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A Study on the Environment Sustainability Development-through the "True and Thrift Accounting Model"

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ABSTRACT

The entire universe is dependent on the balance of the five basic elements namely earth, water, air, fire and space. Excessive or injudicious use or exploitation of any of the basic elements causes imbalance in the mother nature. Thus it leads to the changes in environment because the nature tries to maintain its balance. Environmental Changes have become a global issue, and the situation is rapidly deteriorating, directly and indirectly affecting global social, economic and ecosystem. One current argument is that corporate world are unconcerned about the environment, thus policymakers revised the accounting model and included Green accounting to make them accountable. The Green accounting system ensures that the costs to the environment are also considered and accounted for while calculating the cost for goods and services. This paper highlights the need, and importance of green accounting. The study introduces and explores the "True and Thrift" Accounting Model. In this model "True" means to keep accurate records. "Thrift" is to reduce unnecessary consumption.. This model aims to make people less dependent on materials and change people's high-energy-consumption lifestyles to low-energy and consumption lifestyles. The study firmly believes that it is not the time to do addition any longer in terms of the cost to environment. Instead, we need to do subtraction, preservation and conservation. We should look at accounting as a whole instead of accounting for everything separately, e.g., social and environmental accounting, biodiversity accounting, carbon accounting, health and safety accounting, ecological accounting, and sustainability accounting. In our country, We produce an incredible amount of trash. Rich and Wealthy consume and discard, yet refuse to give to the poor. Many rich and influential users often go for adoption of new product with latest features even if the balance life of the older version of the product was still there and many of the older products are in good working conditions. This discarding of older products before expiry of their working life cycle often leads to waste generation. Handling and safe disposal of this waste is fast becoming a new and serious challenge. The study focuses on the mantra of Reduce, Recycle and reuse for saving the environment from the damages being caused by excessive exploitation of scare natural resources. Now the mantra of reduce, recycle and reuse need to be strengthened and augmented by Introduction of Green Credits and rebuilding a relationship with Truth and can restore a harmonious relationship with nature and between ourselves. This paper has various sections. Section 1 provides an Introduction, objective, and literature review. Section 2 Outlines the scope & methodology, Need, and importance of Green Accounting,. Section 3 Renew and Redefined model of accounting. Section 4 offers concluding remarks. Finally, the study also highlights some suggestions.

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KeyWords: Truth, Green Accounting, Environment Sustainability Development and Thrift

Section 1

1.1 Introduction

According to ancient Indian mythology, the five fundamental elements of earth, water, air, fire, and space make up the entirety of the cosmos. Any one or all of the five essential elements can be used to produce any product or energy; for example, water (hydropower), air (air turbine), earth (coal and oil), space (atomic energy), and fire (solar energy) can all be used to produce electricity. The harmony of these five fundamental elements is necessary for the universe's existence. Mother Nature becomes unbalanced when one or more fundamental elements are used excessively or carelessly. This overexploitation of resources causes changes in the environment so we are experiences changes in weather and environment as the nature seeks to keep things in balance. Environmental changes have become a global issue and are getting worse every day.

Environmental Changes have become a global concern, and day by day, it has reached an alarming situation, directly and indirectly affecting the world's economic growth. In the past, the business world did not consider environmental costs in total cost. Hence, policymakers revised the accounting model, known as green accounting. It is also called Natural Resource Accounting and Environmental accounting. The term "Green Accounting" was coined by Economist Professor Peter Wood in 1980. For the first time, In India, Jairam Ramesh, former Environment Minister of in India, Jairam Ramesh, former Environment Minister of India, highlighted the need and importance of bringing green accounting practices to India.

Green Accounting comprises environmental costs into the financial results of the business operations to sustain business and environmental goals. The Green accounting system aims to incorporate environmental costs in the prices of goods and services. The Traditional accounting system did not include environmental costs in operating expenses. For the sustainable future of society, the corporate world must consider the environmental cost in the operating cost. In accounting, Total operating costs of production include direct and indirect costs. As per traditional accounting, direct and indirect costs include materials, consumable stores, spares, labour, equipment usage, utilities, testing, and certification resources. Direct and indirect environmental costs of identifiable resources consumed in activities, namely waste processing, disposal, remediation cost, Pollution Control Registration cost, and associated expenses are added to the traditional cost. This combination of eco-efficiency costs as per traditional accounting and eco-justice charges as per Green accounting contributes to the overall achievement of Sustainable development.

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The study identifies the significant problems due to the enormous quantity of electronic waste collected due to human activity. Numerous software and hosting techniques have grown over time with the growth of technology. To reduce the negative influence of technology on the environment, the focus of the organizations is being placed on the environment and began recognizing its significance and formulating measures to advance green and environmentally-friendly goals. Green accounting is a method that ensures environmental concerns are not overlooked with business goals. As its name suggests, this accounting style focuses on a firm's financial aspects in relation to the environment.. Financial analysts evaluate financial risks and earnings with environmental concerns.

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ensure public safety and the environment, an STP must undergo annual maintenance checks.
These problems make it easier for treatment plants to get rid of pollution. However, the company invests in fixed costs, and the product's final price includes those fixed costs. Therefore, it will increase the entire cost, which hands the consumers responsible for the development.
The primary objective of this paper is to propose the extension of the useful life of the plant or machine that is already in use and preserve the natural environment.In the coming years, this will result in a reduction of trash throughout the nation.. The excessive generation of waste has been detrimental to the natural world around us. The management of garbage is a significant challenge that governments around the globe deal with daily. Sustainable development serves the present generation's needs without compromising future generations.

1.2 Objectives of Study

The objectives of the study is to identify and assess the impact of solar panel waste on environment in electronic industry.

1.3 Review of Literature

The existing literature generally examines the application and awareness of green accounting across organizations. It looked at IFRS and GRI Global Reporting Initiatives (2020) for environmental or sustainable disclosure, but IFRS had none. GRI 307 & 308 provide environmental reporting in financial statements. GRI Standards provide a set of requirements for disclosing and quantifying non-financial factors. Firms, policymakers, and stakeholders can better evaluate environmental disclosures. Many firms worldwide include environmental disclosures in yearly reports. Each company must maximize its resources. It focuses on managing resources, environmental effects, income, and costs. By implementing green accounting, environmental costs can decrease. It includes company dedication to economic growth and environmental or resource degradation expenses. [i]
Another study focuses on five Indian companies on the CDP list. The report compares L&T, Essar & Oil, Wipro, TCS, and Tech Mahindra's practices. Green accounting improves a company's image. The article covers companies' green accounting achievements. [ii]
The paper discusses green accounting, its importance, and its development in India. It concludes green accounting is young and still developing. Few businesses that understand the benefits of green accounting and don't use such products which have adverse impact on environment. Such companies have a significant policies to account for the harmful impact of business or product on the environment. Shortly, all organizations are likely to be required to include green accounting in financial reporting. Green accounting is new in India. Companies must develop policies, rules, and laws for environmental control and include environmental facts in their annual report to ensure ecological safety. [iii]
Our Prime Minister Mr Narendra Modi has highlighted the importance of envoirnment and green accounting and given the Mantra of “Zero effect Zero Defect” for Corporates and this Mantra also leads to the goal of making corporate accountable for their responsibility towards the preservation of Environment.
There is also a study on Environmental accounting, or "green accounting," which is a social responsibility requirement for businesses. Business and public environmental accounting practices comprise ecological communications. It helps sustainable growth. Environmental accounting focuses on expenses. Environmental costs will manage the accounting information system and should cover ecological expenses. Environmental costs (Environmental activity type costs, Costs that represent traditional accounting, Environmental domain type costs, and Costs that reflect data visibility in accounting records) have been reported according to their functions and should be reflected in period costs and expenses. [iv]

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One study examines Green accounting as a management tool for properly considering environmental expenses, says this report. The management accounting system is crucial in transferring business activities inside a company. Through its external reporting procedure, stakeholders are accountable for the company's (audited) financial performance, allowing them to make economically sound decisions. Accounting culture affects corporate success and credibility. Accounting has become more social and political. Accounting data represents or recreates reality. Many organizations are unsure of Green accounting's results and hesitant to apply them. This study report identifies the practical benefits of Green accounting adoption within an economic entity to help firms evaluate its requirement. [v]

The study also focuses on accounting disclosure procedures used by selected Indian corporations since this accounting practice began in India. NIFTY firms will be studied, with sufficient sector representation. This study uses annual reports of established Indian corporations to show that Indian companies disclose environmental accounting voluntarily and positively. The paper suggests ways to promote ecological accounting in India. [vi]

Section 2

2.1 Methodology

The research paper is exploratory in nature and based on secondary information collectedfrom the research papers, journals, media reports, and articles on the subject.

2.2 Need and importance of Green Accounting

In India, approximately 2 million tonnes of e-waste is generated annually, of which nearly 82% comprises personal devices such as mobile phones, tablets, laptops, desktops, and screens. Globally, India is the 5th largest producer of e-waste. Annually only 1.5% of e-waste generated in India is recycled- the unorganised sector is a primary culprit behind improper disposal of e-waste[i]. The large cost gap between recycling and discarding panels in landfills points is an unpleasant truth. India does not have a solar waste management policy. Solar Waste — the electronic Waste generated by discarded solar panels — is sold as scrap in the country. It can increase by at least four-five-fold by the next decade. By the end of the next ten years, it might multiply by at least four or five. Despite producing just approximately 3% of the world's power, photovoltaics use 40% of the world's tellurium, 15% of its silver, a sizable portion of semiconductor-grade quartz, and smaller but still considerable amounts of indium, zinc, tin, and gallium. [ii]

Green accounting is an essential tool for understanding the role of the natural environment in the economy.Green accounting is also known as Environmental Accounting.Green Environmental Accounting is a tool for understanding the economic role of the natural environment. The primary purpose of green accounting is to help businesses operate and understand potential trade-offs between their day-to-day economic and environmental goals. Such improvement may achieve through natural resource or green accounting, which supports the country's policy engineering process in various ways. Environmental accounts provide information about the contribution of natural resources to financial well-being and the costs of pollution or resource degradation. Waste costs are the cost of actual disposal rather than the cost of lost raw materials. A proper environmental accounting system can generate environmental revenue. Such income could eventually offset some of the ecological costs. It may result in improved environmental safety performance, which is essential for business success and health. Customers always prefer eco-friendly products and services and strongly support the comprehensive environmental management systemA company fulfils its environmental responsibilitiessuch as removing spills and properly disposing hazardous materials. without depleting natural resource stocks canachieve sustainable income levels.

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Company must disclose the extent and nature of the preventive measures taken by management.to potential and current investors. Green accounting is gaining importance for businesses as it concerns three key factors: People, Profitability, and Planet. A green accounting system means the environmental cost reflects the price for goods and services. Conventional accounting may result in a policy decision that is not sustainable for the environment.

Section 3

3.1 Renew and Redefined accounting Practise–"True and Thrift Green Accounting."

Accounting is the language of business which communicates the results of business operation in money terms in a prescribed format.The history of accounting shows that there has always been a direct connection between accounting and money. In ancient times, governments used accounting for planning, budgeting, tax collection, and distribution.The practise of double-entry bookkeeping began in the nineteenth century. In the meantime, complex accounting systems with budgeting, reporting, auditing, and internal control existed in ancient civilized nations, such as Egypt, Babylon, Greece, and Rome. The current accounting system, which includes budgeting, financial reporting, internal control, and auditing, has nothing new to offer, and the old accounting system is much more rigorous. In the modern accounting system, the manner and purpose of recording have shifted. This transition begins in Italy, the birthplace of double entry, which is now the general bookkeeping practice worldwide.

In the interim, accounting standards, auditing, and the accounting profession have been founded and developed for various reasons, including company scandals, "cooking books," and accounting techniques' discrepancies among organizations. Today, accounting is viewed not only as a technique for recording, monitoring, and publishing financial information of organizations but also as a means of providing visibility to management, organizational objects, and operations. Accounting for society and the environment (SEA) Bebbington (1999) says that most people agree that the SEA era began in the 1960s and 1970s. The goal is to prepare and collect information to inform stakeholders (both inside and outside the organization). about an organization's impact on the societies and environments in which it operates.Social Accounting shows that record and keep track of things and should hold people accountable for their financial and non-financial actions. The growth of social and environmental responsibilities in accounting takes many forms, such as social accounting, ecological accounting, social and environmental accounting, sustainability accounting, biodiversity accounting, and ecological accounting.. Thus, SEA may go by different names, but the goal of the SEA are same .

The "True and Thrift Green Accounting" model is the result of this study. True means to keep records accurately.. The Thrift imeans cut wasteful consumption.. The accounting discipline focuses on 'always-changing' difficulties without seeking "true - solving' difficulties . According to the Study, it is no longer time to perform addition; instead, we must perform subtraction. we should look at accounting as a whole, including social and environmental accounting, biodiversity accounting, carbon accounting, health and safety accounting, ecological accounting, and sustainability accountinginstead of keeping methods of accounting separately,

To give one illustration: For the past two decades, solar panels have produced clean electricity without causing even the slightest amount of pollution. But solar panels are made up of photovoltaic (PV) cells, which can turn sunlight into electricity. When solar panels are discarded in landfills, this results in the loss of valuable resources. In addition, landfilling solar panels presents new environmental dangers due to the harmful compounds, such as lead, that they contain, which have the potential to seep out when the panels decompose.

Consider a made-up company; ABC will be in Chennai in 2021 and will have solar panels installed in the factory. They can maintain the panels in place for the next 20 years, putting the year 2041 in the running. The entire cost of a 4kW installation is 2,60,000[i] rupees at the time of the facility. In the

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year 2021, solar panels will produce 4 kilowatts of power, equivalent to around 16 new units each day. But, unfortunately, due to module deterioration, the panel loses around one per cent of its effectiveness yearly.

Imagine for a moment that Company ABC starts to reconsider solar energy choices in the year 2031, which is exactly halfway through the lifespan of the equipment currently used. New solar panels are cheaper and work better, and the cost of buying and installing them has decreased by 15% since 2021. It will be cheaper to upgrade panels now than wait ten years. Suppose Company ABC chooses the option of early replacement. If early replacements occur as our statistical model predicts, they might produce 50 times more waste in just ten years than IRENA forecasts. According to the official estimates of the International Renewable Energy Agency (IRENA), "huge amounts of annual trash are projected by the early 2040s." The total waste produced might reach 78 million tonnes by the year 2050. With the addition of panels used in commercial and industrial settings, the scope of replacements can become more significant. With the capacity that is now available, the cost of sending one solar panel to a landfill would be lower than the cost of recycling one solar panel.

According to this illustration, the study identifies the most significant problems due to the enormous quantity of waste collected due to human activity in the electronics industry (so-called orphan waste). Energy from solar panels may serve as a stepping stone toward developing sustainable photoelectric electricity, but damming the river may result in the irreversible destruction of ecosystems and native cultures.. Therefore, the only focus of green accounting should not be on renewable resources.

"True and Thrift Green Accounting" is the reimagined kind of accounting practise. Correct and accurate records are the most fundamental accounting responsibility. The field of accounting requires True guidance. Authenticity is at the core of conventional accounting. The practice of thrift involves reduce consumption of goods that is not essential.

According to the study's findings, we should perform subtraction rather than accumulation., we ought to look all types of accounting as a wholeinstead of separately namely social and environmental accounting, biodiversity accounting, carbon accounting, health and safety accounting, ecological accounting, and sustainability accounting.

Another very important aspect of conservation of resources is updating the existing products thus enhancing the life and value of products instead of simply introducing new versions of products.

The Green Credits should be introduced in a manner that they can be used to estimate and to offset the damage the product may cause to nature. Those products that help to save nature and natural resources should be awarded the Green Credits and those which cause damage or exploit more should be asked to bear the cost of compensatory Green Credits. These credits can be traded like Carbon credits and will help those companies which adopt the environment friendly policies to meet the cost of Preservation and conservation.

This can be illustrated as The Company D *Installs solar Power Plant will get the Green Credits on Purchase and installation of Solar Plant which has a life span of say 30 years. Further If the same Company intends to replace the Solar plant after say 7 or 10 years i.e. prior to the end of useful life of the solar power plant it will need to spend significant green credits at time of upgradation to new plant which may be cheaper or more efficient to offset the cost of wastage handling. However if the technology so permits to update the plant and maintain it for a period upto 30 years being the original life span of the solar plant despite the fact that the new versions were available then the Company shall be granted more green credits.*

Further if the Company D maintains and upgrade the same solar plant for a period exceeding 30 years without actually replacing it , More Green Credits will be allotted to such company. Thus a Company replacing a plant early will have to spend more in terms of purchase of green credits and a company using the plant for a longer period will get more credits. The credits can be sold or bought in market, which will help to offset the costs. And imposition of such costs on the Products and producing companies can help in improvements in the quality and longer lifespan of products.

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Regulators must identify and consider the costs of clean-up of discarded electronic materials. It includes uninstallation, transportation, and (in the meantime) adequate storage facilities for waste generated by solar energy systems. The required capacity for recycling solar panels needs to be built. Also, some environmentalists consider solar panels hazardous waste since they contain trace levels of heavy metals such as cadmium, lead, and other elements. However, this categorization comes with many expensive restrictions, such as that hazardous trash can only be transported during specific hours of the day and along particular routes, etc. To prevent customers from selecting the replacement alternative, the government should introduce granting Green Credits for repairing or maintaining existing infrastructure. The customer will deduct the saving from the total maintenance cost while calculating the overall cost. As a result, the massive amount of garbage collected due to human activity will, to some extent, decrease or reduce.

Section 4

4.1 Conclusions

The consumption patterns analysis suggests that the business is doing continuous research and introducing new versions of its products for growth and development. Many of these unique and advanced versions are not only efficient but are many times cheaper than the last versions and offer a host of unique advantages.

The users often adopt a new product with the latest features even if the balance life of the older version is still there and many of the older products are in good working condition. This discarding of older products before the expiry of their operating life cycle often leads to waste generation, and handling and safe disposal of this Waste is a severe and new challenge. It leads to an enormous amount of electronic waste due to the technological advancement in the renewable energy sector. The wastage is thrown away in landfills hampering the environment. On the one hand, solar panel technology led to the preservation of natural resources, namely coal, oil, etc. But on the other hand, wastage generated by the early disposal of solar panels might create havoc in the environment. Early disposable solar panels due to rapid technological advances mean electronic devices become obsolete quickly, often within two years. Rising income levels and the relative affordability of electronics allow more and more people to purchase electronic goods. Disposing of outdated devices is challenging because they contain lead, beryllium, brominated flame retardants, mercury, cadmium, and other deadly chemicals. When e-waste disposed of in landfills, these chemicals can seep into the ground, contaminating the water used to supply homes.

The mantra of Reduce, Recycle and reuse to save the environment from the damages caused by excessive exploitation of scarce natural resources now needs to be strengthened and augmented by introducing Green Credits. If any product is introducing its advanced version, it must meet the generation of benchmark Green Credits to offset the damage it may cause to nature.

4.2 Suggestion:

There are some Suggestions to implement True and Thrift Green Accounting in the home and Company:

1) Train people to use eco-friendly methods. Provide them subsidies in bills if energy management reduces their consumption continuously.

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2) Develop apps which track the number of saving of Kwatts/units in electricity and water consumption. Govt. may think of monetary incentive through reduction of consumption of electricity units.

3) Create monthly green challenges like opting for eco-friendly products, maximizing the use of natural light, reuse the products up to his life by taking an Annual Maintenance Contract (AMC)

4. With NGOs' help, the Government has to set up the necessary equipment for discharging Waste. It severely damaged the solid waste environment, and people nearby had cancer and other strange diseases.

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[ii] 100sqft required for 1kw solar, let her house is of400 sq ft

400/100sqft = 4
That's it can accommodate 4kW solar power plant.
Cost of 1 kW is Rs. 65,000 in India as on today
(MNRE approved products)
Rs.65000x 4 = Rs. 2,60,000/-
Energy generated by 1kW is Approx 4 units
4kW will generate 16 units

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