ISSN: 2348 9510
International Journal Of Core Engineering & Management (IJCEM)
Volume 3, Issue 1, April 2016

A STUDY ON REALITY OF GREEN BUSINESS AND MANAGEMENT FOR RELIABLE FUTURE

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ABSTRACT

There is a popular saying "cut according to your coat". This small statement becomes very much true and essential in this globalized world. The world is ever changing with its populations, requirements, new complexities and challenges. It is very much required to frame new management strategy and monitoring guidelines for smooth organizational operation with effective resources utilization at minimized cost and maximized environmental welfare. Present lifestyle gradually becomes sound day by day with development of cutting age technologies. But, an unseen question still persists in everyone's mind "why go-green". Today there is an open discussion on uncertainties related with green business and management principles and in which way it could to be implemented effectively amongst the living and non-living resources of the organization. This paper identifies and discussed different strategic aspects required to be structured which can encourage 'go green' initiative in future business and management.

Index Terms— Green; Business; Management; Energy; E-Waste Management; Triple Bottom Line;

I. INTRODUCTION

The global sensibility is undergoing a vast change. The 'going green' trend is more or less everywhere. Unlike what was the situation some time ago, now people able to know actual the meaning. A general idea of the consequences of not going the green way is present everywhere. The

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International Journal Of Core Engineering & Management (IJCEM)
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ticking environment clock has made it important that green norms be applied to as many sectors as possible. From buildings to businesses, countries have started putting down green laws. Organisations have been formed that certify whether or not a construction is green. Now, organizations are requesting for it. Green managements are demanding it. The future of business is being built on green and socially responsible organizations. So it is fairly apparent that this green trend brings under its realms the business sector as well. When business and green are thought of together, it is called green business. In order to define green business, it can be said that the business that takes into account the harms that it may cause to the environment and tries to minimise or prevent them is called a green business.

There is an unseen demand of active approach towards green management across the globe as well. Success of an organization always depends on promotion and growth of economic values, but not at the cost of environmental decay. However in present era, firms and industries have to consider for the minimization of natural and ecological footprints and give stress on social and environmental welfare in parallel with economical and financial gain resulting corporate success by ensuring new realization of profit at shareholders level. In recent days there is a noticeable increase in the level of pollution by incoming wastes at different levels from all categories of industries leads to rapid destruction to the non-renewable resources and the bring negative impact on socio-economic relationship. Hence, strong eco-friendly resource management strategies are needed for the industries and corporate sectors to cope up with the current green issues and challenges. The sustainability issue become the top priority of the leaders of corporate world as the awareness on incorporating “green” into the corporate strategy is making its way in business and management. Based on this green concept of Green marketing, Green accounting, Green retailing and many more are in the field of management.

In this paper, a precise study has been made on different issues related to green management with following objectives,

• To provide with a basic understanding of green Business and management to the readers,
• To elaborate on various green practices that can be incorporated for building a Green workplace for better business.
• Attempts to suggest some green initiatives for next generation.

Business management for such business needs to focus on functioning by looking carefully at the resources they use, the processes they undertake, the staff they recruit etc.

In section II, the prospects of green management has been discussed, in section III, described different regions of green management. Section IV, described different step taken followed by

ISSN: 2348 9510
International Journal Of Core Engineering & Management (IJCEM)
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section V about different hindrances in green management. Section VI described about E-waste management and several case studies has been put forth in Section VII followed by a conclusion in section VIII.

II. PROSPECT OF GREEN MANAGEMENT

Several business organisations today have now turned the green way. The fact that it is a trend does not seem to be sufficient reason for so many businesses to have adopted it. So it is indeed to know the reason for profit seeking organisations and the factors are many. Apart from the basic reasons which include profit, sustainability and longevity, there are various unprecedented reasons too. Environment, branding and a competitive edge are significant reasons for adopting green practices. The general awareness regarding the risks that the earth faces gives eco-friendly products and services a very advantageous position in market. People are increasingly turning to products that claim to be green.

The energy scenario has also played a role in pushing the business community towards greener practices. The global concern over energy usage, shortage, price rise and the large scale environmental effects have impacted the business. The social and economic mind sets now changed with time. From the business management viewpoint, green management matters due to the triple bottom line. The triple bottom line comprises of the environmental benefits, positive economic effect, and well societal pictures. The triple bottom line or "TBL", "3BL", or "people, planet, profit" captures an expanded variety of values and criteria for determining organizational economic, ecological and social welfare and success. The phrase was coined by John Elkington, co-founder of the business consultancy Sustain- Ability, in his 1998 book, Cannibals with Forks: the Triple Bottom Line of 21st Century Business [11]. Triple Bottom Line accounting attempts to define the social and environmental impression of an organization's activities, in a quantifiable way, to its economic performance in order to show development or to make assessments more in-depth [1].

III. REGIONS OF GREEN MANAGEMENT

The basic reasons for which companies and businesses are turning towards green can be listed as follows,

A. Environmental damage is minimised and hence the eco-system is protected from harms. Pollution is reduced, resources are used with better efficiency and waste is appropriately taken care of.

B. The brand gets a boost from the positive image it creates in the market.

C. A substantial amount of cost cutting is possible subsequently.

D. The morale of employees improves because of the good cause the business supports.

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International Journal Of Core Engineering & Management (IJCEM)
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Productivity is hence improved.

Sometimes, after adopting green measures, there are ideas about new products or management methods.

IV. STEPS TAKEN BY THE GOVERNMENT AND ORGANIZATIONS

Apart from the above, in order to incentivise the businesses to go green, many steps have been taken by governments and organisations.

A. Global pressure to act in response of declining environmental stability. Desperate measures to halt the further destruction of the nature in any way by limiting the greenhouse gas emission or by limiting the carbon emission etc. are being taken. Moreover, corporate social responsibility has become a key strategy for the functioning of every business group.

B. Capital markets acceptance -Now, investors understand the level of public attention in climate change issues. They have started to invest in industries that are sensitive to the environmental causes. Originally the clean tech market consisted mostly of specialist investment firms with a strong environmental focus. But now, the world's major public and private investment companies are committing capital investment to clean tech industrial production. But, there a growth has seen in the group of people prioritising green products. Such niche markets are increasing and therefore the opportunities for business are still considerable. So, with the help of green branding, the businesses look to cash in.

C. To ensure market demand for clean tech. products or services Government can directly encourage market demand by procuring products. By this, the market demand for the product increases which causes a drop in their price. Also, this kind of policy to promote green products creates an example for the common consumer to follow. Government can also create demand for clean energy by procuring a part of the produced energy. Legislation of this type has been in place in many different countries like the Renewable Obligation in the UK and Portfolio Standards in the US. In US, at least 23 different States and the District of Columbia have certain kind of RES requiring that a certain amount of its electricity usage come from renewable sources.

D. Creating environmentally-friendly market- A commonly cited proposal for dealing with climate change is instituting carbon price by an emissions 'cap-and-trade' system. In it the greenhouse gas (or carbon) emissions would be 'capped' i.e., limited to a certain level for different companies. The companies who exceed their limit are required to purchase credits to cover their excess from those companies who emit less than their limit. The European Emission Trading Scheme which began operational in 2005 is the largest 'cap-and-trade' system in the world. In US in 2005, the governors of seven States established the Regional Greenhouse Gas Initiative (RGGI). The RGGI was the country's first mandatory cap and-trade program. It was incorporated to decrease the region's

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greenhouse gas emissions by 10% by 2019. A Federal Reserve Bank of Boston analysed the effects of RGGI and came to a conclusion that the program, simultaneously ran along with other energy efficiency programs, will have a "modest positive effect on gross regional product, own income, and employment".

E. Policies to raise the incentives for green industries that could be tax reductions or various kinds of subsidies are important. These programs are shown to have generated positive returns and hence to ultimately lower the customer's bill. A study by the RAND Corporation based on California's energy efficiency program showed a rise in the state's economy of $875 to $1,300 per capita between 1977 and 2000. This shows there is a 40% decrease in air pollution emissions from stationary sources and a reduced energy burden on low-income households [2]. Now that the incentives are covered, the next natural step is to know what exactly makes a business green. What constitutes the transformation from being a general business to its green counterpart and what qualifies a business as green. The list to this is inexhaustible. But to discuss a few the following can be considered.

F. Watch power use- Power usage amounts to a lot of cost and a major proportion of power usage can be cut. By ensuring less wastage energy can be saved. Simple steps that can go a long way include switching off equipment when not in use, replacing fluorescent lights with LED or CFL bulbs, choosing electrical appliances for the workplace keeping in mind its consumption, installing switches with sensors, making natural lighting during daytimes possible by appropriate architectural design etc.

Also, switching to greener fuels and working towards harnessing unconventional forms of energy are effective means to take greener steps.

G. Think twice before purchasing- Before making any investment in purchasing anything, its pros and cons regarding how it affects the environment in the long as well a short run must be considered. Also, it must be checked whether any viable, greener alternative is available apart from that.

H. Use reusable products- Recycling, reusing and reduce are the three main pillars to reduce waste as well as make effective use of waste without damaging the environment. Waste management is one of the greatest significant factors that constitute the green initiatives. If not taken proper care, wastes can lead to a lot of problems for the surroundings. Proper disposal as well as pre-disposal treatment of waste is important.

I. E-waste management- Electronic waste today constitutes a major segment of waste generated from offices and workplaces. Electrical equipment are liable to breaking and getting out of date. This ensures a steady amount of e-waste. Also, these wastes are not easily manageable [6]. Audio visual components, televisions, VCRs, stereo equipment, cellular phones, other handheld devices, computer and machineries contain valuable elements and substances suitable for repossession, including lead, copper, and gold. e-waste is processed is by melting circuit boards, burning cable

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sheathing to recuperate copper wire and open- pit acid leaching for separating metals of value. Conventional method used is mechanical shredding and parting but the recycling efficiency is low. Alternative methods such as cryogenic decomposition have been studied for printed circuit board recycling.

As properly disposing of or reusing electronics can help in preventing distinguished health problems, reduce greenhouse-gas emissions and create jobs, e-waste management holds major stakes in the green business.

- **Plant trees**- The best and direct and most apparent way to go green is definitely through planting trees. By taking plantation initiatives, business groups can literally go green. Tree effectively reduce the amount of pollutants in air and provide for a welcome sight.
- **Telecommute**- Employees in many cases can be allowed to work from home. This measure can play a hand in reducing unnecessary cost as well as reduce greenhouse gas emissions.
- **Create a green team**- A team, solely meant to make green business plans and look for greener alternatives is a bonus. It is helpful in keeping a tab on all the activities on the green front and giving specialized insights on green management.

V. HINDRANCES IN GREEN MANAGEMENT

The steps to green business and management look simple on paper but when the actual scenario is taken into account, it seems like a formidable task at first. Many businesses, even after knowing all the benefits that come with it are reluctant to transform their businesses. Many hindrances that they commonly face can be listed as follows-

A. According to Michael E. Porter and Claas van der Linde [7], the first issue in going green is adversarial process, which locks companies into static thinking and gradually pushes the price upward. A typical example occurred during the debate in the United States in the 1970 Clean Air Act. Lee Iacocca, then executive vice president of the Ford Motor Company, forecast that going with the new regulation would require huge price rises for automobiles, force U.S. production to a halt by 1975, and severely damaged the U.S. economy. The 1970 Clean Air Act was subsequently enacted, and the predictions turned out to be wrong. Many such examples can be found throughout the world.

B. For many companies, static thinking causes a lot of harm by making environmental standards unimportant. The standards which could actually increase competitiveness are looked upon with a lot of apprehension. As an example, the case of coal tar distillers in the U.S can be taken. Most of them opposed the 1991 regulations which required them to reduce benzene emissions. Similar

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success stories that contradict the static mind-set are not uncommon: the Phone-Poulenc plant in Chalampe, France [8]; Dow Chemical's21California complex scrubs [12]; 3M [9][10]; Ciba-Geigy Corporation, Raytheon, and Hitachi [8], just to name a few[3].

C. The second problem that avoids companies from going green is the current system of green regulation which often discourages innovative solutions or renders them impossible. The trouble with regulation is not its rigorousness; it is the way standards are written and the sheer inefficiency with the way regulations are administered. Stringent standards can and should encourage resource productivity. However, by concentrating on clean-up instead of prevention, mandating specific technologies, setting compliance deadlines that are unrealistically short and subjecting companies to unreasonably high levels of uncertainty.

D. Conversion expenses can root a lot of uneasiness to the businesses. It can be expensive for a corporation to go green primarily. For example, the switch to solar power will make the need to install solar panels at business facilities. The cost reductions in energy conservation gained by going green are not constantly sufficient to offset the initial upfront conversion costs.

E. In some cases, the switch to using green materials can lead to more classy products for consumers.

F. For some companies, a common method of going green is to minimize or even reduce the use of paper. This can pose some disadvantages. For example, if employees miss or experience the theft of laptop computers, important information that would normally be kept in a locked paper file could fall into the wrong hands. If companies don't correctly back up their computer files, a system crash could prove disastrous.

G. Managing the TBL becomes a daunting task in itself. With profit as just one bottom line, the difficulties are many and hence when two more bottom lines are brought into the picture, the difficulty level of management grows manifold.

H. A business team generally is made up of people good at business. In order to bring in the green factors, specialised work force is often needed. A business man along with its team cannot make a full-fledged action plan to go green.

VI. E-WASTE MANAGEMENT

The effect of our lifestyles on the environment is directly visible when the electronic sector is

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considered. Increasingly, the global consumption of electronic products and appliances is leading to a subsequent increase in the production of environmentally hazardous e-waste. E-waste poses as harmful for environment and human health. E-waste basically includes the electronic hardware that ceases to be useful. The current trend in the global scene points to a significant amount of e-waste production. Future trends show that there may be a further increase in the amount of E-waste produced with increasing GDP, but it may also go down because of the changing preference of consumers towards more portable appliances. Presently, global e-waste production is approximated to be around 20-50 Mt/year. Personal computers, cell phones and TVs contributed about 5.5 Mt in 2010. A snapshot of e-waste has been presented in the Figure. 1.

Figure. 1. E-waste

Each electronic item's participation in the annual e-waste production, E (kg/year), depends on each electronic item's mass, M (kg), its quantity (number) in the market and consumption, N, and its average life cycle, L (year).

$$E = MN/L$$

The environmental impact the waste has depends on the type and age of the object that is discarded. The disposed objects generally contain metal alloys. The harmful chemicals that have bad effects include- burning of e-waste produces substances like Polycyclic Aromatic Hydrocarbons (PAHs) and dioxins from the plastic covers. PBDEs (Polybrominated diphenyl ethers) are combustion retardants which are produced from e-waste and get bio accumulated in living organisms, Chloro Fluoro carbons lead to depletion of ozone layer.

The appropriate solutions for minimising the impact of e-waste are to recycle and reuse it. E-waste contains partially retrievable substances which are useful. Also, the recycling should be done by proper means. If not, then the pollution from recycling will weigh out the good that comes from

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recycling of the waste.

Effective step in managing e-waste can include replacement of unsafe materials for better materials. Like, replacement of CRT screen with LCD screens, using rechargeable batteries, etc. optical fibres instead of copper wires, etc.

The management of e-waste is important. Proper disposal channels should be made and the government must put in place directives regarding the processing of e-waste. Strict guidelines and rules provide a systematic and efficient means to get the most out of e-waste by causing the least impact on environment [6].

VII. CASE STUDIES

A. PepsiCo

PepesiCo, the second major food and Beverage Business in the world, set out to make its business greener and in the way they made an innovation. The company invented world's first 100 percentage plant-based recyclable bottle. 2.57 million tons of petroleum-derived PET beverage bottles were thrown away in the United States alone in 2009. Although recycling rates are increasing, only 28% of bottle waste in the U.S. that year was recycled. Petroleum-derived PET bottles are composed of non-renewable fossil fuels, meaning they carry the environmental costs of petroleum extraction and shipping. As discarded trash, plastic bottles clutter public spaces and contribute to the floating ‘garbage patches’ that plague the world’s oceans.

The company lowered the amount of plastic used in its Aquafina water bottles and debuted a 100% recycled bottle for its Naked Juice line in 2009. To boost bottle recycling, PepsiCo launched the ‘Dream Machine’ project in 2011, an initiative that included public-private partnerships with municipalities like Washington, D.C. According to PepsiCo, “PepsiCo projected the requirement to take ecological stewardship to a whole new level at the beginning of the new millennium, identifying that green sustainability was becoming a core component of sustainable performance. They initiated to put in place the systems, processes and metrics needed to drive continuous development in energy and water conservation as well as greenhouse gas, packaging and waste reduction. We also advanced innovations in packaging and sustainable agriculture and better performance in overall productive efficiency and plant efficiency [4].

B. TCS

The Tata Consultancy Services follows the Tata group’s ideals of building sustainable businesses

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that are resolutely rooted in the community and validate care for the environment. To make it possible, TCS has adopted the 'triple bottom-line' method and classifies that People, Planet and Profit as the vital pillars of corporate sustainability. TCS declares a set of eco-friendly targets for each financial year at the beginning of the year. These set of targets help the company set achievable goals on various aspects of green management [5].

- **Energy**

With a significant proportion of the carbon footprint of TCS coming from energy consumption, energy efficiency has been identified as a key focus area and TCS has taken up the objective is to reduce the energy footprint through many measures like green IT, green infrastructure, operational energy efficiency, etc.

- **Water Performance**

Various simple measure like Dual flushing system in toilets, Taps with adjustable output and sensors, Drip irrigation system, Optimization of water flow rates through faucets, Systematic maintenance of water pumps, Sewage treatment plants where feasible; treated sewage water for A/C cooling tower makeup, etc. has helped reduce fresh water consumption per capita by 13% over baseline year FY 2008.

- **Rain Water harvesting**

Facilities for rain water harvesting have been put in place at many of the TCS campuses wherever possible.

- **Waste Management**

Due to the nature of business, waste generation is typically limited to municipal solid waste. Other wastes include electronic and electrical waste (E-waste) and a small proportion of regulated wastes like lead-acid batteries, waste lube oil, etc. The waste management practices seek to reduce the green impact of waste streams to the extent possible by decrease in generation, segregation at source and proper dealing to achieve the ultimate goal (long-term target) of <5% waste to landfill.

- **E-waste Management**

The E-waste [6] generated at the various TCS facilities comprises defunct computers, monitors, servers, etc. and specified electronic and electrical items. Management of E-waste is done as per TCS' E-waste Management policy which complies with the WEEE directive / local regulations and the Government of India's E-waste (Management and Handling) Rules, 2011. In FY 2013, 10917 numbers of waste computers were disposed off through government authorized handlers / recyclers. Computers which were deemed obsolete for TCS's purposes but were in working condition, were donated to charitable institutions [5].

VIII. CONCLUSION

- Green management is not the repackaging, the reinventing approaches towards business, nor

ISSN: 2348 9510
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business management. Green management is not a concept or standard telling new style of doing business.

- Green management is simply the rethinking, or more accurately, being more alert of how organizations are working with respect to the atmosphere.
- It is not the humanoid aspects within the organization that are being accomplished but the elements of the organization that are being managed by green management.
- According to the business management viewpoint, green management matters, but it's important only due to the so called triple bottom line. As stated above, the triple bottom line consists of ecological benefits, positive financial effect, and well societal images.
- In this paper, precise overview on green business and management has been presented along with the case studies. Green management and going green is indeed beneficial and appropriate for society as well business. Going green is largely not always a legal requirement or process, but must be a voluntary process with more public awareness.

ACKNOWLEDGMENT

We would like to thanks students, people and infrastructures of IGIT, Sarang for providing support in scripting this manuscript.

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