR scores when the companies across all four sectors are taken together. But further sector-wise correlation analysis suggests that there is positive association in the Automobile and Food & Beverages sectors to the extent of 21.5% and 8.9% respectively, while there is negative association in the Personal Care and Electronics sector to the extent of 33.7% and 10% respectively. Moreover all the p-values are greater than 0.05, thus first five alternate hypotheses are rejected.

From Table 9, we observe that both the p-values are greater than 0.05 and thus there is no significant difference between the mean greenwashing scores of the above mentioned sectors. Thus we reject alternate hypothesis Ha6 and Ha7.

CONCLUSION

An organisation’s success depends on how ethically integrated is its organisational structure. An ethical firm is able to build trust and loyalty among its stakeholders. But instead of focussing on long term sustainability, the firms choose profits over ethics. Thus even largest of firms indulge in an unethical practice like greenwashing. Among the four sectors that we analysed, we observed wide variations in the extent of greenwashing practised by companies. In the automobile sector, the median greenwashing score is 60% which indicates that half of the sample companies in this sector greenwash their claims. The best performer with least greenwashing score is Nissan with its electric car Nissan Leaf and the worst performer is Mazda which has made false non-verifiable claims about its products. Moving to Electronics sector, life is not so good with LG being the highest on greenwashing scale as it mis-certified the Energy Star efficiency ratings on its refrigerators. Philips with its wide range of eco-friendly “green products” is the best green company in this sector. Further in Personal Care sector we observe that Oriflame makes authentic green claims about its range of “eco beauty products” while L’Oreal exaggerates about being natural. In the Food & Beverages sector, the well-known breakfast cereal company Kellogg is observed to be the leading the greenwashing scale with false & misleading claims about its Kashi Organic products. Heinz is the best performer in this sector with its various green initiatives like 100% natural tomato ketchup with no artificial preservatives and plant bottle packaging.

The analysis of descriptive statistics yields some interesting results. The average greenwashing score is found to be highest in the Personal Care sector (62%) and lowest in the Electronics sector (52%). Ironically the companies with the highest and lowest greenwashing scores both belong to Automobile sector. It is evident from the results of correlation analysis that on the whole there is no relationship between greenwashing score and CSR score of companies under study. The sector-wise analysis present a clearer picture with Automobile and Food & Beverages sectors having positive relationship, while Electronics and Personal Care sectors having negative relationship. However, none of the correlation coefficients is found to be significant @ 5% level of significance. Further, we observed that there is no significant difference between greenwashing scores of any two sectors. Thus, we conclude that some relationship does exist between greenwashing and CSR but further empirical analysis is required to be done in this context to arrive at more cohesive and conclusive results.

RECOMMENDATIONS

The issue of greenwashing has not been adequately addressed by the existing regulatory framework. There are no specific globally applicable standards for preventing and curbing greenwashing practices. In the absence of any such regulations, the practice of greenwashing is growing exponentially and this trend if continued will gradually undermine the trust of consumers and cause them to become distrustful and suspicious about any green advertisement broadcasted by companies. The industry today is in an urgent need of extensive guidelines on environmental communications.

We provide here some recommendations for the consumers, marketers, companies and regulatory bodies to deal with this menace of greenwashing.

For Consumers:

• Watch out for words like pure, natural, earth-friendly, eco-friendly, organic, green, reduced emissions, sustainable development, carbon neutral, plant based, etc. as they may be deceptive.
• Look for supporting evidence on the corporate websites and sustainability reports in order to verify the green claims.
• It is good to look for eco-labels and third party certifications but it’s also important to check their authenticity and reliability.
• To get more information about the company’s environmental performance, go for Google search.
• Life-cycle assessment (LCA) of the product helps in identifying true green product.

For Companies/Marketers:

• Be transparent and ethical, as it does pay in the long term.
• Communicate right in the right way, i.e. communicate only significant and material environmental achievements in a clear & understandable manner.
• Be honest and fair to your stakeholders.
• Disclose not just your positive environmental impacts, but also the negative ones.
Before claiming to be green, the firms should go for Life-cycle assessment and analyse the environmental impacts of all their products over entire life-cycle.

Back-up all your claims with relevant data and true eco-labels and certifications.

Go for independent verification of environmental claims from credible third party.

**For Regulatory and Enforcement Bodies:**

- The Public-Private Partnership (PPP) model can be adopted in which government and private bodies jointly frame comprehensive and stringent standards and regulations to curb greenwashing.
- Issue specific and uniform guidelines to discourage deceptive environmental marketing.
- Ensure strict enforcement and compliance of regulations.
- Penalize the defaulters and impose ban on violators for a certain period of time.
- The environment protection and consumer protection bodies should increase awareness about greenwashing among consumers, companies and marketers.

**LIMITATIONS AND SCOPE FOR FURTHER RESEARCH**

As no study is free from limitations, our study also has certain limitations. The sample size is small and the industry coverage is narrow. Also a limited number of advertisements have been analysed to calculate the greenwashing score, thus subjectivity is involved. The CSR ratings have been extracted from an external source which may have its own inherent limitations. The holistic environmental performance of the companies and other related variables have not been taken into consideration. All these limitations may have affected our analysis and may have led to insignificant results. The future researchers should endeavour to address these issues while doing research in this area. Further research can be conducted on the relationship between firms' actual environmental performance and environmental communication in global as well as Indian context.