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FROM THE EDITOR:

Dear readers,
Greetings! In this special issue of *Business Review (India)*, we feature the papers that were presented at the second edition of the International Conference on Sustainability Challenges in the Emerging Social and Business Landscape held at St. Joseph's Institute of Management Bangalore. The conference merged theoretical standpoints with practice; as such, it featured addresses by industry leaders alongside work by academicians.

Among the several papers were shortlisted for presentation at the conference, only those submitted in full paper format and that met all the requirements of the journal review process are published in this edition of the journal. As always, all full papers

featured here went through the journal's rigorous double-blind peer review process. The abstracts went through a review process consistent with the standards of international conferences.

The conference organizers have conceptualized it as an annual event featuring the best academic and practitioner minds in leadership. The conference provides partial travel grants, cash prizes for best papers, and a chance for publication in our journal. The call for papers for the 2021 edition of the conference will be put out shortly. We encourage doctoral students to actively submit abstracts and full papers consistent with the theme of the conference.

Dr. Caren Rodrigues
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BUSINESS SUSTAINABILITY THROUGH SPIRITUAL LEADERSHIP

ABHIJEET JAIN¹

StudyLab

Sustainable development has become the order of the day and necessity for every business house's survival and growth. Gone are those days where the corporate bodies were operating only on economic motives. Today, business survival is dependent on the acceptance by the society at large along with least adverse environmental impact, in addition to economic profits. Therefore, for survival it has become a precursor for the business houses today to frame their business strategies not only on economic motives and the single bottom line targets (profit), rather they should be based on societal interest, environmental interests in addition to the economic interest or in other words, focus on the Triple Bottom Line. While we say that now the business houses should undergo a paradigm shift in framing their operating strategies, it is equally essential that the leadership pattern also undergoes a transformation to achieve this shift. A transition to sustainable development from exploitative economic development is near to impossible without awakening the inner self and hence, a need for strong ethical and spiritual framework arises. A spiritual-based leadership approach in business ensures morality and ethical values in its business strategies thereby, having least adverse impact on the society and environment as a whole. The larger interest is looked upon rather than mere profit motive. Spiritual-based leadership not only ensures fulfillment of the fundamental goals/ needs but also the moral societal needs. This paper aims at highlighting the significance of Spiritual Leadership in achieving the Triple Bottom Line objectives.

Keywords: Sustainable Development; Spiritual Leadership; Business Sustainability; Corporate Social Responsibility; Triple Bottom Line.

INTRODUCTION

Progress of a country is driven by progress of its people and progress of the people is driven by the economic

progress. Economic activities in a country act as catalysts for generating employment, growth of the economy, increase in public revenue, infrastructure

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development etc. and plays a vital role in the overall development of a nation. However, by the end of the 20th Century, it was realized that only with economic development the country cannot progress in the right direction for long. The economic progress was always been measured at a macro level with the GDP being one of its indicators, which never reflected the disparity in the economic status at the micro level. The increasing disparity in the income or economic levels within the society only proved rich becoming richer and the poor becoming poorer. Thus, giving rise to a new development model coined as 'Sustainable Development'. But, is this concept or model of sustainable development new? Certainly not, we can witness the issues cited under sustainable development even thousands of years back. Human history is evident of the fact that man has always strived to strike a balance between meeting its needs and protecting the environment. In the recent past, the unprecedented economic growth coupled with scientific and technological innovations and rapid population growth has breached all environmental limits and thus, posing huge pressure on the ecological system. The view of the people by and large has changed after witnessing the ill effects, threats and damage to the environment and hence, a paradigm shift from economic exploitation to sustainable development. Sustainable development is a reconciliation of the conflicting objectives of economic growth and environmental protection. It requires business to behave ethically and more

responsibly both towards the society and the environment. Whilst profits are a must for business survival, the social and environmental concern should also form an important part of every business.

The way businesses are driven plays an important role to determine if they are heading towards development by economic exploitation or towards a sustainable development. The strategies framed by the leaders of the business have a direct impact on its development path and hence, the leadership style is all the more important.

This paper aims at bringing out the role of Spiritual Leadership in Sustainable Development.

SUSTAINABLE DEVELOPMENT

Sustainable development means achieving a balance between economic, environmental and social objectives on the one hand, and addressing the expectations of stakeholders on the other. It basically refers to a balanced approach towards economic progress, social progress and environmental stewardship resulting in an approach which not only helps mankind meet its current needs, but also preserve for the needs of its future generations. Today, the need of the hour is for the corporate bodies to shift their focus from a single bottom line (economic profit) to a triple bottom line (economic profit, planet and people). Economic objective being the primary goal of any business, the fulfilment of social and environmental

objectives is also equally important. The corporate houses have in-fact started understanding the fact that they cannot sustain in the long run without catering to the needs of the society in which they operate and also without protecting the environment which offers the resources for its activities, directly or indirectly. The effect of the ecological imbalance caused due to rapid industrialization and disproportionate growth of cities is already evident leading to depletion in air quality, global warming and unreasonable stress on other natural resources. Thus, sustainable development model has become the mandate for every business house globally.

The United Nations member states in 2015 adopted the Sustainable Development Goals (SDGs) with a target to meet them by 2030. The SDGs are a set of 17 interconnected goals ensuring all areas covered for development and no one is left behind. They address the societal and environmental challenges relating to poverty, inequality, climate change, environmental degradation, peace and justice amongst others. These SDGs aim at achieving a better and more sustainable future for all. However, it is worth mentioning here that these goals can seldom be met without the active participation and contribution by the private sector and to the contrary the private sector may also not be able to survive long without contributing their share towards a sustainable development. Chief Marketing Officer of Unilever Keith Weed wrote in 'The

Guardian', "The brands that have not yet caught on to this and are not thinking about how they will embed environmental and social sustainability within their business model, will not be around in the next 50 years."

The following are the 17 SDGs framed and adopted by the United Nations targeted to be achieved by 2030:

1. No Poverty
2. Zero Hunger
3. Good Health and Well-Being
4. Quality Education
5. Gender Equality
6. Clean Water and Sanitation
7. Affordable and Clean Energy
8. Decent Work and Economic Growth
9. Industry, Innovation and Infrastructure
10. Reduced Inequalities
11. Sustainable Cities and Communities
12. Responsible Consumption and Production
13. Climate Action
14. Life Below Water
15. Life On Land
16. Peace, Justice and Strong Institutions
17. Partnership For The Goals

LEADERSHIP IN MANAGEMENT / BUSINESS LEADERSHIP

Management is the art of getting things done through others and this has always remained the essence of organizational success over the years. Management

practices have been witnessing radical changes and they need to cope up with the change and challenges of the ever-changing business environment. Effective management is always a product of good leadership. Leadership is commonly defined to mean a process by which an individual influences other towards the attainment of the group or organizational goals. Leaders should be certainly distinguished from managers. Not all Leaders are Managers and not all Managers are Leaders. One becomes a manager by being assigned a specific designation coupled with authority in the organization but, may not necessarily be able to lead his subordinates or in other words, his subordinates may not necessarily follow him. Leadership on the other hand is one's own ability to influence the behaviour of others and promoting new directions. Leaders eventually lead transformation, but manager's actions are usually transactional.

Sustainable Development certainly needs leaders more than managers, since the organizational goals need a paradigm shift from the Single Bottom Line targeted strategies to the Triple Bottom Line targeted strategies. The successful achievement of this transformation is widely dependant on the leadership style and thought process. The leaders for such a transformation need to be more open and broader minded not solely focusing on the organizational development but also development of its employees while being mindful of its business operations not adversely affecting the environment

in which they operate. Such leaders need to be of a semi-macro view, if not a complete macro view and need to think a little more than their micro-organizational objectives alone.

LEADERSHIP STYLES

A number of leadership styles have been developed and studied over time, each one having its own pros and cons. It is also a well-established fact that no one style is always appropriate or better than the other. Leadership style as much is dependent on the leader himself is equally or in fact, it would not be an exaggeration to say is more dependent on the people who are being led. Hence, it would be appropriate to say that a leader may have to apply multiple approaches of leadership to effectively achieve his set goals on the whole. Spiritual Leadership is one such style of leadership which allows the use of different approaches of leadership and influence people in a much positive and humane manner. The positive and humane results of this style of leadership are one of the differentiating factors from other styles which may also use or allow multiple approaches in leadership.

To name a few common styles of leadership, we have:

1. Transformational Leadership
2. Transactional Leadership
3. Servant Leadership
4. Autocratic Leadership
5. Laissez-faire Leadership
6. Democratic Leadership

7. Bureaucratic Leadership
8. Charismatic Leadership
9. Situational Leadership

SPIRITUAL LEADERSHIP

Is spirituality and religion one and same? Certainly not, spirituality is something that exists within oneself and religion exists within masses. Religion is more of a discipline requiring one to follow a particular system or path, whereas spirituality is more open allowing one to discover the truth creating one's own path while following basic tenets of love, harmony, non-violence etc. Similarly, spiritual leadership should be distinguished from religious leadership.

Spiritual leadership is more intrinsic to one person while religious leaders represent leaders of masses and many a times hold an official capacity. Mitroff and Denton (1999) concluded in their research 'A Study on Spirituality in the Workplace', that people often differentiate spirituality and religion, and that especially on workplace religion is viewed as intolerant and divisive while, spirituality is seen as universal and broadly inclusive.

Spiritual leadership embodies certain essential personal values of Ahimsa (non-violence), Satya (honesty), Achaurya (Not to steal or cheat), Brahmacharya (chastity), Aparigraha (non-possession), and to renounce and stay aloof from certain addictions such as Gambling, Alcohol Consumption, Prostitution, Hunting, Stealing,

Adultery, etc. Spirituality teaches one to rise above the self-materialistic desires and focus on a more integrated form of life in harmony with his fellow-beings as well other creatures including the environment.

Jain aphorism 'Parasparopagraho Jīvānām' stresses on the philosophy of non-violence and ecological harmony. Further another meaning that can be derived from this is working in co-operation with others or in other words, a co-operative development model as against a competitive driven model. These spiritual principles focus on a win-win policy rather than a cut-throat competition, which would in the long run be beneficial to the society and economy at large.

Spiritual Leadership in a Sustainable Business Model

The rapid and unprecedented development of science and technology has led to the creation of a complete new materialistic world. Mankind has, off late, seldom been kind to his peers and his environment in the run to achieve these materialistic goals. These materialistic desires are being purchased at the cost of spiritual and ethical values many a times. Cut-throat competitive environment in the business world only pressurizes one to achieve the tough targets by all means, sometimes leading to unethical and unfair trade practices too. This has not only impacted the personal human life and society at large, but also the ecology and planet. These kinds of business and economic pressure

situations leading one to take drastic steps of one's own life have been witnessed in the past at various instances, some of which are:

1. Vineet Whig, the Chief Operating Officer for Britannica, committed suicide by jumping from his 19th floor of the building he lived in and the suicide note recovered from Whig's pocket stated that he was under lot of stress and taking the extreme step as he was "fed up" with his life.
2. Rani Manisha, a Wipro employee in Telangana's Hyderabad city committed suicide by jumping from the 4th floor of her hostel building during the night and she was reported to be suffering from depression.
3. Lucky Gupta Agarwal, a techie-turned-entrepreneur, ended his life by inhaling nitrogen gas. Authorities reported that despair over the failure of his start-up business led him to take the extreme step.
4. Raj Travels owner Lalit Sheth committed suicide by jumping off the Bandra Worli Sea Link bridge in Central Mumbai. He was believed to have been suffering from depression over the continuing financial losses.
5. Angad Paul, the son of a billionaire steel magnate jumped to his death from the balcony of his luxury penthouse apartment after becoming overcome with depression following the collapse of the family business. He believed he was to blame for the downfall of his family business, Caparo, which was enduring large-scale job cuts as administrators tried to salvage the firm.
6. A 48-year-old NRI businessman Sajan Parayil committed suicide in Kannur, Kerala, on Tuesday after he failed to open the convention centre, which he had built with his savings for his villagers. He faced resistance from the municipal chairperson while trying to procure a license.
7. Indian entrepreneur V.G. Siddhartha – founder of India's largest chain of coffee shops, Cafe Coffee Day and a prominent early investor in the successful IT services company Mindtree Ltd., committed suicide owing to unbearable financial pressure.

The above quoted cases are only a few indicating what the current business environment has transformed to and the kind of pressure prevailing around. This kind of increasing stress is not only leading to loss of life but also to increase in the personal life stress and fractured relationships. This is clearly indicated by the increase in the rate of divorce cases, deteriorating health of children resulting due to unattended care, neglecting old parents, losing friends etc. The sole cause of such human suffering is the lust and attachment towards worldly pleasure and materialistic desires.

This rapid and unprecedented haphazard growth and development has

not only left its footprints impacting mankind and society but also the environment. The ecological imbalances caused have a long-term impact on the current as well as the future generations. The economic development at the cost of societal and environmental destruction is not a bargain in good taste. It's high time that man rises above this materialistic greed and starts putting thought about the greater interest of his future generations.

To rise above self-greed, inducing spirituality and spiritual values in oneself is very important. Extending this spirituality to workplace would only fuel the engine of sustainable cooperative development. Spiritual values in workplace would not only help increase productivity and overall profitability of the organization but also build a strong employer-employee relationship, customer loyalty and brand reputation. Organizations now need to align and redefine their goals, vision and mission imbibing the spiritual values keeping in mind all stakeholders, society and environment. This would help bring in a greater sense of meaning and purpose into work life.

India has been a historically a culturally rich country with numerous religions practiced in different forms and styles, but with common spiritual values of non-violence, honesty, love and harmony. Moreover, a number of management concepts have also been discussed in various Indian mythological literatures. They also discuss about spiritual leadership and workplace

spirituality. However, it is sad that the Indian management thinkers have always been much influenced by the western style and seldom focused on our own cultural values and thoughts. In fact, it has been the other way round, where the western management thinkers have started showing keen interest in the Indian spiritual values and ways of managing business and life in the current stressful environment of corporate failures, financial scams, window dressing of financial reports, employee stress and retention issues, etc..

Spiritual Values of Jainism in Sustainable Development

Jainism has been one of the oldest practiced religions in India with rich spiritual values that are practical enough to be followed. In fact, Jainism was never a religion but has always been a way of life. Jainism is completely rested on the principles of Ahimsa (non-violence) and it would not be wrong to say that Ahimsa is itself the Jain religion rather than it being just a part of Jainism. 'Ahimsa Parmodharama' is a common slogan of the Jain religion which means to say above all values stands the value and practice of non-violence. This principle of ahimsa in Jainism is not restricted to only non-violence against mankind but is extended to every living creature in whatever form may it be. Jainism regards every living creature with equanimity and connected by sole rather than the physical structure. This spiritual thought not only changes one's attitude towards fellow mankind and society, but also towards the nature and environment.

The 3 Pillars

Jainsim rests on 3 important pillars of Right Knowledge (Samyak Jnana), Right Faith (Samyak Darshan), and Right Conduct (Samyak Charitra). It should be well appreciated that the philosophy of Jainism is not philosophy or religion that needs to be followed blindly, which is evident from the very fact that stress is laid on knowledge before faith. If these 3 are rightfully aligned, the moral and ethical values in a person would be automatically imbibed. The 3 values are very important to be brought in practice in the corporate world as well to ensure they are in the right direction of development with ethical conduct and do good not only for self, but to all stakeholders including employees, customers, society and the environment as well.

Anekantvad

The principle of 'Anekantvad' (non-absolutism) is another important philosophy, which not only forbids us to be dogmatic but also discourages a one-sided view. It emphasizes that everyone has a capability of thinking and hence, no view shall be treated as absolute right or wrong until and unless fully proven with complete facts and truth. Anekantvad emphasizes an open minded approach with a spirit of intellectual and social tolerance, which is very much the need of the hour. The Jain philosophy doesn't disregard the materialistic point of view completely, and appreciates the fact that our life is based on matter. We cannot live completely on spiritualism detached

from materialism. Anekantvad principle is a synthesis of both materialism and spiritualism; and according to Lord Mahaveera both are essential, but we need to know our limits of materialism and not exceed in possession more than our reasonable requirements. The point on possession has also been laid down in the principle of Aparigraha (non-possession). Parigraha means being extremely possessive of things which maybe living or non-living. This greed for possession is boundless in the human behavior and hence, Lord Mahaveera stresses on the practice of Aparigraha i.e. non-possessiveness. Aparigraha doesn't necessarily mean absolute non-possessiveness, but it states one should have certain own limits of materialistic possessions, which may be limited to his immediate needs and that of the near future. The point that needs to be driven from this spiritual practice is that one should not in the greed of his self-interest consume or accumulate so much wealth and resources leaving nothing or minimal resource behind for his fellow-beings and future generations. This attitude and practice would certainly solve the societal problems of economic disparity on one hand and the problem of rapid exhaustion of natural resources on the other.

Workplace Spirituality – Practical

Results of spiritual values and practices can be witnessed only by practically applying them in the workplace. There is no one form of application of the spiritually values at workplace. Some common practices that can be followed

and made a part of life for a better, meaningful life with purpose and a better society on the whole are:

1. Meditation sessions for employees which allows one to be in a state of deep mental peace and calmness. This not only rejuvenates the inner self, but also helps in building confidence, strength and motivation to perform well.
2. Celebrating the festival of forgiveness helps build courage among employees to accept their mistake and take corrective actions in the larger interest of all. It significantly helps in relationship management at workplace and outside as well.
3. Living a life of simplicity not overburdening the resources. A simple life attitude generates a feeling of oneness amongst the society and reduces unwarranted competition. It ultimately helps in reducing wasteful utilization of natural and economic resources.
4. Spending quality time with nature invokes the feeling of preservation and non-destruction of the environment. It creates a sense of belongingness in the ecological system, and self role in safeguarding the same.
5. Practice of Giving and Sharing helps to create an internal sense of goodness and inner peace. It creates a sense of equanimity and lays the path for equitable distribution of wealth and resources.

6. Living in the present is a practice that allows us to enjoy every present moment of life rather than always worrying about the future. This practice allows one to be more stress free and live life with a peaceful mind.
7. Hunting for Satisfaction against Materialistic possessions, allows one to do what he loves to or build an attitude of loving what one needs to do. This practice increases the productivity and efficiency level in every act of life.

CONCLUSION

The 2030 target for achieving Sustainable Development is fast approaching. The concept of sustainability is broad integrating the Economic, Social and Ecological perspectives. Sustainable Development Goals (SDGs) set for achievement, is definitely not possible only with governmental initiatives; equal participation and contribution of the private sector is also essential. Active role of every individual in achieving these SDGs is very critical and it is not a onetime effort. Sustainability can only be achieved with regular ethical practice in one's day to day life. Spirituality influences every individual's attitude towards whatever he does, talks, reacts etc., hence living a spiritual life is the key for a meaningful and purposeful life. Lord Mahaveera in his preaching's has stated that there can be no society without economic development, but in

the light of economic development one should not forget the intrinsic ethical values and practices.

A leader with spiritual values can lead the entire organization towards a development which is more sustainable and achieve the Triple Bottom Line instead of only the Single Bottom Line.

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A COMPARATIVE STUDY ON THE USAGE OF SOLAR RENEWABLE ENERGY AND CONVENTIONAL ENERGY IN DOMESTIC HOUSES

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The main purpose is to bring the comparison study between conventional electricity and solar energy in this project helps to portray the cost benefit advantage, and the differentiation in showing the comparative profit in utilizing solar renewable energy. The paper therefore elucidates the comparison on the mind-set of the conventional energy users, government provided subsidies comparative cost advantage survey with questionnaire on advantages and disadvantages of using solar renewable energy.

Keywords: Solar Renewable Energy; Govt. Subsidies Policies; Cost Benefits; Comparative Study of Solar and Conventional Electricity; Solar Panels.

INTRODUCTION

Renewable energy resource is a resource produced from natural processes and does not deplete after a particular period. Some of the examples of renewable energy sources are the wind, Sunlight, geothermal heat and biomass. The major study done on renewable energy focuses on solar energy, which can be termed as one of the most important and easily accessible renewable resource. Sun is the source due to which life thrived on earth. The solar power is generated through solar panels that traps sunlight and turn them into electrical energy using some chemical processes. Even though we are

not able to harness even 30% of the solar energy from the sunlight, it has helped us advance a lot.

Solar energy is one of the simplest methods of harnessing the renewable energy resource. It does not require complex infrastructure or heavy maintenance. It can be set up without expending a huge amount on it. It is also possible to set it up anywhere as long as there is sunlight available in the said place. It is also one hundred percent pollution free which means that it doesn't impact the environment or health of people in an adverse manner. The world has begun to face consequences of using

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non-renewable energy resources without proper caution. Within 10 to 20 years, we may reach to a point where we would have totally exhausted our supply of non-renewable energy resources and hence the government of different countries has started their investment in renewable energy resources.

Renewable energy resources like tidal power, wind power and geo- thermal energy etc. require apt geographic positions and huge infrastructure support. Hence the implementation of such projects has limitations. So most governments are now focusing on implementing the use of solar panels for the generation of electricity. They have been providing the citizens with subsidies and schemes as well as reimbursing them for the power produced from the solar panels implemented in their premises.

One of the main advantages of solar power plants are that they can be implemented almost anywhere. On house tops, On top of buildings, on open fields, on hilly terrains or even in the middle of an island in the sea. The idea behind the solar panel is that it uses photovoltaic cells to convert the solar energy from the sunlight falling on top of them into electrical energy.

The usage of solar energy is in many places. It has become a major source of power in remote areas where typical sources of energy cannot be provided. In hilly terrains and in deserts all these places rely upon the solar energy to survive. Now day's solar power is

reshaping energy markets around the world. In the decade from 2007 and 2017 the world's total installed energy capacity from photovoltaic panels increased a whopping 4300 percent.

India is a country with a huge population of nearly 1.4 billion people. To provide for the energy consumption of these 1.4 billion people is a major responsibility to the government. In India the main source of energy production was the huge hydroelectric power plants that are installed in the major rivers of the country. With all these power plants India had been able to produce enough energy for its needs. But during the summer season there is a huge impact on these hydroelectric power plants. Once the water level lowers beneath a certain point it becomes nearly impossible to produce the required output for the consumption of the population of the country. This has made the government focus on the alternatives available for the generation of energy in India. Wind power was sought out to be an alternative, but installation and maintenance of these huge windmills became a hurdle. Then the alternative sought up was the implementation of solar power.

All these initiatives were taken in order to implement the development of renewable resource-based energy production units all over the country. Also, they had many plans to generate them in the future. The new projects for 100MW capacity were selected to be given to companies. A plan to create an enabling policy deployment is to be

formulated for a 20000 MW of solar power by 2022. And many schemes are being planned to be implemented to facilitate the growth of solar and other renewable energy resource power generation. By 2022 the “Jawaharlal Nehru National Solar Mission” (JNNSM) is expecting to generate 22GW of power from renewable energy resources itself. Existing roof top scheme-Kerala context-the affluent section of consumer is most likely to get attracted. It is basically less attractive for the low-income group due to high upfront cost, unawareness about the technology/procedures/financial schemes etc. India, faced with twin challenges on energy and environmental front, has no option but to work towards increasing the role of renewable in the future energy systems.

International Scenario

Across the entire world, China has a bigger solar energy capacity than any other country in the world, at an enormous 130 giga watts. They also still hold the record for the largest operational solar project in its 1,547-MW project a Tengger, which recorded in 2018. China also named as world's largest manufacturer of solar panels which has seen it already exceed the government's 2020 target for solar installations. The second largest growth market for renewable is United States. It is also known as home to some of the world's largest solar power plants. Renewable projects in the US are expected to benefit from multiyear

federal tax incentives and state level policies for solar panels in the coming year. With most advanced technology and manufacturing industries, the Japanese come next in the renewable source of energy their government pledged to increase the renewable energy source from 15% to 22-24 in 2018, including wind and solar by 2030. There are targets for 28GW and 53GW for 2020. Germany has been key leader in the production of PV power of years, as per they have achieving the highest-ranking country for solar PV per capita in 2018. The government of Germany has given high priority for the renewable energy, which aims to source 80% source of electricity from the renewable source by 2050. A country with one of the fastest growing solar industries, India's solar installed capacity reached 28.18GW on March 2019. India is the country became the lowest cost producer of solar power in India. The government has an initial target of 20GW capacity for 2022 to achieve in the future schedule.

National Scenario

The Indian solar renewable energy is the fourth largest renewable market in the world. As of October 2018, India ranked fifth in installing solar renewable energy. India has done a great job in solar renewable energy among other countries in the world. India's target is to reach 50 million dollars invest to produce 100GW by 2022. According to the India's entire total population of solar energy generation capacity in March 2018 was

340GW and in 2022 power generation capacity to reach the target of 550GW +. The main reason as in why India is lacking in power is because power demand and schemed distribution of supply in India

As of today's scenario, India has 15 mega solar plants Tamil Nadu Gujarat Rajasthan Telangana Maharashtra and Madhya Pradesh are the top states of India with largest solar power generation with facilities and solar parks. Cochin airport happens to be the first international airport to run completely on solar power with a total area of 45 acres installed solar panelled aerodrome. This makes India proud among the world.

LITERATURE REVIEW

Solar energy is the radiant heat and light emitted by the sun which has been harnessed by human beings since ancient times through a variety range of ever evolving technologies like photovoltaic', solar heating, solar architecture etc. Along with the secondary solar resources for the solar radiation accounts for the available renewable energy on earth in which only a minuscule fraction of it can be used to extract or generate electricity, cooking, water desalination, heating and cooking etc (Panwar, Kaushik & Kothari, 2011; Rohankar, Jain, Nangia & Dwivedi, 2016) The sun is a major source of inexhaustible free energy (i.e., solar energy) for the planet Earth. Currently, new technologies are being introduced to generate electricity from harvested solar

energy. Hypothetically, solar energy vitality has the possibility to enough satisfy the energy requests of the whole world if innovations for it is collecting and providing were promptly accessible. (Kabir, Kumar, Kumar, Adelodun & Kim, 2018) Solar energy technology is one of the most promising renewable energy sources to meet the future global energy demand. The solar power plant helps in bringing up better opportunity in increasing the green energy moment and he also brought the importance of bringing up the uses and advantage. If in case the society uses the Alternative energy it would bring out clean and pollution free environment from emissions, which is considerably better for the atmosphere, because it doesn't manufacture pollutants or by-products harmful to nature. With problems with warming appearing over everyone's head, the globe has begun to show to various energies. whether or not the energy is employed to power the electricity at a family's home or to power pumps accustomed water almond orchards, renewable energy is changing into rather more popular; one methodology of that is star. Alternative energy assortment strategies date all the method back to 1767, once Horace polyglot, a Swiss person, designed the world's 1st reflector (Ahmed, Kang & Kim, 2015). (Szabó, Bódis, Huld & Moner-Girona, 2011) Rural areas are still lagging the information about renewable energy and its benefits. United Nations estimates show that most parts of the African continent are sparingly

populated, with almost 60% living in non-urban areas.

This fact, coupled with the low per capita energy consumption and the high rate of non-electrified rural areas, creates a good opportunity for a sustainable energy development based on decentralized renewable energy sources. It highlighted the financial status of the population, and they are not willing to afford the cost of the implementation of the solar renewable energy.

The feasibility of the implementation of solar panels (Kanase-Patil, Saini & Sharma, 2010) points out the main objective of this project was providing the electricity to the villages without huge abundant of electric bills or investment. Using renewable energy is one time investment so they can provide electric energy through solar renewable method. Electricity is one of the cleanest energy transfer options and is therefore the basis for the development of an area irrespective of the source of power. Renewable energy resources are being looked at as unlimited, inexhaustible, environment friendly and sustainable sources. Direct and indirect benefits of the electricity generation by renewable sources in rural areas include irrigation, food preservation, crop processing, and small- scale industries which helps in improving the living standard of the people in the village. Aditya Mishra David Irwin Navin Sharma (Kannan & Vakeesan, 2016) the small scale solar powered houses especially in rural areas the use of renewable energy is inevitable. The sun provides energy in the form of

renewable energy which occupies less space than the hydro power projects as coal fuel etc... The use of electricity is more in the residential areas and sectors. Usage of solar can be done and the electricity can be stored in the batteries which can be used for the purpose of lightning whenever required. These systems are mostly used in the non-electrified rural areas and as reliable emergency lightning system for domestic, commercial and industrial purpose. (Joshi & Neha, 2017) The author (Jhunjhunwala, Lolla & Kaur, 2016) clearly speaks about the solar-dc Micro grid where most of the houses in the rural areas the electricity usage is about 8 hours which is of 80 watts maximum load or even, they do not get electricity at all. The problem in India is huge of the electricity and it require more newly approach that makes me modern technologies like using of solar panel to generate electricity which we need to adopt and make it a green energy as well the storage of energy technology and promoting innovation which benefits the energy power This paper also says that providing 48-v dc micro grid for each house a rooftop solar panel, which will be connected to the grid by using AC-DC converter wherever the grid is available, also integrating the small size solar batteries to store the energy and run to the dc powered with dc appliances could be a problem. So, the power cost for the homes should be reduced so that it could be affordable in the presence of a 24/7 grid. And the green evolution in solar power implementation should be accompanied by awareness-raising

campaigns and should target younger, well-educated and high-income households. The expressed median willingness to pay and found to exceed the current level of mandatory charges for green electricity. Nevertheless, recent increases in final electricity prices might have already exhausted the limit for additional voluntary contributions (Zorić & Hrovatin, 2012)

Research Gap

The study found that, the major study was done on the technical and engineering aspects of the development and implementation of the solar panels or the policy on solar renewable energy. There was limited study done on the comparison of solar PV cells advantage over the electricity usage, and it was also observed that less study on how to create awareness and why people are not willing to implement the solar panels was not majorly done.

Research Problem

The major limitation found out during the study was, few solar PV users had the predominant idea saying the usage of solar is quite difficult since the batteries which mainly make the PV panels run is not effective enough, they weren't aware as to the recent development in the technology of solar, Non awareness and reluctance towards the change happens to be the major problem.

Research Objectives

- ❖ To understand the solar renewable energy and study the installation and mechanism of solar energy usage in domestic houses
- ❖ To study the Government policies under the Ministry of New and Renewable Energy (MNRE)
- ❖ To study the perception towards the installation of solar panels for domestic houses
- ❖ Comparative study of solar energy and conventional energy in domestic houses

RESEARCH METHODOLOGY

The Information needed for this investigation is drawn from the primary and secondary sources. The analysis of the data collected is accomplished using Quantitative Approach.

- ❖ Literature reviews, articles, journals, Survey through questionnaire, Direct Interview method and technical papers
- ❖ Ministry of New and Renewable Energy website
- ❖ Survey through questionnaire collected and direct interviews

Primary Data

The primary data is collected by conducting a personal interview of the respondents. The questionnaire is designed to collect the responses from the respondents of the particular selected area.

Secondary Data

The secondary source of data is collected from journals published in International and National volumes, Government annual reports, published articles and related websites.

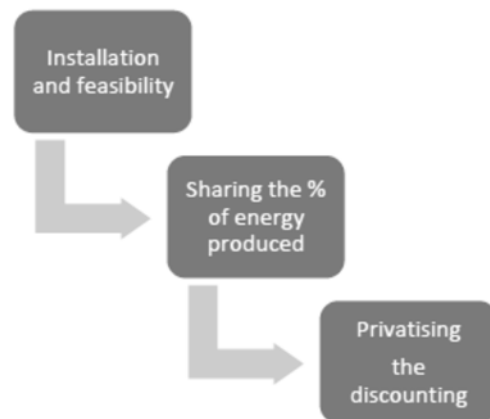
Types of Solar Systems

On-grid or grid-tie solar systems are by far the most common and widely used by homes and businesses. These systems do not need batteries and use common solar inverters and connected to the public electricity grid. Any excess solar power that you generate is exported to the electricity grid and you usually are paid a feed-in-tariff (FiT) or credits for the energy you export.

An off-grid system is not connected to the electricity board to the electricity grid and therefore requires battery storage. An off-grid solar system must be designed appropriately so that it will generate enough power throughout the year and have enough battery capacity to meet the home's requirements, even in the depths of winter when there is less sunlight.

Modern hybrid systems combine solar and battery storage in one and are now available in many different forms and configurations. Due to the decreasing cost of battery storage, systems that are already connected to the electricity grid can start taking advantage of battery storage as well. This means being able to store solar energy that is generated during the day and using it at night. When the stored energy is depleted, the grid is there as a backup, allowing consumers to have the best of both worlds. Hybrid systems are also able to charge the batteries using cheap off-peak electricity (usually after midnight to 6am).

Types of Subsidies in Installations

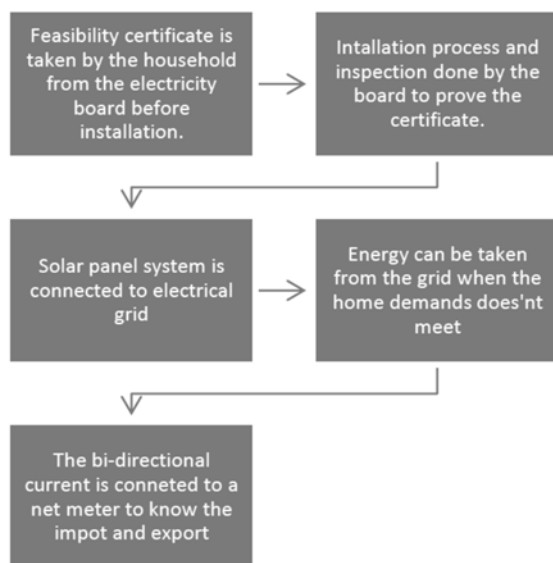


Installation and Feasibility. The household would basically share the total solarised electricity produced from the household to the electricity board and a certain required amount of electricity is thereby utilised by the household's

requirement. For example, if 10 units of electricity is produced by the household 9 units would be sent to the electricity board and remaining 1 unit would be utilised for the domestic electric purpose. The unit sent by the household can vary upon the usage of the current by the household.

Sharing the Percentage of Electricity Produced. After giving an application a certain percentage is predominantly fixed by the electricity department and thereon given to the household. For example, the electricity board will fix a percentage of 25% on the 60% solar electricity produced. Would be given to the household for their electricity purpose.

Privatizing And Discounting. The discounts would be basically given by the electricity board authority for utilising the solar power and therefor on any produced amount of electricity produced certain percentage of discount would be charged.



Conventional Electricity Houses.

- ❖ The total installation cost will be ₹81000 per Kw for 3bhk around 3kw is required for which the installation cost would be ₹243000
- ❖ Which around ₹ 100000 subsidy is provided by the government so the total expenses for the installation will be ₹ 143000
- ❖ Which can be recovered the amount on the basis of consumption and generation of electricity.
- ❖ By analysing houses of 3BHK and solar houses I can say that the average monthly amount of conventional electricity house paid by customer is around ₹1800 and solar house is around ₹250.
- ❖ On the comparative note, the difference is around ₹1550 the amount can be saved per month. And for the year it will be around ₹ 18600 by this I can assume that the return on investment will be acquired after 7 years, as the life span of solar PV system is of 25 years.
- ❖ As well some house are generating more electricity and consuming less units as the below picture shows total imported units are 31 and exported units are 323.
- ❖ So deducting the consumption units from the exported units is 292units for which the calculated amount would be ₹2067.36

- ❖ In which fixed charges are deducted the total amount paid by consumer is zero
- ❖ And amount paid by electricity board is around ₹1897.36 for the month by this I can say that there will be much savings of money as well the returns, if this continues then can recover the money of installation in just 5years.

FINDINGS OF THE STUDY

The Solar installed houses are really doing a great electricity saving apart from the conventional energy consuming houses. Through this study, we identified differences between the conventional energy houses and solar energy houses are:

- ❖ One time investment and start saving money from the day of installation
- ❖ Solar helps to reduce the electricity bill
- ❖ Government provides subsidies for installation of solar (no subsidies for off-grid)
- ❖ Private companies are also plays a major role in installation by providing discounts than government subsidies
- ❖ In On-grid solar system, after consumption of energy in household excess energy can export to electricity board and the board is paying to the house owner for the units exported
- ❖ Exporting contract have to do with the electricity board
- ❖ Contracts will differ according to the state electricity board
- ❖ The bi-directional (import and export) are measured by using a net-meter which is installed by electricity board
- ❖ House owners can make money from exporting monthly which reduces the span of return of investment
- ❖ Off-grid has a drawback of replacement of batteries after 5 years of installation which cost 15000rs per battery
- ❖ From the survey 19% are not aware about the solar energy out of 100 samples
- ❖ 47% of the samples says installation of solar increases the property value
- ❖ 38% of the samples says that shades of tree or building will affect the generation of solar energy
- ❖ There is no need of separate electrical appliances for solar energy
- ❖ Direct current generated from solar is converted to alternate current by using a solar inverter
- ❖ 45% of the samples says they are ready to install solar energy under

government subsidies and discounts and 23% are ready to install solar as soon as possible

Suggestions

- ❖ One of its main attractions is about the less maintenance cost it has thereby reducing the hassle of waiting for repairs. It also benefits the user in reducing their energy bills and earns money for them. Installing solar power system literally means savings from the day of installation.
- ❖ In order to increase the implementation of solar system it is necessary to create awareness among the citizens about the project. This can be done by conducting seminars, campaigns and workshops for households
- ❖ There are many misunderstandings among the people about both advantages and disadvantages of the solar power, so it is imperative that they be provided with accurate information about the project, the correct amount of energy it will produce, the number of appliances that can be run and also about the returns of the investment.
- ❖ Getting the people aware of how important renewable energy sources will be in future, its reliability and low maintenance cost will surely pull more people over to install this feature in their homes.

Other benefits like storing of energy in batteries and helping farmers to prevent evaporation of water in fields also need to be publicized.

- ❖ To do this creating advertisement videos and social media campaigns would be a helpful tactic. Also, preparation of charts and articles mentioning the procedure, cost and other information about solar panels will reduce the misgivings people have towards solar energy

Implication of the Study

The solar panel to each home will be inevitable in the future where the dependency of the population on non-renewable resources for energy will drastically dwindle due to the severe lack of availability of the said fuels. Hence installation of the panels at this present timing would rid them of the hassle of finding an apt opportunity then. At the same time, we have also come to know that the installation of solar power panels in each home will greatly influence the power bill and at times become a source of income to many. A regular household can comparatively generate all the power they require from a solar panel installation on their roof and meet their needs.

According to the survey conducted for the project we have come to the conclusion that solar power panels in each home is a feasible project which will start earning for the customers from day one and requires only the initial

investment. After the initial investment the customers do not have to spend much amount on the maintenance or repairs of the solar panels. Also they have the option to store the power on batteries when there is no need for expenditure of the created energy and at the same time you will be able to sell the excess energy produced back to the electricity board for compensation.

Future Research

The study is basically limited to only the southern parts of India like Kerala Bangalore and hence further research can be conducted covering a wider scope of nation including all the other states of India, this research is also limited only to few localities In Bangalore and Kerala and hence bringing about awareness and extending out the research would be the next option for a future research.

Solar Power is going to be a major factor for the future development of the country. So it is of the utmost importance that the citizens of the nation be aware of its significance. Solar power does not harm the environment, it is harnessed from the clean, pure and green energy from the sun. It reduces the dependency of the country from fossil fuels Installation of Solar power generation is a onetime investment which can be earned back in five years.

1. One of its main attractions is about the less maintenance cost it has thereby reducing the hassle of waiting for repairs. It also benefits the user in

reducing their energy bills and earns money for them. Installing solar power system literally means savings from the day of installation.

2. In order to increase the implementation of solar system it is necessary to create awareness among the citizens about the project. This can be done by conducting seminars, campaigns and workshops for households.
3. There are many misunderstandings among the people about both advantages and disadvantages of the solar power, so it is imperative that they be provided with accurate information about the project, the correct amount of energy it will produce, the number of appliances that can be run and also about the returns of the investment.

CONCLUSION

The solar panel to each home will be inevitable in the future where the dependency of the population on non-renewable resources for energy will drastically dwindle due to the severe lack of availability of the said fuels. Hence installation of the panels at this present timing would rid them of the hassle of finding an apt opportunity then. At the same time we have also come to know that the installation of solar power panels in each home will greatly influence the power bill and at times become a source of income to many. A regular household can comparatively generate all the power

they require from a solar panel installation on their roof and meet their needs. According to the survey conducted for the project we have come to the conclusion that solar power panels in each home is a feasible project which will start earning for the customers from day one and requires only the initial investment. After the initial investment the customers do not have to spend much amount on the maintenance or repairs of the solar panels. Also they have the option to store the power on batteries when there is no need for expenditure of the created energy and at the same time you will be able to sell the excess energy produced back to the electricity board for a compensation.

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AN INQUIRY ON THE PRINCIPAL COMPONENT ANALYSIS ON THE FACTORS OF SUSTAINABLE BUSINESS DEVELOPMENT AMONG WOMEN ENTREPRENEURS IN TIRUCHIRAPPALLI CITY

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Sustainability is becoming increasingly important for society, and the formation of business undertakings is one area where sustainability is acute. This paper examined the factors affecting activities that are designed to adoptive business sustainability. These factors are related to the environment, behaviour, human relations, and business activity. Based on questionnaire a principle component analysis was used to label the sustainable business criteria according to their importance for entrepreneurs beginning the sustainable businesses. The outcomes points out that the most significant key attributes of sustainable entrepreneurship. Ethical principles and values, together with competitive intelligence, are crucial for undertaking actions that lead to sustainability.

Key words: Economic Prosperity; Innovative; Leadership; Entrepreneurship Policies; Women Entrepreneurs.

INTRODUCTION

The term entrepreneur is described as the way toward setting up of business to gain benefits with her inventiveness and thoughts to run a venture exclusively and furthermore subject exposed hazard. Noteworthiness of an a triumph Entrepreneurs should be in fact sound, brilliant, activity, top judgment, insight, authority characteristics, self-esteem, power, right mentality, innovativeness, decency, trustworthiness, class and passionate solidness, helpful, high

tolerant and chance bearing ability. It assumes a basic job in creating and development of our nation. Entrepreneurs are the shapers of the economy by making new assets and new chances and by beginning new items and administrations. In the field of business enterprise Women Entrepreneurs are additionally partaking and assuming an essential job in this general public. Women are exceptionally enabled and spurred these days. So they likewise take an interest in every single such movement to improve the monetary

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status and prudent development of our nation. A woman launches the job of working up a spine of our nation.

Mostly the idea of Women enterprise includes all segments of Women to take part and participate during the time spent improving, making an item by firing up a business exclusively and uncovers hazard and appreciates the benefits of the business exclusively. Women entrepreneurs are attempting to make another ecological and beating every one of the obstacles which they face in this male centric culture. These days Women Entrepreneurs are likewise profoundly effective in handling the issues and utilize strategic arrangements or approach to maintain the business effectively. Women Entrepreneurs maintain their business as of like men. What's more, Women entrepreneurs are running business more effectively than men these days. This shows they are exceptionally engaged in this general public. Every single effective Women Entrepreneurs has fizzled and confronted all kind of battles while attempting to continue their business with their self-control, which affected the general public emphatically by offering numerous offers and chances to numerous individuals. For the most part a few Women Entrepreneurs exceptionally representative Women' as their workers, this sort of thing enables Women in the general public. These things shows Women Entrepreneurs and representatives are likewise shapers of the economy of our nation. Their commitment remains as a column and

builds up the nation. There are various assortments of Organizations to help and elevate Women Entrepreneurs to fire up a business. And there are different plans which oversee and ensure the Women Entrepreneurs. There are various fragments of Women business visionaries; they are Self-help gatherings, Grassroots Entrepreneurs, Mid-rung Entrepreneurs and Upper Crest entrepreneurs. All around world, the fundamental hindrance to Women enterprise is simply the need certainty and aptitudes and trouble in getting to innovative information. Women Entrepreneurs make an extraordinary settlement in the general public by building up the prudent status in the general public. Essentially Women Entrepreneurs start their business with little scale and extends to long scale business. Each lady Entrepreneurs endeavors hard to verify and serve the country by making their business as a gainful and which should give an improvement to the nation .But Women Entrepreneurs are profoundly engaged in urban regions and when looking at rustic zones Women Entrepreneurs are very little enabled. Therefore this research paper is mainly going deal with Factors of Sustainable Business Development women entrepreneurs in this present society.

REVIEW OF LITERATURE

Frederick and Kuratko (2010) in his study he states the ness enterprise is a unique procedure of vision, change, and

creation. It requires an utilization of vitality and enthusiasm towards the creation and usage of new thoughts and innovative arrangements. The basic fixings remember the eagerness to face determined challenges for terms of time, value, or vocation; the capacity to figure a powerful endeavor group; the innovative aptitude to marshal required assets; the major ability of building a strong marketable strategy; and, at last, the vision to perceive opportunity where others see bedlam, logical inconsistency, and disarray. Numerous business visionaries around the globe have misused the earth without risk of punishment, with no idea of supportability. Business people look for development and benefits inside the business world. They are steady pioneers and consistently are attempting to catch bigger pieces of the overall industry in the focused commercial center. They are spearheading individualists who make one endeavor after another and one advancement after another.

Ventaraman (1997) states that business as an insightful field looks to comprehend how chances to bring into reality merchandise and enterprises are found, made, furthermore, misused, by whom and with what outcomes. It is recognized that pioneering movement is significant for financial as social reasons and solid enthusiasm for the field has been driven by acknowledgment of the way that enterprising endeavors are key drivers of financial development in advertise frameworks

As Birley and Harris (1988) state to break down the components which impact the underlying pioneering choice is utilized to build up a hypothesis for The Role of Women Entrepreneurs in Establishing a Sustainable Development in Sri Lanka 155 female business visionaries. As indicated by the old style definition given by the United Nations World Commission on Environment and Development in 1987, advancement is feasible in the event that it "addresses the issues of the present without trading off the capacity of people in the future to address their own issues." It is typically comprehended that this "intergenerational value would be difficult to accomplish without present-day social value, if the monetary exercises of certain gatherings of individuals keep on risking the prosperity of individuals having a place with different gatherings or living in different pieces of the world.

OBJECTIVES OF THE STUDY

1. To identify the Socio culture and Demographic position of the respondents.
2. To determine the dimensions of Sustainable Business Development among women entrepreneurs.

METHODOLOGY

A research design is the programme that guides the researcher in the process of collecting, analyzing and interpreting

observation. This study was conducted to identify the dimensions of Sustainable Business Development among women entrepreneurs. In this approach the researcher describes the program in question and the data collected from the sample using questionnaire. The data is described as they are found in the universe. Hence the design in this research is descriptive in nature. The total 50 respondents were taken as sampling for this study. The non-probability sampling technique was used for conducting the sampling process and convenience sampling technique was used in this research. The target respondents of this research are the women entrepreneurs of small scale business firms. Both primary and secondary data was used for the study. Percentage analysis and principle component analysis were done to defend the null hypothesis.

The questionnaire was divided into two parts. Part-I was proposed to collect the respondents' demographic information such as marital status, age, level of education and family monthly income level of the respondent and a total of four questions were included in this part. Part II was intended to identify the dimensions of Sustainable Business Development among women entrepreneurs. The respondents were required to give their rating on their satisfactory level using a five-point Likert Scale measurement.

Table 1. Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.974	.902	22

From the above table, it is observed that the reliability of coefficient alpha for the 50 cases of 22 items is .902 (scale range between 0.0 to 1.0) which shows the reliability of the given factor.

Tools For Analysis

A principle component analysis was done to uncover the dimension of Knowledge Acquisition through online courses by management graduates. Factor analysis statistical method is used to describe variability among observed, correlated variables in terms of a potentially lower number of unobserved variables called factor. This component analysis is done with statistical package SPSS 20.0

ANALYSIS AND INTERPRETATION

The Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) and Bartlett's test of sphericity have been applied to the resultant correlation matrix to test whether the relationship among the variables has been significant or not as shown in the table. The result of the test shows that with the significant value of .002 and there is significant relationship among the variables chosen.

KMO test is yielded a result of .845 which states that factor analysis can be carried

out appropriately for these variables that are taken for the study.

Table 2. Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	16.135	73.341	73.341	16.135	73.341	73.341	10.969	49.861	49.861
2	2.336	10.616	83.957	2.336	10.616	83.957	5.660	25.726	75.586
3	1.460	6.636	90.593	1.460	6.636	90.593	2.103	9.560	85.146
4	.604	2.746	93.339	.604	2.746	93.339	1.143	5.195	90.341
5	.429	1.951	95.290						
6	.237	1.079	95.369						
7	.214	.973	97.342						
8	.114	.519	97.861						
9	.110	.501	98.362						
10	.086	.389	98.750						
11	.110	.501	98.362						
12	.086	.389	98.750						
13	.073	.331	99.082						
14	.049	.224	99.306						
15	.044	.198	99.504						
16	.029	.130	99.635						
17	.027	.125	99.760						
18	.019	.085	99.845						
19	.016	.073	99.917						
20	.013	.061	99.979						
21	.011	.032	99.984						
22	.005	.021	100.000						

Extraction Method: Principal Component Analysis.

The above table shows the actual factors that were extracted. The section labeled “Rotation Sums of Squared Loadings,” shows only those factors that met your cut-off criterion (extraction method). In this case, there were six factors with eigenvalues greater than 1. The “% of

variance” column shows how much of the total variability (in all of the variables together) can be accounted for by each of these summary scales or factors. The first factor interpretations for 49.861% of the variability in all 22 variables, and so on.

Table 3. Rotated Component Matrix

Variables	Component			
	1	2	3	4
I feel that internal desire and force is important for a women entrepreneur	.791			
Women Entrepreneurs inspires themselves to take up entrepreneurial works	.763			
Women Entrepreneurs encourage in achieving their goals to reach sustainability	.745			
Women Entrepreneurs should have the capacity to struggle.	.740			
Women Entrepreneurs should help in developing technical skills		.734		
Women Entrepreneurs should have the ability to successfully manage the administration.		.631		
They should be creative thinkers		.563		
Women Entrepreneurs should be capable of make crucial business decisions.		.872		
Women Entrepreneurs should create and grab opportunity		.641		
Women Entrepreneurs should have the tendency to bear risk and uncertainties			.638	
Women Entrepreneurs should be open to exterior challenges.			.906	
Women Entrepreneurs should create a positive work culture.			.897	
Economic laws and Rules affect the Entrepreneur’s sustainable development				.753
Technology, Technical activities, and technical research influence a sustainable Entrepreneurship development.				.725

Table 4. Factors of sustainable business development among women entrepreneurs

Factors	Variable	Factor loadings
Motivational factors	I feel that internal desire and force is important for a women entrepreneur	.791
	Women Entrepreneurs inspires themselves to take up entrepreneurial works	.763
	Women Entrepreneurs encourage in achieving their goals to reach sustainability	.745
	Women Entrepreneurs should have the capacity to struggle.	.740
Entrepreneurial skills	Women Entrepreneurs should help in developing technical skills	.734
	Women Entrepreneurs should have the ability to successfully manage the administration.	.631
	They should be creative thinkers	.563
	Women Entrepreneurs should be capable of make crucial business decisions.	.872
	Women Entrepreneurs should create and grab opportunity	.641
	Women Entrepreneurs should have the tendency to bear risk and uncertainties	.638
Normative behavior.	Women Entrepreneurs should be open to exterior challenges.	.906
	Women Entrepreneurs should create a positive work culture.	.897
Upgradation	Economic laws and Rules affect the Entrepreneur's sustainable development	.753
	Technology, Technical activities, and technical research influence a sustainable Entrepreneurship development.	.725

Finally, the Rotated Component Matrix shows the factor loadings for each variable. The above table shows the label of each factor with the factor loadings. The first identified factor is the MOTIVATIONAL FACTOR to plays an important role in sustainable business development with the factor loading of 0.791, 0.763, 0.745, 0.740. The variables V5, V6, V7, V8 and V9 are clubbed and named as ENTREPRENEURIAL SKILLS

carrying a factor loadings with 0.734, 0.631, 0.563, 0.872, 0.641. The variables V10, V11 and V12 are brought together and named as NORMATIVE BEHAVIOUR carrying factor loadings with 0.638, 0.906, 0.897. The variables V13, V14 are binded and named as UPDATIVENESS carrying a factor loadings with 0.753, 0.725.

Table 5. Mean value for the dimensions of sustainable business environment

	N	Maximum	Mean
Motivational Factors	100	13.25	8.8450
Entrepreneurial SKILLS	100	12.25	6.9300
Normative Behaviour	100	11.75	5.5300
Upgradation	100	14.25	8.2750

The above table shows the mean rank for the various sustainable business factors of women Entrepreneurs in which the motivational factors is ranked first with 8.8450 as women Entrepreneurs should create an inner desire to work efficiently with high level of commitment to their businesses, upgradation is ranked second with 15.00 ratings, as they should be aware of the exterior environment with regards to their stakeholders which highly facilitates to the sustainability of businesses. Entrepreneurial skills like work planning, exercising effective control, formulating projects is ranked third with 6.930 ratings. Likewise the factor Normative Behavior is ranked fourth with 11.75 respectively.

LIMITATIONS

1. The respondents are did not answer to the certain questions properly. So it's quite difficult for the researcher to find the reliable data.
2. Since the researcher uses the questioner for data collection, the

information given by the respondents is depends upon their honesty.

3. The research findings are based on the response by the small scale women entrepreneurs; it may be subjected to bias interpretation.

SUGGESTIONS TO WOMEN ENTREPRENEURS

Women entrepreneurship can address various critical issues if promoted among SHG members and other women-led enterprises in rural and semi-urban geographies. Development policies are already available in raw form; this gives an opportunity of convergence among private sector CSR activity and government-sponsored social development schemes. Along with technical support women entrepreneur also need motivation for taking their income generating activity to next level of formal entrepreneurship, to add value to a large part of the community. A good blend of awareness, mentorship, linkage and handhold support can certainly change the way policymakers look at

rural development participation in the overall economic growth of the country.

CONCLUSION

This paper has been organized to discuss the sustainable role played by women entrepreneurs to understand the general orientation of women's entrepreneurship, empowerment of women has become an important factor in achieving sustainable economic growth, social development and environmental sustainability so that empowerment takes the form of women entrepreneurship. This encourages this trend by providing mechanisms to support the entrepreneurial approach of young people in general and women in particular and instill in them the spirit of entrepreneurship and culture of initiative to become entrepreneurs contribute to the process of development at all distances and transformed young unemployed from job applicant to entrepreneur and opposed to employment opportunities. Socially mindful, financially concerned and condition benevolent exercises in these undertakings arrive at their very own business objectives. These organizations center exchanging with poor, helping the network to create aptitudes and capacities, addressing reasonable costs and accepting reasonable installments, empowering reasonable treatment of all staff and empowering condition agreeable conditions in business activities. These exercises are huge in maintainable advancement of a nation.

Creating countries must compensation their consideration further to the women business people. The administrations of creating countries must be viewed as how to construct Women limits in business advancement, including their capacity to turn into beneficial and inventive business visionaries and taking their commitment to the national economy.

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SCOPE OF CORPORATE SOCIAL RESPONSIBILITY AND SUSTAINABILITY IN THE RESTORATION OF RUINED HERITAGE MONUMENTS: A STUDY IN BENGALURU

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Corporate Social Responsibility (CSR) is gaining more popularity in India. A number of initiatives by corporate houses centred around community initiatives are changing the condition of society and the lives of people. As per the Companies Act of 2013, Section 135 under Schedule VII, emphasis is placed on the protection of national heritage, art and culture for sustainability. Globally, India is known to be a country with a host of culturally diverse elements, which are a reflection of its long and storied past. The heritage of a particular region is characterised by its architecture, culture, art and lifestyles. Heritage is often described as something that is collected over time, preserved and passed down through generations, and that which holds immense significance to communities. It is imperative to preserve elements of cultural and architectural heritage for the benefit of future generations of people. Heritage conservation is largely neglected and there are a very few corporate houses that are actively involved in activities and projects that are targeted towards the preservation of heritage monuments and cultures of historic importance. The aim of this paper is to explore the scope of Corporate Social Responsibility and the role of companies in the process of restoration and rejuvenation of the historic monuments. The paper primarily intends to study the condition of the monument, 'Bangalore Gate', located in Chamrajpet in the C.A.R Headquarters in Bengaluru. Based on the results from the field study, we explore the scope of Corporate Social Responsibility initiatives which can be undertaken in areas of maintenance, site restoration, awareness programmes and active heritage preservation which can be incorporated into a company's framework.

Key words: Sustainability; Corporate Social Responsibility; Heritage; Monuments; Restoration.

INTRODUCTION

Corporate Social Responsibility is a concept which refers to companies being socially accountable to the public, its

stakeholders and itself. The company takes steps in order to integrate measures of social and environmental importance into its business operations. This practice aims at including sustainable

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development into a company's business plan. Triple Bottom Line is a framework which helps companies focus not only on profits but also on environmental and social aspects. It basically encourages companies to prioritise 3 areas- people, planet, and profit.

CSR Companies Act, 2013

The Corporate Social Responsibility Act of 2013, Section 135, Schedule VII, states that every company having net worth of rupees five hundred crore or more, or turnover of rupees one thousand crore or more, or a net profit of rupees five crore or more during any financial year shall constitute a Corporate Social Responsibility Committee of the Board consisting of three or more directors, out of which at least one director shall be an independent director. These companies must spend 2% of their profits before tax on Corporate Social Responsibility. (Ministry of Corporate Affairs, n.d.)

Companies may allocate their CSR funds under the subjects mentioned in Schedule VII. (Press Information Bureau, 2016). The list of activities and initiatives that can be undertaken by companies include:

Eradicating Hunger, Poverty & Health Care which includes promoting sanitation, preventive healthcare, and contributions to Swachh Bharat Kosh, which was set-up by the Central Government to promote sanitation. Promoting education, vocational skills and livelihood enhancement, which aims

at augmenting skills (especially amongst women), providing special education and livelihood enhancement programmes.

Another important area of focus is women empowerment, setting up old-age homes along with hostels and places of residence for women and orphans.

Taking up measures to ensure environmental sustainability, ecological balance, protection of flora and fauna, conservation of natural resources and maintaining quality of soil, air and water are areas under activities that can be undertaken for the environment. Additionally, contribution to the Clean Ganga Fund is also an area to which companies can allocate their funds.

Protection of national heritage, promoting art and culture, including restoration of buildings and sites of historical importance, setting up public libraries, promotion, and development of traditional arts and craftsmanship.

Contribution to the prime minister's national relief fund, or any other fund set up by the central government for socio-economic development and relief, and welfare of the scheduled caste, tribes, other backward classes, minorities, and women.

Contributions or funds provided to technology incubators located within academic institutions, which are approved by the central government. Rural development projects and slum area development.

Importance of heritage preservation as a part of CSR

Through the strategies of conservation through Corporate Social Responsibility, many ruined sites could be revived or the declining condition of the culturally relevant monuments could be reduced or perhaps concluded. The restoration modes include timely maintenance processes and proper management of the particular sites. Through training programmes which could be attended by companies, initiatives undertaken in these areas can be improved. For instance, the TATA group of Companies set aside some of their earnings to be donated to the organisations carrying out the same goal of preservation. The communities surrounding the site could also benefit from the donation and imbibe the drive to restore the same. Increasing the tourism sector profit can benefit the country to develop and one of the possible solutions for the same could be to make the companies actively take part in this drive. A lot of heritage sites are yet to fulfill the basic amenities for them to develop into full-fledged tourist spots and are in need of an effective mechanism.

India, with its adoption of a mixed economy, enforces that the role of private undertakings is as imperative as that of the public sector and hence interdependency between them is a necessary action.

Activities by companies related to the preservation of historic heritage under CSR in India

Hyundai is well-known for its campaigns to save the heritage of the country. In 2016, they came up with a 'Happy Move-Save our Heritage', a CSR drive. This movement was centred around 4 prominent pillars- Safe Move, Happy Move, Green Move, and Easy Move.

Hyundai conducted an awareness drive for 10 days with 100 Happy Move Global Youth Volunteers- 80 of which were from Korea and 20 were from India, at the Safdarjung Tomb, Firozshah Kotla, Qutub Minar, and Old Fort. The volunteers participated in activities based on maintaining the availability of amenities, maintenance of gardens and sought to educate visitors about the monuments. The volunteers conducted a school contact programme at Sarvodaya schools at Chanakya Puri, Daryaganj, Mehrauli and the INA colony. They did cleaning, school wall designing, maintenance of gardens and design competitions for a positive and conducive study environment at the aforementioned schools.

Y.K Koo, Managing Director of Hyundai Motor India Ltd. said, "Happy Move is our global program and is an effort to create a sustainable environment with the purpose of delivering inspiration and unique experiences to all the areas of the world. We have associated with the Archaeological Survey of India (ASI) for creating awareness for the Indian

Heritage Monuments.” This program was based in Delhi. If we are able to inform them of the condition of Bangalore Gate, and for that matter other heritage sites in the city of Bengaluru, there is a possibility of them conducting a similar Happy Move drive in Bengaluru. This will ensure the sustenance of not just Bangalore Gate, but also other endangered monuments across the city.

The Foundation restored the Someshwara Temple located in Karnataka in the year 2016. For this initiative, they spent close to Rs. 5 crores. They also work with the maintenance and upkeep of several other buildings and institutions. Considering their strong base in Bengaluru, the chances of the foundation helping out with the restoration of the Bangalore Gate are very high and feasible.

Indian Oil Foundation intends to adopt at least one heritage and/ or a cultural site in every state and Union Territory of the country. “The first phase will include Qutub Minar, Konark Sun temple, Khajuraho temples, Kanheri Caves and many others. It is important for corporate giants to include heritage protection in their CSR. With the new heritage laws coming in, corporates should work to preserve our national pride,” said an executive associated with IndianOil Foundation.

Yes Bank, along with its think-tank Yes Institute organized 73 heritage walks and 50 cycle rides at Delhi’s heritage spots like Lodhi Gardens, Purana Qila,

Humayun’s Tomb, Qutub Minar, and Hauz Khas as a part of their CSR activities in 2016. The bank spent Rs 29.52 crore on its CSR in 2015-16. “We focus on built, craft and food heritage and want to contribute to the awareness of the citizens of our rich history. We are very oriented towards nation-building and that’s why cultural knowledge is very important. As an Indian bank, we try to complement existing policies to promote sensitivity and preservation,” said Preeti Sinha, Glocal Convenor, YES Global Institute. More than 1500 people have undertaken these walks and been a part of their initiative #YesToHeritage.

The TATA group has always set aside funds that go to its institutions and trusts through the company’s profits. They have also aided the Archaeological Survey of India (ASI) through grants in the past.

Public sector companies like ONGC, Indian Oil, NTPC and GAIL have been undertaking renovation and maintenance activities for temples and monuments around their operational areas. ONGC also expressed interest in adopting sites like the Taj Mahal, Khajuraho Temple, and Ajanta-Ellora Caves. The intention is to implement a model where large companies can adopt a site while local NGOs, traders’ associations, residents, schools, banks, authorities, and other organisations undertake the responsibility of maintaining the areas, through collaboration.

REVIEW OF LITERATURE

According to UNESCO's Convention on the Protection of the World Cultural and Natural Heritage (Paris, 1972), the importance of preservation of cultural heritage should be recognized for the benefit of future generations of human beings. The convention talks of "considering that deterioration or disappearance of any item of the cultural or natural heritage constitutes a harmful impoverishment of the heritage of all the nations of the world".

The World Heritage Convention, which is supported by the UNESCO World Heritage Centre, emphasizes that "some places are so important that their protection is not only the responsibility of a single nation, but is also the duty of the international community as a whole, and not only for this generation, but for all those to come." (World Heritage Convention, n.d.)

Bangalore Gate is located in the City Armed Reserve (CAR) compound in Chamrajpet, in Bengaluru. It dates back to the mid-19th century and was believed to have been used as 'Octroi' or a local tax collection. (INTACH, 2019) The monument has since fallen to ruins and has been non-functional.

According to S.K. Aruni, Historian and Deputy Director of the southern regional centre of the Indian Council of Historical Research, it is an important city monument. "I think the structure was built in the early part of the 20th century. It may have been constructed after Chamrajpet (the city's first planned

enclave) was developed. In a way at the time, it was a border marking point for the city. It was like a police outpost to track people's movement in and out of Bangalore. Local administration should take up its restoration," he added. (B. R., 2019)

The Bangalore Gate garnered attention when the Police Commissioner of Bengaluru, Officer Bhaskar Rao put up a tweet through which he sought assistance for the renovation and conservation of the monument in 2019. This initiative caught the attention of droves of people who supported it in overwhelming numbers. The Indian National Trust for Art and Cultural Heritage (INTACH) took up the project of restoration and adaptive reuse of the monument. (Twitter, 2019) The Indian National Trust for Art and Cultural Heritage (INTACH) was founded in 1984 in New Delhi with the vision to spearhead heritage awareness and conservation in India. Today INTACH is recognized as one of the world's largest heritage organizations, with over 190 Chapters across the Country. (INTACH, 2016)

Management of cultural property and its conservation worldwide has been a matter of concern in the last few years after India has seen the rise in the tourism industry. Corporate Social Responsibility has played an important role in bringing in tourism by following Clause 5 of Schedule VII of the Companies Act, 2013.

The 'Adopt a Heritage- Apni Dharohar, Apni Pehchan' in 2018 focuses

primarily on how the corporates can help in restoring the historical monuments as a part of Corporate Social Responsibility. Under this programme of Adopt a Heritage the government of India invites the public, private sector companies to focus on rebuilding the lost heritage of the country, especially the corporates as a part of their Corporate Social Responsibility. The primary focus is centered on carrying out sustainable development through development, operation, and maintenance of the historical buildings and heritage sites of India which would help the country to retain its historical and diverse culture.

P. N. Sankaran focuses on how Corporate Social Responsibility in India has generated comparisons and debates on the contribution of the corporate houses on each clause that has been laid down by the Companies Act, 2013. These policies generally incline towards the benefit incurred by the target communities for an effective mechanism that would enable the corporate houses to monitor their respective CSR initiatives by implementing it. The compliance and disclosure, optimal utilisation of CSR always incline towards a specific target group. The common trend of such activities has been on building the goodwill of the companies instead of the focus being on the sustainability of the initiatives that have been taken up by the companies.

After the implementation of Corporate Social Responsibility policy, the first year of 2014-15, the complete information regarding the amount of

expense that the companies had to bear, and issues related to the implementation of the activities was not transparent. In order to make the compliance of CSR better companies, stockholders and stakeholders started reporting on the expense and the issues borne by the respective companies which was compiled by the Ministry of Corporate Affairs (MCA) which initiated the “Adopt a Heritage” initiative- a non-revenue generating project which focuses on sustainability of heritage sites and monuments.

Therefore, for there to exist a symbiotic relationship between the companies with respect to its Corporate Social Responsibilities, the need to include stakeholders of the companies in order for the development is necessary as it becomes the primary source and fewer issues rise up when there is transparency between the companies and its stakeholders (Hall & McArthur, 1998).

OBJECTIVES

1. To analyse the CSR's responsibility in preserving the heritage of historical authenticity of the monuments in Bengaluru.
2. To review the part acted out by the companies towards the facilitation of the social service they are assigned to.
3. To portray the conditions under which the corporate sector through the medium of Corporate Social Responsibility can take up restoration processes of refined memorials.

4. To witness the denial strategies and to highlight the suggestions for using CSR as an element of solution.

METHODOLOGY

The systematic analysis of the methods used in a particular study can be termed as the methodology of the same. Data was collected through the primary source of conducting a field study, in 2019, in which the site of Bangalore Gate was visited by the researchers. Photographs were taken of the ruined monument, and observations were made based on the condition of the monument.

The study took around 3 weeks for completion and analysis of the texts. A qualitative study was chosen for this research paper, which focused on the inattentive role played by the corporate sector in using CSR as a definite mode of applying the preservation policies for the betterment of the state and country and suggesting changes for the same.

Observations

The field visits revealed the Bangalore Gate to be in a neglected condition. The monument was in absolute shambles, with the plaster coming off the walls and the bricks underneath exposed.

The roof of an entire section of the monument was discovered to be missing. Numerous cracks were present along the walls of the structure. The cracks in the structure extend to the interior walls as well. Weeds and vegetation could be seen

growing out of the cracks in the walls. These cracks in the walls pose a potential danger to the future of the monument, and may drastically decrease the chances of the monument standing in the future. A lot of these cracks have developed as a result of the weakening foundation of the monument. A large tree, with a trunk of considerable radius, is also growing right in the middle of the monument and has broken through the roof. The cracks caused due to the tree are extreme. In addition, many climbers and thin vines are growing around the monument. It may not seem like it, but these tender plants can also act as a serious cause for the development of cracks in the walls. Roots of small saplings also grow on the walls, the feasible conditions for which have developed due to natural causes over a long period of time.

There is also no proper path to the monument, just a clearing in the grass. The protective wall around the edge of the top, the parapet, is also damaged and can be seen leaning away from what was its original position due to excess vegetation putting pressure on it. The base of the monument is covered with excessive growth of vegetation and shrubs. The doors of the entry points are severely damaged with huge, gaping holes in the doors. Similarly, the windows of the structure are either damaged or completely broken down. Aside from the cracks, the paint coat on the doors and windows had almost completely peeled off.

Naturally, there were several human-created problems which threaten the

sustenance of the monument. Some of the problems which were seen were the disposal of waste and garbage. Some items found in and around the monument were 'paan' packets, face masks, wrappers, alcohol bottles, plastic bottles, detergent packets, polybags, food packets, black garbage bags amongst many other waste items. Right behind the monument are the backyards of residential quarters of one block, the residents of whom seem to have neglected the monument all this while. There are broken and cracked drainage pipes and sewage systems surrounding Bangalore Gate, the wastewater from which seep into the monument. There is also a lot of moss that is growing on the monument due to the dampness, it covers the ground and the walls. People had also scratched/ etched their initials and other gibberish on the walls. During the course of fieldwork at the monument, the researchers witnessed a man walk past and blatantly engage in public urination on one of the walls of the monument.

Interaction with the residents living nearby revealed that most of them were temporary residents and had not lived in the area for very long, and hence had no knowledge of the monument or its history.

Analysis

Fulfillment of Objectives. Keith Davis formulated a 5-proposition business model, a model of Corporate Social Responsibility that highlighted the

role of corporate houses in the social sphere and also listed out ways to accomplish the same. The propositions are as follows:-

Proposition 1: Social responsibility arises from social power - it has been observed that businesses can influence society, and have the power to regulate it. Thus the business can be held responsible for the development of society and should fulfill its social responsibilities.

Proposition 2: Business shall operate with open receipt of inputs from society and open disclosure of its operations to the public - it is important for the business houses to understand what must be done to improve and sustain the social conditions. Similarly, society should also be willing to listen to business reports regarding the activities undertaken by the business houses to meet social responsibilities.

Proposition 3: Before undertaking any project, the business organisations should consider the economic, social and technical feasibility and also the long term and short-term consequences of all of their activities on the society.

Proposition 4: According to this proposition, the costs of maintaining socially desirable activities can be passed on to the customers in certain cases where such activities may be socially beneficial, but financially not viable for the businesses.

Proposition 5: This proposition states that business institutions may take up

the obligation of solving the social problems for the benefit of society, even if they are not directly associated with the business process.

Role of mass media. Mass media is a very integral tool in capturing the attention of the masses. It facilitates communication, collection, and dissemination of knowledge across geographic borders and to various communities. This enables the dissemination of information on human lives, diversity, culture, and linkage. This means that the media has the potential to depict various cultures and their affiliated heritage- monuments, art forms, heritage sites, landmarks, performance arts, and archaeological locations. Heritage typically reflects the shared beliefs, thoughts, values and identity and accurate representation of the aforementioned can help bring about empowerment, formulate restoration and conservation blueprints, expose the culture of one community to others and encourages mobilising the ‘civil society’ towards the protection of such heritage sites.

In the case of Bangalore Gate, the Commissioner of Police, Bhaskar Rao put up a tweet online, which was seen by residents and other Twitter users all across Bengaluru. In the tweet, he asked people if they could help him find a heritage architect who could take up the project to restore the monument. In the comments to the tweet, Twitter users tagged architects and firms who could help out with the restoration process. Most citizens suggested approaching

INTACH and contacting Ms. Meera Iyer for the project. Bhaskar Rao put up the tweet on 18th August 2019, and on 7th September 2019 INTACH released an 11-page document for the ‘Restoration of the dilapidated Octroi post near Sirsi Circle’. The document discussed the history and the location of the structure. Conservation architects from INTACH paid a visit to the site and drew up a list of issues to be addressed to facilitate the restoration process.

The restoration project is set to be completed in 2 months, that is, around the second week of March. Pankaj Modi, the Technical Coordinator for INTACH, said, “Easy accessibility, lots of open space and its heritage value make it an excellent site for public attraction. The open house is a way to introduce people to the heritage sites of Bengaluru and familiarise them with the craftsmanship and the techniques to restore a structure.” (The Hindu, 2020)

Quite often, heritage and culture have been considered to be a reflection of human societies around the world. India, being one of the oldest civilizations in the world, consists of a large number of mythological and historical monuments which represent the glory of the past. The monuments are a reminder of the heritage and civilization of the country. This definitely counts for special consideration for the protection and maintenance of such important heritage sites that have historical relevance.

Suggestions to use Corporate Social Responsibility for the sustainability of heritage

Bengaluru, as a metropolitan city comprises a diverse population. As a result, the indigenous culture loses its value as people from different ethnicities settle in the area. This necessitates the revival of the lost culture which could be maintained by the corporates as a part of CSR, given the fact that the city is known for its rich IT sector. As can be seen, most of the historically relevant monuments are not in the spotlight-Bangalore has mainly three Ashoka pillars that are historically significant, but only one of the pillars that is located in Lal Bagh has been preserved and maintained by the government of Karnataka. The other two pillars are deprived of maintenance since they are located on the outskirts.

The necessary steps that can be undertaken by companies:-

- Changing the place into a tourist spot: Company contributing to the monument will have the edge of being the flagbearer for bringing back the history of Bangalore into the present.
- Targeting schools and research institutions for collaboration: The company can target the institutions since historical monuments are the most important subject for archaeological survey and for future references.
- Recreating the area with the help of C.A.R of Bangalore: Recreation

of any the historical area always gathers attention as it helps in improving the social environment of society.

To review the part acted out by the companies towards facilitation of the social service they are assigned to:

The process of funding by corporate houses towards heritage preservation as a new development under CSR can be reviewed as a necessary duty. Most of the annual profits gained by the private sector goes into activities such as poverty depletion, women empowerment, etc. resulting in deprivation of attention towards the sector of heritage maintenance. The expansion of the private sector and the increased effort of conservation should be directed towards preservation policies to be implemented. Incorporation of the funding companies could also act as an incentive in the modification of policies and quality support in monumental sustenance. The benefit is not only one-sided but the possibility of business increase also resides within such initiatives.

Focusing on Bengaluru as the desired geographical location, its rich history could be taken into account while implementing the suggested policies. Being culturally significant, Bengaluru has a lot of heritage sites that can be put under surveillance. The more historically richer the place is, the more attention and funds can it achieve. The Archaeological Survey of India (ASI) is

equally responsible for carrying out such maintenance as well as the companies wherein both should maintain an equilibrium between them. It can be further encouraged through proper town planning schemes and taking up CSR law as company services could provide enough assistance.

The restoration policies could differ from company to company. One process could include 'funding'. This could include either direct involvement with the authority that regulates preservation of the sites or the passive involvement through the organisations that are working for the development of the maintenance of historicity. The decline of Corporate Social Responsibility spending in such preservation projects by 40% in FY16, as stated in a recent study, portrays the degraded picture. The main problem is the viewpoint of historical sites only through the 'tourism' angle resulting in the loss of those which do not contribute to the profit perspective of the state. Moreover, other methods could also include arrangements of awareness camps or funding advertisements to ignite the realisation of the rapid decline of the lost glory. Taking up these objectives as the core development projects by the companies could bring forth the change this country is in need of.

Impact-based portfolios should be specified towards heritage conservation where Corporate Social Responsibility becomes an important tool in achieving sustainability goals for the corporates. Detailing and simplifying the methods

and benefits becomes extremely important in order to facilitate the goals entitled to heritage conservation.

Preservation of heritage does not always have the compulsion in compromising progress and economic development, rather conserving heritage can act as an efficient economic development tool. Most of the communities have discovered their respective heritage as an important economic asset which increases the value of conserving heritage even more. Preservation of heritage would not sustain the historical past but also help earn revenues, become references for researchers, and increase the value of properties that surround it.

Corporate Social Responsibility is not only meant for compliance but a commitment for the society that supports actions which improve the condition of the society be it through preserving history or contributing to the welfare development of a community or alleviating poverty. One of the most influential initiatives by the government with respect to conserving heritage was "Adopt a heritage program" which brought a new outlook into the companies on how to invest their respective Corporate Social Responsibility on infrastructural development.

When it comes to preserving or reviving historical sites or monuments the ideal way to make sure its sustenance is a public-private partnership. The private sector can fund while the public

sector with the help of the Archaeological Survey Of India can lay the guidelines for the preservation of the same. One such example could be the development of the walkways, aiding the craftsman who contributes to preserving the historical sites while the public sector can give access to these people and promote the heritage of the indigenous communities.

In India, the corporates have exercised Corporate Social Responsibility most only clause I, II, III, IV of the Companies Act 2013, but there are countries whose aim has shifted from being a facilitator to that of a tool that exercises Cultural responsibilities also.

Indonesia's Rumah Budaya Nusantara Puspo Budoyo; the Cultural Centre of Puspo Budoyo believes in preserving heritage and transforming corporate Social Responsibility into corporate social and cultural responsibility. This particular centre aims at preserving the art tradition and heritage. It focuses on the culture and heritage of the Indonesian Tradition. RBN in collaboration with the government of Indonesia focuses on rebuilding the heritage of Indonesia through this initiative. The funds received from the performances help the indigenous artisans and craftsmen to earn a livelihood which indirectly alleviates the social issue of poverty. This is an example of how interdependent every clause of the Companies Act, 2013 on Corporate Social Responsibility if it is exercised with combined efforts from different sectors.

CONCLUSION

Most companies and corporate houses tend to focus more and allocate their Corporate Social Responsibility funds and budgets towards areas such as education, poverty, sanitation, etc. Areas that need development and attention, such as the preservation and restoration of heritage monuments, cultural edicts, monuments and sites of social and cultural importance are overlooked. The importance of engaging communities through the conservation of their indigenous art and culture is still a rather foreign concept. In the corporate world, there are a few companies such as TATA, Hyundai and even in the banking sector such as YES Bank which has, over the years, recognized the need for preserving the heritage and have carried out maintenance activities such as site restoration and management, engagement of the tourism sector and renovation activities. As seen in the case of Bangalore Gate, using a mode of mass media, attention was drawn to the monument and delegated to INTACH, which subsequently took up the project, allocated funds and are set to restore the monument in 2 months. This kind of trend is to be propagated through various companies- all in an effort to preserve and restore monuments that form a part of the identity of the people of the country.

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CAUSES AND EFFECTS OF GDP DOWNFALL ON ECONOMY OF INDIA

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This paper investigates the effects of slow rural growth, softening international commodity prices and erratic monsoons, unemployment and inflation on Indian economy which are causing a sharp downfall in the total GDP this year. This paper also examines the effect of India's trade reforms in the early 1990's on liberalization and globalization in all over the country's economy and to rest of the world. The methodological frame work which differs from earlier studies, a relaxation of estimation restrictions. This also showcases the failure of the Indian government's make in India programme. Focusing on the problem of lack of employment and relating it to fall of GDP, which is, the key insight followed by assessing the trade policies which differs from India but has helped other nations in similar circumstances. This paper follows case study research methodology, analyzing different trusted news articles to determine the causes and views of various economists on the existing problems. It consists of interviews of respected personnel from a few institutions to strengthen the arguments and results presented in the paper. As a result of these observations there are few measures taken to revive the growth which are like the new scheme to compensate exporters for all duties is going to help considerably. Additional measures such as provision of higher insurance cover, monitoring of export finance and turnaround times at ports and airports will go a long way in improving competitiveness of Indian exporters, addressing issue of tax assessment by moving towards e-assessment and removing the discretionary powers of individual officers..

INTRODUCTION

Between government claiming Indian economy growing towards being 5 trillion economy “challenging” but “realizable”, and IMF declaring India responsible for slowdown in global growth of economy. The question is where does the current growth will lead

Indian economy? With the current policies to recover economy failing, make in India campaign losing its momentum and automobile sector coming down, unemployment growing at an alarming rate. What could be the steps and measures by the government to recover

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the economy and attain a sustainable growth?

To understand the impact on the GDP due to slower economy and how to increase the confidence in the consumer to increase trade in the market. Will the push by the government for digital economy and the sudden growth in e-commerce, as a preferred behavior by the consumers will help the Indian economy to recover?

The effect of economy degradation on various industries, which are led by inflation, environmental conditions, taxation policies as well as demonetization. Also, highlighting various annual policies created by the government in order to optimize the economic condition and social welfare of the Indian population. The Indian government also have been taking measures to increase FDI, cut in taxation margins and influencing small and mid-cap businesses and boosting the start-up culture.

However, the question arises, how effectively the change in policies by the government are affecting and boosting the growth of Indian economy.

Objectives

1. To explore the challenges faced by government and common population in India
2. To understand the impact of fall in GDP and government schemes on Indian economy.

3. To showcase the measures taken by the government to resolve the issue of downfall in economy.

BACKGROUND

In June 2019, Cyclical Crisis and Structural Slow Down Less automotive production/ sale after 1960 it has never happened that investment dropped by a major rate in the country. As it's a fact Investments by companies increases the employment which turns out to be, increased salary leads to increased spending. In 2008, 38% of GDP slid down at least in last 11 years - it is not cyclical slow down it is structural Consumption started dropping, for instance, if 100 rupees contribute to GDP about 55 rupees are for consumption. If people stop buying car, home and day to day products.

Defaults started happening to start from Finance companies then NBFC then even Textile. The most unemployment rate in last 45 years. These things are evidence that it is a structural depression. The root of this vicious cycle is the drop-in savings of people. Savings go at two places, small government schemes like provident funds, NSC, etc. and government gives interest.

Second is through banks which are the savings related to GDP is dropped by about 5% and is least in the past 20 years. Investment more or less proportional to savings. This raise a question why did savings drop? In 1991 to 2006 families flourished because in this period

educated people started working and multiple family members started to contribute to the family income. They spent more and saved more. Majorly contributed to GDP and at the same time invested their savings in PF government schemes etc. as well as putting money in the bank. After 2007 growth in income started to decline incomes decreased but consumption was steady because of maintaining a standard of living and fulfilling basic needs. This magic of consumption lasted for 5 years. After 2012-13 lower-income started to take its toll this is where lower employment started to hit records in the past 40 years. Three engines pulling the economy fell and the income, consumption and savings decreased.

India has been an economy whose strength was savings and it got weakened there at first. After 2012 rate of deposit in banks started to decrease from 16-17 to less than 10%. This created problem for banks even RBI dropped interest rate 3 times but banks were not able to reflect it but still tried to keep better saving rates so that people keep their savings in bank but it did not encourage people in keeping their money in the bank. First people reduced buying houses then cars then bikes and so on. All proportional to Expenses. Share market was seen growing during 2013-14 but it is a very small part of total invested savings. The majority of it is through Banks, PF, NSC. Because in share market, there are two cases:

- Companies doing IPO only in that case the money goes into the direct investment to a company
- People sell and buy from one another and only a small part of it benefits government as tax

Micro economy stats are falling but share market may be increasing. What can government do? They can develop policy to increase the income of people.

Report of Economic survey 2018-19

According to the Finance Minister, Ms. Nirmala Sitharaman tabled the Economic Survey 2018-19 on July 4, 2019, the sectoral growth and reports are being highlighted below:

1. Macroeconomics: Effects on GDP: The Central Statistics Office (CSO) has estimated the GDP growth to be 6.8% in 2018-19 as compared to 7.2% in 2017-18. Which emphasizes that the overall GDP has decreased by the level of 0.4%. 8.2% was the GDP growth in 2016-17. In 2018-19, the agriculture and industry sectors are expected to grow at 2.9% and 6.9% respectively, while the service sector is estimated to grow at 7.5%. other causes for this are said to be Inflation in the country. The Consumer Price Index (CPI) based inflation declined from 3.6% in 2017-18 to 3.4% in 2018-19. This decline was mainly due to low food inflation. With the

increment in Wholesale Price Index (WPI) based inflation increased to 4.3% in the year 2018-2019, which was earlier, 3.0% in 2017-2018. Another indicator that has been taken under consideration is the Consumer Price Index (CPI) based inflation declined from 3.6% in 2017-18 to 3.4% in 2018-19. The main reason behind this is due to low food inflation.

2. **Agriculture and food management:** It has come in the view, a massive fluctuation in the agricultural sector of the Indian Economy, where, it has increased from -0.2% in 2014-15 to 6.3% in 2016-17, and then declined to 2.9% in 2018-19. And a decrease in Gross fixed capital formation in agriculture from 17.7% in 2013-14 to 15.2% in 2017-18. Eventually, the contribution of agriculture to the Gross Value Added has decreased from 15% in 2015-16 to 14.4% in 2018-19. The major reason behind this decline is a decrease in the share of GVA of crops from 9.2% in 2015-16 to 8.7% in 2017-18. Water is an important resource for agriculture and irrigation. Now, coming to the water resources of the country, almost 89% of groundwater is extracted for irrigation. Further, crops such as paddy and sugarcane consume more than 60% of irrigation water available in India, which reduces water

availability for other crops. There is an urgent need to focus on irrigation water productivity (ratio of crop output to irrigation water applied by the farmer) to improve agricultural productivity.

3. **Industry and infrastructure:** Broadly, this sector focuses on the industrial growth persisting the economy and the infrastructural development in the country. The overall industrial sector growth was said to be 6.9% as per the estimate of national income for 2018-19. This was higher than the industrial growth in 2017-18 which was 5.9%. The manufacturing sector experienced a growth of 6.9% during 2018-19. The overall contribution to the GVA was 29.6% in 2018-19. On the other hand, for infrastructural development, India needs to spend USD 200 billion annually, but as reality strikes, it has been able to spend only USD 100-110 billion annually. As per the current trend, India can raise around USD 3.9 trillion. It turns out that there is an urgent need to increase the flow of private capital into infrastructure. Private investment in infrastructure mainly comes in the form of PPPs. However, the sector has been facing challenges due to the lack of dispute resolution.
4. **Services sector:** The services sector contributed 54.3% to

India's GVA in 2018-19. As per the CSO, the growth of the services sector is expected to be 7.5% in 2018-19 as compared to 8.1% in 2017-18. In 14 states, services contribute to more than half of the gross state value-added. India ranked ninth in the world in terms of the size of the services sector in 2017. The share of employment of the services sector is at 34%, which is significantly lower than its share in GVA.

5. Private investment: To achieve the objective of becoming a five trillion-dollar economy by 2024-25, India needs to sustain a real GDP growth rate of 8%. Such growth can only be sustained by a cycle of savings, investment, and exports, along with a favorable demographic phase. Private investment will drive demand, create capacity, and increase labor productivity, which generates more jobs. *Reducing policy uncertainty:* Domestic and foreign investment is negatively affected by an increase in policy uncertainty. Therefore, reducing policy uncertainty is critical to improving investment. Policy uncertainty can be reduced when policy-makers ensure their actions are predictable and reduce arbitrariness in implementation. Further, quality assurance processes should be put in place to ensure effective policy

implementation at lower levels of government.

6. Demographic trends and employment: The annual population growth rate is set to decline from 1.1% in 2011-21 to 0.5% in 2031-41. Given changing age composition, India's working-age population will increase by 95.6 million during 2021-31, and by 41.5 million during 2031-41. This will have implications for the required job creation in the economy. Further, life expectancy for men and women is expected to increase in India. Therefore, increasing the retirement age could be considered to keep the pension system viable. About the employment, during 2017-18, the unemployment rate was at 6.1%. Formal employment (the number of subscribers to the major social security schemes such as Employees Provident Fund Scheme, and National Pension Scheme) increased from 4.9 lakh in February 2018 to 8.2 lakh in March 2019.
7. Minimum wage system: The minimum wage system in India is complex due to the lack of uniform coverage and criteria for fixing minimum wages. Further, multiple minimum wage rates can lead to a lack of effective compliance. Setting a national floor-level minimum wage can bring uniformity in minimum

wages across the country. Minimum wages should be fixed on the basis of skill or geography, or both. This would substantially reduce the number of minimum wages in the country.

8. Micro, small and medium enterprises: Firms employing less than 100 workers account for half of all the firms in organized manufacturing, but their share in employment is only 14.1%. Firms that employ more than 100 workers and are less than 10 years old contribute 21.2% of employment. Such younger firms account for a higher share of productivity and employment. Therefore, small firms that are young can grow to become large firms that generate employment. The current regulations create an incentive for firms to remain small. In order to enable micro, small, and medium enterprises to grow, all size-based incentives should have a sunset clause of fewer than ten years, after which the firm should be able to sustain itself.
9. Skill development: Skill training equips the youth to enter the labor market and improves their employability. Skill development will be improved by: (i) incentivizing industry to set up training institutions in PPP mode, and (ii) introducing skill vouchers as a financial instrument which

will enable individuals to sign up for vocational education at any accredited institute.

10. Sustainable Energy: India accounts for 18% of the world's population but uses only 6% of the world's primary energy. India cannot become an upper-middle-income country without (i) significantly increasing its share of global energy consumption, and (ii) ensuring universal access to commercial energy at affordable prices. Almost 60% of India's energy is in thermal power, of which the main component is coal-based power plants. Further, given India's commitments to mitigating climate change, efforts have been made to increase access to renewable energy. Comprehensive energy policy must take into account the economies of both coal and renewables. Electric vehicles (EVs) have significant potential since they are environment-friendly. Further, India can emerge as a hub for the manufacture of electric vehicles. Policy measures are needed to lower the ownership costs of EVs and make them an attractive alternative to consumers.

Annual policy reviews (major highlights):

- Macroeconomic Developments: The Indian economy is estimated to grow at 7% in 2018-19. The RBI

reduced the repo rate from 6.5% to 6.25% over the year. As of March 2019, retail inflation stood at 2.9% year on year, and wholesale price index inflation was at 3.2%, year on year.

- **Social Justice and Empowerment:** Parliament passed the 124th Constitutional Amendment Bill. The Bill provides for 10% reservation in education and public employment to economically weaker sections. Reservation of 10% in central educational institutions and central government posts have been notified.
- **Finance:** The Fugitive Economic Offenders Bill, 2018 was passed by Parliament. It seeks to confiscate properties of economic offenders who have left the country to avoid facing criminal prosecution. RBI released its Annual Report for the year 2017-18 which stated that 99.3% of demonetized notes were returned to the RBI.
- **Commerce and Industry:** FDI norms in e-commerce were revised to disallow investments by any marketplace platforms in any of its own vendors. The draft National E-Commerce Policy was released which imposes restrictions on cross-border flow of data.
- **Agriculture:** PM-KISAN scheme was launched, under which farmer families with total cultivable holding of up to two hectares will be provided income

support of Rs 6,000 per year. The Union Cabinet approved the PM-AASHA scheme for procurement of crops and the Agriculture Export Policy, 2018.

- **Civil Aviation:** Guidelines for civil operation of drones were released. The Union Cabinet approved leasing out six airports through PPP, and also proposed a transaction structure for Greenfield airports.
- **Education:** The Right to Education (Second Amendment) Bill, 2017 was passed by Parliament. The Bill permits students to be detained after class 5 and 8. The government released a draft Bill to establish the Higher Education Commission that would replace the University Grants Commission.
- **Communication and Information Technology:** The Expert Committee on Data Protection Framework for India submitted its report and draft Bill. Draft amendments to the intermediary guidelines under the Information Technology Act, 2000, were released.
- **Petroleum and Natural Gas:** Measures for increasing ethanol supply were approved including revised ethanol prices, mandating 10% blending requirement, and PM-JIVAN Yojana. The Union Cabinet approved certain reforms in the exploration and licensing policy for oil and gas fields.

- **Environment:** The government amended the Coastal Regulation Zone notification to ease some conditions. Rural coastlines with low population density will have a smaller no-development zone.
- **Water Resources:** The Dam Safety Bill, 2018 was introduced in Lok Sabha and the draft River Basin Management Bill, 2018 was released for consultation by the Ministry of Water Resources. Further, the Central Ground Water Authority notified guidelines for ground water extraction.
- **Labor:** The Standing Committee submitted its report on the Code on Wages. The Ministry of Labor and Employment launched the Pradhan Mantri Shram Yogi Maan-dhan to provide a minimum assured pension to workers in the unorganized sector.

All possible reasons of economic degradation on various industries: Major effects on small and mid-size businesses

Three parts of the Indian economy - Self-employment (tea sellers, farmers) Self-financed mid-level/small companies have an 85% of total industries but gives about 14% of employment only, on the other hand, large scale industries like reliance, the medium-size company runs for about 10 years and then shuts or CEOs changes the business.

Unlike the USA where these companies grow as time passes by because of their strong government policies.

For employment opportunities, the small and mid-size companies with 15-100 employees should be promoted for increment in employment. This results in building a self-sustaining economy that creates demand as a result of people who get employed and they start earning which eventually increases their spending capacity or consumption or purchasing power.

In India majorly 60-65 districts have majority industries and other districts are left, this is so because they don't have a self-sustaining economy. Now, throwing some light on why small/mid companies don't grow? It has come into the notice that companies don't want to grow to remain in a certain tax bracket for tax benefits. Another reason shown is the balance between competitiveness among the businesses. To illustrate, if there are 4-5 local tea brands in every state they'll keep their prices low due to close competition. Otherwise big companies would start to take advantage of such competition.

If these companies are not benefited by government schemes they turn into the franchise of big companies for better commission and benefits that the government is unable to provide.

- This kills the competitiveness of the market and big companies start controlling, because of which the local economy is affected.

Big companies get relaxation in tax, get a loan, get land, etc. The major root cause of unemployment is the absence of policies for these industries or at least different policies for mid-scale and large scale industries.

The IT sector

Indian Outsourcing Industry facing a hard time as multiple external forces are affecting its growth. As we can see there was a drastic dip in the growth rate of Exports. In 2011 it was 18.6% growth, during 2015 it was 12% and currently post 2017 we see a growth rate of 7 -9% growth rate. Although India has High quality and Low-cost technology skills it's on one the best location for outsourcing, still, due to external factors like Brexit, Donald Trump's effect have affected IT sector growth.

Infosys suffered a jolt when the Royal Bank of Scotland contract went off following the Brexit referendum. Which resulted in around 3000 jobs lost. Another major impact was seen after the changes in Visa regulation in the US when Donald Trump came into power, as the USA is the largest market for the IT sector. Advancement in Automation and robotic have also resulted in a loss of employment in this sector.

Several other factors which are helping in the sustainable growth of Indian It sector are:

- Changes in the banking sector. Online baking trend
- Advancement in AI and Analytics
- Blockchain

- Cybersecurity
- Device and IoT

Demonetization

Another surprise arrives for the economy when it's hit by demonetization and GST which increased the input cost of these companies resulted in depletion of many and some got shut down so better policymaking is a necessity to ensure employment and strengthen the economy.

Effects of GST and unemployment

How GST hit small/ mid-cap companies? According to GST if a company is taking its elements from 5-6 small companies. The big ones have to file tax returns. Which encouraged them (biggies) to set up a small unit for their needs and this took the business from small players.

The local economy is dependent on these small industries which are being harmed by cheaper imports as producers turn into traders by importing and selling and workers get unemployed.

According to an economic survey by India, Today in the upcoming 10 years every year about 96 lakhs people will become employable.

To illustrate, say if 40% of people self-employ themselves in farming or other sectors still it will leave about 60 lakh, unemployed people.

This means every month about 5 lakh new jobs are needed. All sectors of the economy combined don't even produce 5 lakh jobs a year. That's where these small industries can come into play with better policy development.

Monsoon effect on Indian Economy

As a majority of the population in indulging in the Agricultural sector. The agriculture sector plays a vital role in the Indian economy. Indian agriculture is very much dependent upon the monsoon rainfall as it is the major mode of irrigation due to lower capital intensive techniques and well-built infrastructure available in the country. Monsoon is the prime axis around which the Indian Economy revolves.

As mention by Ex-President of India, Pranab Mukherjee, "Indian monsoon is the real finance minister of India".

During 2014-15 India received below 93 percent of average rainfall, which directly affected the agricultural sector. Due to the drought situation in the country grain output dropped 265.6 million metric tons (MMT) in 2013-14 to 257.1 MMT in 2014-15.

During the 2017 Indian Agriculture sector experienced accelerated growth of 4.1 percent compared to 1.2 percent in 2015-16. India had a good monsoon year in 2017 receiving 98 percent of average rainfall.

As good monsoon increases agricultural output, food prices are under control and so is the consumer price index. A slightly skewed monsoon show

and the government spending is also increased due to provision for farmer incentives and subsidies, because of this, the fiscal deficit is widened and we witness a ripple effect on the economy.

Effect on automobile sector

The automobile sector, on the other hand, is about 40% of our economy which holds ancillary units, finance companies, and post-market service industries intact. These automotive companies buy/franchise the production of small parts to small or medium-sized industries. If these large-cap industries get cheaper goods to import they ditch small companies and it loses business.

Measures taken by the government to fight the cause

Income tax department launched reward schemes for information on tax evasion:

Income Tax Department launched reward schemes for information on tax evasion The Income Tax Department launched the revised Income Tax Informants Reward Scheme, 2018 and the Benami Transactions Informants Reward Scheme, 2018 in June 2018.^{33,34} These schemes reward informants whose information leads to (i) detection of substantial tax evasion, or (ii) identification of any Benami property worth more than one crore rupees. Persons residing outside India, irrespective of their nationalities, are also eligible to become informants. Income Tax Informants Reward Scheme, 2018: The Income Tax Informants Reward

Scheme, 2018 defines substantial tax evasion as an evasion of at least five crore rupees if detected by investigation directorates of Mumbai, Delhi, Kolkata, Chennai, Hyderabad, Ahmedabad, Pune, or Bangalore. This amount is one crore rupees in case of detection by any other investigation directorate.

As per the scheme, the reward amount is based on the additional taxes levied and realized, directly attributable to that information. The maximum reward amount is: (i) 5% of such tax revenue under the Income Tax Act, 1961, up to Rs 50 lakh, and (ii) 10% of such tax revenue under the Black Money (Undisclosed Foreign Income and Assets) and Imposition of Tax Act, 2015, up to five crore rupees. Benami Transactions Informants Reward Scheme, 2018: The Benami Transactions Informants Reward Scheme, 2018 rewards information on any movable or immovable Benami property actionable under the Prohibition of Benami Property Transactions Act, 1988. The reward amount is up to 5% of the fair market value of the movable property, and the circle rate of immovable property. This amount should be limited to one crore rupees in respect of a single Benami property. If an informant is eligible for a reward under both the schemes based upon the same facts, the total amount of reward is restricted to the maximum permissible limit, whichever is higher, under the two schemes.

Ministry of Finance increased monetary thresholds for appeals by tax

departments The Ministry of Finance increased the monetary thresholds for filing appeals by the Central Board of Direct Taxes (CBDT) and the Central Board of Indirect Taxes and Customs (CBIC) in July 2018.³⁵ These thresholds are applicable for filing appeals before appellate tribunals, High Courts, and the Supreme Court. Table 4 shows the revised limits for filing appeals before these appellate forums. In the case of CBDT, these limits will not apply to writ matters and matters related to any direct tax other than income tax. Besides, it will not apply in cases where any disputed amount is not involved or not quantifiable. In the case of CBIC, these limits will apply in cases related to central excise and service tax. For both departments, these limits will not apply to cases that involve a substantial point of law. These include cases where: (i) the constitutional validity of the provisions of an Act or Rule is under challenge, and (ii) notification, order, instruction, or circular has been held illegal or ultra vires. With this revision, the departments will also withdraw the pending cases having a disputed amount below the new thresholds. As a result, CBDT will withdraw 41% of the cases filed by it at various courts. Similarly, CBIC will withdraw 18% of the cases filed by it.

CONCLUSION

In 2006 there was the start of a convex slowdown in 2008 global crisis happen which was of 6 to 7 months also in 2011-12 it was for 9 months and in 2016

demonetization cause a slowdown that was for 4 months all this was because of decrease in demand. January 2018 economic slowdown happened 7.7% in 2018 first quarter 24.9 percent in first-quarter 2019 - GDP. So what if the government cannot do an audit and can reduce taxes but this does not give any guarantee that people will buy more and also this will cause a fiscal deficit for the government because it will not be having enough money coming from tax.

Patang money back in an economy that is by taking a loan from banks like RBI but that will also affect in increasing the interest rate of several banks and if the interest rate of banks increased on home loans and car loans at will discourage the people and it will decrease their purchasing power.

If the Government spent 758 thousand crores into economies, it will only last for a maximum of 6 months and next time it will not be able to give this much amount to support the economy again. Government force bands to decrease loan rates this, in turn, will make banks decrease the rate of interest on savings which will be reflected in the decrease of deposit.

When the economy was improving government should have increased employment but it did not do it at that time rather government was taking fame off extraordinary GDP values that were obtained because of change in basis year for the calculation of GDP.

What could be the most feasible solution for government? Is to give compensation on income taxes and other taxes to promote expenditure like compensation and buying cars education etc.

Recession and its effects on the common man:

Starting from telecom sector according to earlier norms there were supposed to be at least three companies in every circle now we are saying only two major players that is jio and Airtel and in upcoming future, these will be ruling markets and the common man will not have freedom to choose and they will be lack of competitiveness in market

Mobile industries more than 50% of the Indian market is covered by buying two companies that are Korean and Chinese aviation is down Jet completely vanished from the market because there is no increase in demand only two key players left that are Indigo and SpiceJet

In 2014 India had E-Commerce industries companies like Flipkart and Snapdeal enter the market and those were Indian companies now they are required for are not making profit it is because inclusion of foreign companies which are Amazon and Walmart which owns Flipkart both of these companies are filling the pockets of the united States and Indian e-commerce is not flourishing and is not able to contribute to Indian economy.

In 2018 which show an increase in mutual funds but approximately 50% of

the market of mutual fund is controlled by four companies out of 38 and this majority place will reduce to two major players which in future will be deciding whether you will be profiting or will go and loss similarly there are two or three major players in industries as simple as chocolate to as complicated as petrochemicals only automobile and pharmaceutical companies are competitive in the market many companies are producing similar goods and that is increasing the competency

and market and hence giving customer power and is controlling the health of the market.

What can happen due to lack of competitiveness 1 there will be lack of innovation companies will not innovate new products and people will not be able to get better technologies to limited opportunities for customers and shareholders and also lack of market.

DIGITAL WORKPLACE: TECHNOLOGICAL TOOLS MAJOR FACTOR INFLUENCING ON EMPLOYEES' PERFORMANCE TOWARDS SUSTAINABILITY

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This paper aims to understand the concept of the digital workplace and its benefits, trends driving digital workplace, the expectation of today's workplace, understanding of employee performance, identify the influencing factors on employee performance, study how technological tools like AI, ML, etc. are major influencing factors towards sustainability.

Key words: Digital workplace; technology; employee performance.

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INTRODUCTION

Every business organization is growing and competing in this rapid-paced, highly dynamic global economy. Its continuous performance, growth, and productions are a big challenge and a major concern. Among all the available resources that an organization has, human resource is considered to be one of the very critical resources on which use of all the other production resources depend. To sustain and their immediate growth they have to adopt innovative technology.

As the work efficiency, the performance of employees has been increasing in current days due to technology adoption and digital workplace, organizations are trying their best to improve the employees' performance in order to improve the overall organizational performance for sustainability in the competitive world especially IT industry. Therefore need of the hour to study how technological tools are major factors influencing employees' performance towards sustainability. The digital workplace has become the working evolution in today's workplace. People these days will, in general, carry out the job for all intents and purposes contrasted with conventional. This is because of the way that the individuals and the things around them can be connected, and shared data just as aiding in settling on a choice by utilizing advanced technology tools. For organization, as the clients' desires developing, workforce and work culture

changes alongside the development, segment move, data over-burden, just as the use of advanced technology tools, happen, representatives will figure out how to enable by guaranteeing that all the data and information they need are readily available, for them to share, team up and do jobs successfully and even to decision in the workplace.

With increasing competition and advances in information technology (IT), firms are confronting situations that are very unpredictable and dynamic. The present dynamic and global competitive forces have created a need for revolution to assist organizations with utilizing suitable innovative designs, high-quality goods. (Paiva et al., 2008).

This paper aims to understand the concept of the digital workplace and its benefits, trends driving digital workplace, the expectation of today's workplace, understanding of employee performance, identify the influencing factors on employee performance, study how technological tools like AI, ML, etc. are major influencing factors towards sustainability.

OBJECTIVES

1. Understand the concept of the digital workplace and its benefits.
2. To know the trends driving digital workplace.
3. To the expectation of today's workplace.

4. To understand employee performance and identify the influencing factors on employee performance.
5. To study how technological tools like AI, ML, etc. are major influencing factors towards sustainability.

REVIEW OF LITERATURE

Employee performance

Organizational performance is a sign of the ability of an enterprise to proficiently achieve independent goals (Venkatraman & Ramanujam, 1986). One of the components that are measurable is the employees' performance through the level of their output. Several types of research have been introducing various methods to assess organizational performance (Wong & Wong, 2007; Prajogo, 2007).

Employee performance indicates the productivity of the employee that has a direct relationship with the performance of the organization and its accomplishment. A number of studies show that an important way to enhance employee performance is to focus on nurturing employee engagement. Research (Christian et al., 2011; Fleming and Asplund, 2007; Rich et al., 2010; Richman, 2006; Macey and Schneider, 2008; Holbeche and Springett, 2003; Leiter and Bakker, 2010) also recommends that the presence of high levels of employee engagement increases job performance, productivity, affective and continuance commitment.

Employee Engagement and performance

Demerouti and Cropanzano (2010) argue that engagement can lead to greater performance as a result of various factors. These findings are supported by a growing number of studies arriving at a positive relationship between engagement and individual performance (Halbesleben, 2010; Mone and London, 2010).

According to Murphy (1989), performance can be defined as "the set of behaviors that are relevant to the goals of the organization or the organizational unit in which a person works". Therefore, the performance of an individual plays a vital role in an organization's growth. This is because it highly influences the overall firm's performance and also functions as the key variable in work and organizational psychology (Sonnentag and Frese, 2002; Zacher, 2009). However, individual performance is not stable and can fluctuate over time. Studies have shown that the performance of individual changes by changing the time spent on a specific job. At the same time, individual performance changes as a result of learning and "high performance are always the result of greater understanding towards the specific job instead of the greater effort to the job" (Frese and Zapf, 1994). Besides, the fluctuating individual performance can be caused by the patterns of "intraindividual change" or changes in an individual's "psycho-physiological state" (Hofmann et al., 1992; Ployhard and

Hakel, 1998; Zickar and Slaughter, 1999).

According to Motowidlo et al. (1997), the behavior and conduct of an individual can be different from his or her performance over time in the workplace. This is because behaviour is what people do while performance is the predictable and anticipated organizational value of what people will do. Hence, not all activities are categorized as performance and not all activities are able to solve organizational problems. Only actions that are relevant and can be scaled and measured for organizational value, goals, and success are considered as performance. Due to the importance of construct in human resource studies, job performance can be the key indicator of the effectiveness of the human resource management system of an organization (Ferguson and Reio, 2009). When individuals are well trained and equipped, the ability to compete nationally and even internationally enhances the performance of the employees. Thus, this helps to accomplish economic success and boost the reputation of the organization.

Digital workplace and performance

Angela D. Benson, Scott D. Johnson, K.Peter Kuchinke: "The use of Technology in the Digital workplace: A Framework for Human Resource Development". The problem and the solution. The advancement of technology in the global workplace is having a profound impact on the roles of human

resource development (HRD) professionals. In the past, technology in HRD was primarily educational media used to support training. Current forms of sophisticated technology, coupled with the expanded role of HRD in the global organization, are now used by HRD professionals to support learning at work, enhance job performance, and facilitate organizational development and change. This presents a conceptual framework for thinking about the role of technology in the digital workplace and highlights the challenges faced by HRD professionals in promoting individual and organizational learning and performance improvement.

Kristen Purcell and Lee Rainie "Digital Technology's Impact on Workers". Findings: Email and the internet are deemed the most important communications and information tools among online workers. While commentators worry that digital tools can be a distraction in the workplace, many online workers say that is not the case when it comes to their productivity.

Concept of the digital workplace and its benefits

Definitions of digital workplace

"The digital workplace is a business strategy that enables new and more effective ways of working, improves employee engagement and agility, and exploits consumer-oriented styles and technologies." – **Gartner**

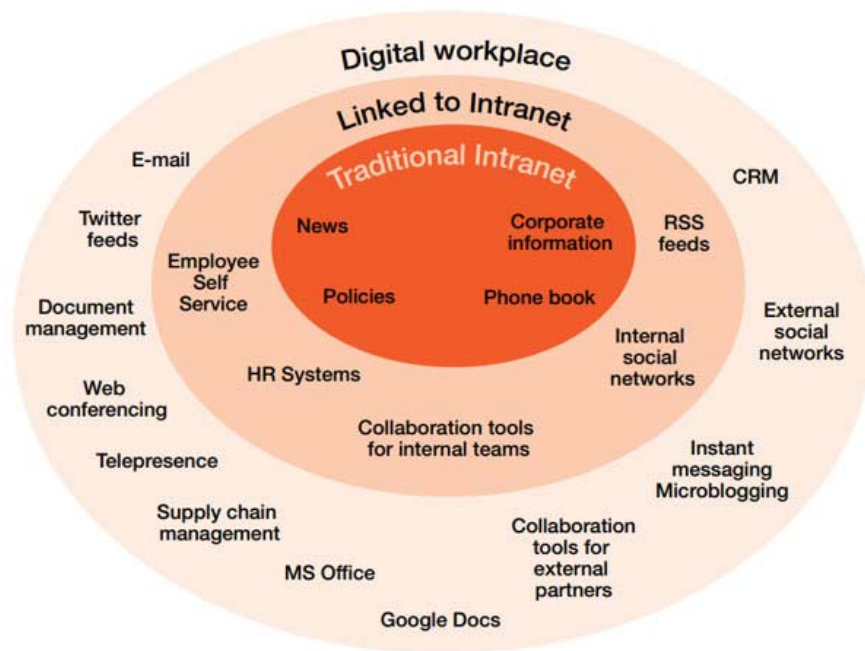
“The digital workplace is the virtual, digital equivalent of the physical workplace.” - **Paul Miller**

“The digital workplace is the experience of work delivered through the collective use of connected devices, software, and interfaces.”

“The digital workplace is the collection of all the digital tools provided

by an organization to allow its employees to do their jobs.”

Rudnick said, “it’s how people get work done these days – using the sum total of all digital tools used in the workplace, including the intranet, enterprise portals, team sites, email, and any other acronym relating to the digital environment.”



The digital workplace is about an overall approach and philosophy of an organization for managing a free and flexible organization. This technology-enabled ecosystem aims at transforming how people work, how business value is created, and how technology and management tools are used.

While the digital workplace is now driving a wide range of projects across many industries, the concept is still

emerging. There are many definitions of the digital workplace and some are all-encompassing, while others focus on specific facets of the concept. The digital workplace can be considered the natural evolution of the workplace. It encompasses all of the technologies staff use to do their jobs. This can range from the HR applications and core business applications to e-mail, instant messaging, enterprise social media tools, intranets, and portals.

The digital workplace is so broad that it needs to avoid the trap of focusing on a current set of technologies. One definition states that a digital workplace consists of a holistic set of platforms, tools, and environments for work delivered in a usable, coherent and productive way. The emergence of the digital workplace has shifted enterprise culture to center on people. In fact, customer experience is set to overtake price and product as the key brand differentiator by 2020.

As digital natives enter the workforce, talent retention is also a critical issue. These workers expect to have access to the best tools—93% of millennials in a recent study cited modern and up-to-date technology as one of the most important aspects of a workplace.

Every stage, from onboarding to offboarding, should be imbued with transparency, empowerment, and ease of use. BMC Helix Digital Workplace provides intuitive and intelligent consumer-like experiences to help organizations step into the future of work easily and fearlessly.

Benefits of Digital workplace

- **Agility:** The future of service delivery is one where enterprises make full use of intelligent systems to achieve new levels of agility, productivity, and efficiency.
- **Productivity:** With Digital Workplace, employees can use multiple channels to find information and request services, and departments like IT, HR, and

Procurement can manage requests and services in one place.

- **Engagement:** The modern workforce expects modern tools that move with them across devices and they want to be empowered to work to the best of their abilities.

Trends driving digital workplace

- **Intelligent, omnichannel experiences:** Embedding and enabling cognitive capabilities will revolutionize people-centric experiences in the workplace.
- **Consumerization of IT:** People want to use the same types of tools at work as they do in their everyday lives and expect no less at work.
- **Speed of digital innovation:** Businesses must continuously find ways to make employees more productive and enable faster time-to-market of products and services.
- **Work isn't a location, it's an activity:** Businesses can keep employees engaged by adopting on-demand environments that support employees whenever, wherever, and however they want to work.

The expectation of today's workplace

Replace the sprawl and confusion of traditional service catalogs with a unified, seamless service experience across devices, locations, and modes of communication.

- **Mobile:** So that people can work anywhere without compromise.

- *Self-service*: So that employees can take care of their own needs, and arrange support on their own schedule.
- *User-centric*: To engage employees with a consumer-like experience that is intelligent, conversational, and personalized.

Employee performance and influencing factors on employee performance

Employee performance. Employee performance is the successful completion of tasks by a selected individual or individuals, asset and measured by a supervisor or organization, to pre-defined acceptable standards while efficiently and effectively utilizing available resources within a changing environment (Armstrong & Murlis 2004). Employee performance thus refers to undertaking a set of activities while aiming for the results and although performance evaluation is at the heart of performance management, Cardy (2004) points out that the performance of an individual or an organization depends heavily on organizational policies, practices, and design features of an organization.

Influencing factors on employee performance.

A. Employee engagement and performance: Organizations should understand that an organization cannot move forward without employee engagement. Employee engagement is one of the key determinants fostering

high levels of employee performance, as is constantly shown in a number of studies (Macey et al., 2009; Mone & London, 2010). Expectations for employee performance are detailed in the employee performance plans and employee accomplishments must also be recognized. Employee performance plans are the recorded performance elements that set forth the expected employee performance and the performance must be up to the organization's set standards. Furthermore, elements in performance (both critical and non-critical) often stipulate the path the employees have to take and what they have to do while standards tell employees how well they have to do their work.

B. Job Stress and performance:

Factors Associated with Employee Performance. Job stress is produced when one cannot properly coordinate available resources and job demands with personal abilities (French, 1975). Job stress is derived from the situation of a job environment that poses a threat to an individual. Some companies may demand to achieve a certain level of work, while their employees may be unable to cope with the given tasks. It is said that the demand exceeds the capacity of an individual which simultaneously fails to satisfy the top management. Job stress has been said that a small amount of pressure can bring about an increase in personnel's efficiency, while too much pressure results in negative mental and physical changes (Raeissi & Tavakoli, 2002).

C. Motivation, efficiency, and performance:

The motivated employees relate to the manners of self-satisfaction, self-fulfillment, and commitment that are expected to produce a better quality of work and oblige to the organizations' policies which will extensively materialize efficiencies and competitive advantage. Motivation increases the job involvement by making the work more meaningful and interesting as well as the fact that it keeps the employees more productive and improves their subsequent job performance (Kamery, 2004; Ekerman, 2006). Employee motivation is obviously important. In fact, it is one of the most important and essential factors for the achievement of employees, and ultimately the organizational targets and goals (Berman et al., 2010). Ololube (2006) asserts that motivation to work, whether intrinsic or extrinsic are very essential in the lives of workers because they form the fundamental reason for working in life. It represents the complex forces and needs which provide the energy for an individual to perform a particular task (Shulze & Steyn, 2003). Moreover, employee motivation serves as an essential component of business operations whereby high motivation coincides with job satisfaction, a sense of pride in one's work, a lifelong commitment to an organization which enhances performance and productivity (Linz et al., 2006).

D. Communication and performance:

Communication refers to the act, contact or double interacts among the individuals in delivering information, meanings, and understanding (Fisher, 1980). Several professionals have expressed mixed opinions on communication competency used as a predictor of employee success (Ryan & Sackett, 1987). The importance of communication cannot be denied for organizations as applied to their ability to influence the bottom-line- as found in growing evidence linked with work productivity (Camden & Witt, 1983; Papa & Tracy, 1987; Snyder & Morris, 1984).

With effective communication, a company is able to have good coordination among the teams or units in an organization whereby the absence of it will reflect problems in running business operations or critically cause the damage between individuals. It has been suggested that the persons who are involved in communication processes need to possess both basic skills and abilities, otherwise, the information could be missed to understand appropriately, and furthermore it depends on the facilities available in organizations and the actions of managers to see the acceptability of information in order to have an accurate deliverance. Furthermore, as one of the crucial elements, the managers have been asked to learn the feedback gained from the employees which probably affects their work motivation. This relates to the circumstances that are currently faced by the employees including the right time of delivering

such information, thus, they may perform based on the messages they receive. In obtaining such a good performance, the managers must show the initiatives of developing and providing opportunities to learn new skills to their employees through the communication process.

E. Rewards and performance:

The expectancy theory suggests that employees are more likely to be motivated to perform when they perceive that there is a strong link between their performance and the reward they receive (Mendonica, 2002). According to Robbins (2003), expectancy theory refers to the strength and attractiveness of an individual's expectation of the outcome produced by performance. The attractiveness of the expected reward for a given input will determine one's motivational soundness according to this theory and whether that reward responds to an individual's personal goals. Robbins (2003) explained that there are three relationships; effort – performance, performance – reward and rewards – personal goals that will direct one's behavior. Expectancy Theory predicts one's level of motivation depends on the attractiveness of the rewards sought and the probability of obtaining those rewards (Bohlander & Snell, 2007). In an organizational context, employees are often evaluated by their performance. If an employee believes that the effort given will lead to performance which is acknowledged by the management they will try to put their best efforts into practice. This leads to the

expectancy that great effort will lead to performance which is noticed and rewarded.

F. Digital workplace and performance:

(Simon Greany) Digital technologies increase productivity, three key areas—digital assets, digital usage, and digital workers. While all have an impact on business performance, the latter makes a stand-out difference. The use of digital technologies by employees that stands out as the crucial factor. Providing employees with digital tools to help them with their day-to-day tasks makes a huge difference in the performance of the organization.

Technological tools like AI, ML, etc. are major influencing factors towards sustainability

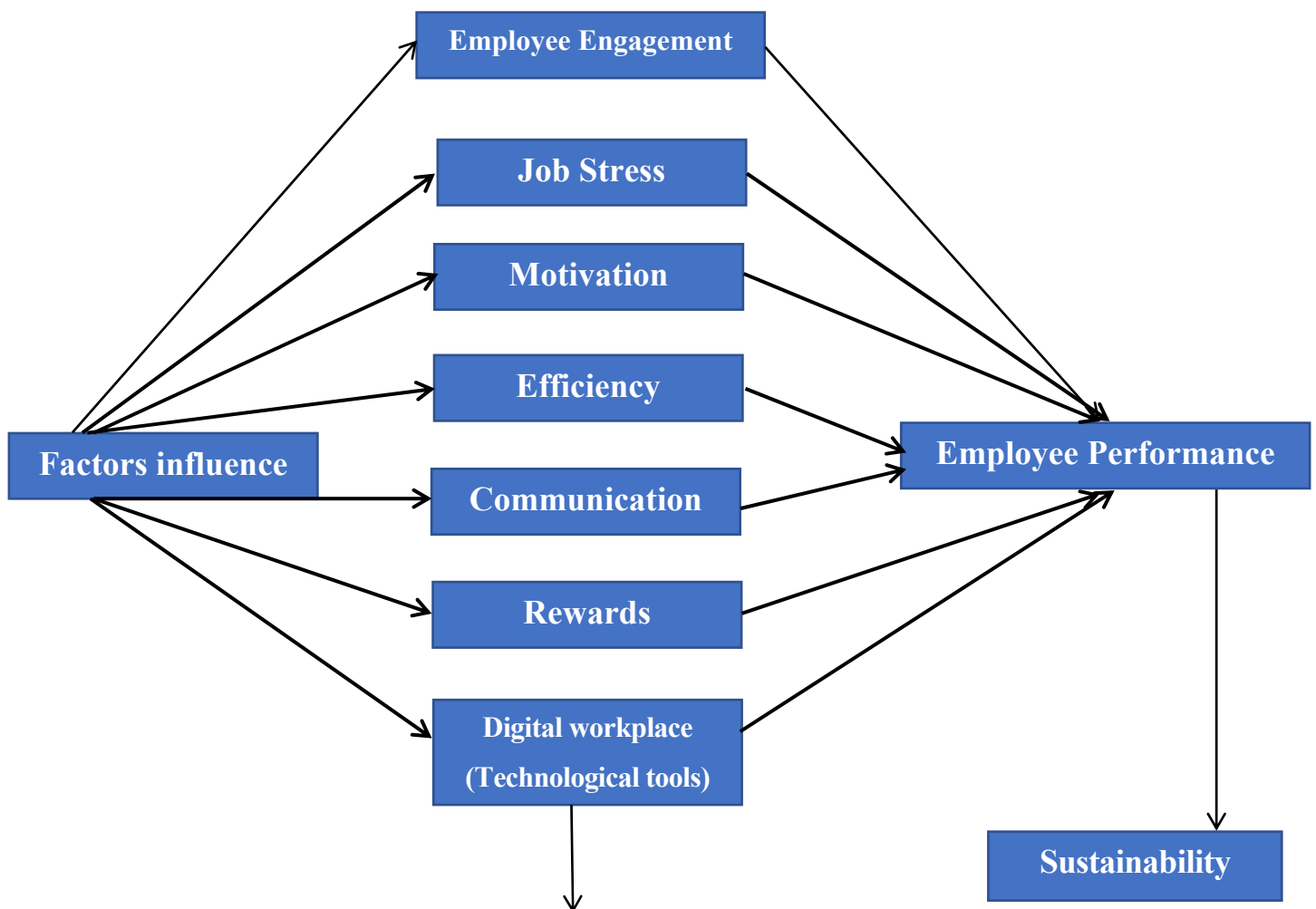
Current research study tries to highlight the influencing factors on employees' performance and how it helps in the sustainability of the business organization. After reviewed several research studies and literature related to 'employees' performance and factors influencing employees' performance', I found that there are many factors are influenced. Factors influencing employees' performance are job stress, motivation, efficiency, communication, rewards, and digital workplace. Among which I found that the digital workplace is a more influencing factor on employees' performance, without this no organization would sustain in the global competition.

The digital workplace contains the set of digital tools provided by the employers to achieve the goals and objectives of the business organization. Digital tools are as follows:

1. Communication/Collaboration- Email, Skype, Blogs,
2. BYOT, BYOA, BYOD (Bring Your Own Technology, Bring Your Own Apps, Bring Your Own Device.): Laptop, Desktop, Tablet device etc.
3. Software Programming Languages: C, C++,Java, J2E, etc.
4. Software Technologies /applications: Artificial Intelligence (AI), Machine learning (ML), etc.

Among these digital tools software technologies like artificial intelligence (AI) and machine learning (ML) are major influencing factors without these highly impossible to faster in the growth of productivity and also very difficult to sustain in the huge competition.

Conceptual framework: The following conceptual framework will show how to interlink between factors influencing employees' performance and which helps for the sustainability of the business organization.



- Communication (Email, Skype, Blogs etc.)
- BYOT, BYOA, BYOD (Bring Your Own Technology, Bring Your Own Apps, Bring Your Own Device.)
- Software Programming (C,C++,Java, J2E)
- Software Technologies (Artificial Intelligence) (AI), Machine learning) (ML)

CONCLUSION

Current research study tries to highlight the influencing factors on employees' performance and how it helps in the sustainability of the business organization. After reviewed several research studies and literature related to 'employees' performance and factors influencing employees' performance', I found that there are many factors are influenced. Factors influencing employees' performance are employee engagement, job stress, motivation, efficiency, communication, rewards, and digital workplace. Among which digital workplace is a more influencing factor on employees' performance, without this no organization would sustain in the global competition.

Among these digital tools software technologies like artificial intelligence and machine learning are major influencing factors without these highly impossible to faster in growth of productivity and also very difficult to sustain in the huge competition.

This paper aimed to understand the concept of the digital workplace and its benefits, trends driving digital workplace, the expectation of today's workplace, understanding of employee performance, identify the influencing factors on employee performance, study how technological tools like AI, ML, etc. are major influencing factors towards sustainability.

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SUSTAINABILITY IN BUSINESS OPERATIONS WITH SPECIAL FOCUS ON FORD AS AN ENTERPRISE UNDER THE INFLUENCE OF ENVIRONMENTAL FACTORS

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Change management is highly essential for any enterprise in order to sustain in the ever changing environment. The factors in general happen to be Political factors, Environmental factors, Social factors, Technological factors, economical factors and legal factors in all industries including the automobile industry which obviously applies to Ford motors as well on a global scale. This particular study explains the administrative measures followed by Ford company in order to utilize the optimum monitoring systems, and various features that contribute as good indicators, thereby enabling Ford to sustain as a prominent enterprise in terms of economic dimensions, environmental dimensions and Socio cultural dimensions..

Key words: Sustainability; Ford; environment.

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INTRODUCTION

Change management is highly essential for any enterprise in order to sustain in the ever-changing environment. The factors in general happen to be Political factors, Environmental factors, Social factors, Technological factors, economic factors and legal factors in all industries including the automobile industry which obviously applies to Ford motors as well on a global scale. This particular study explains the administrative measures followed by Ford company in order to utilize the optimum monitoring systems, and various features that contribute as good indicators, thereby enabling Ford to sustain as a prominent enterprise in terms of economic dimensions, environmental dimensions and Socio cultural dimensions. (PWC, 2010) (HERMES, 2012) (Clegg, 2013) (Baumgartner, 2019) (panelPeterWells, December 2013) (Caroline Rodrigues Vaz *, 2017) (Martina Sukitsch, 2015) (Hindu Business Line, 2019) (Economic Times, 2018) (Ram Nidumolu, September 2009) (Korn Ferry, 2015).

The study has utilized literature review as the main source of data collection. Further more, online sources were cited and suitably shortlisted based on their literary contribution to this particular field of study. Articles studied , used . Correlation analysis was utilized to correlate and interlink the various thematically analysed findings which are as follows :

With regard to the environmental dimensions, one of the main factors of

focused studied under the environmental aspect of Ford is the strong need to reduce carbon emissions from vehicles into the external environment. The intense and superior value of both a cluster of energy as well as environmental issues of the company happened to be misjudged by the concerned department of Ford. It was an error on the part of the company to have banked on SUVs as well as light trucks which happened to consume a lot of gas in their functioning process when at that time, the price of gases were steadily rising.

Sometime after the year 2000, the company happened to face a very dangerous and hazardous situation owing to the fact that there was an increase demand green and fuel efficient vehicles owing to the fact that at that point of time there was as increase in the price of gases and fuel. This placed the company under pressure thereby laying onus on the company to reinvent its products to suit the new market need. It was at this time the company began to introduce their new inventions which were electric hybrids and other highly fuel efficient cars to suit the new market condition.

Another factor which enforces Ford to remain highly competitive in the marketplace is the fact that in the international business environment, the price of competing products (here automotive produce) is being reduced while their quality is being increased by their competitors who are mainly Toyota and General Motors.

Ford in order to meet the needs of this new market environment, has introduced economic cars which are eco friendly in nature.

In terms of sustainability the specific sustainability aspect can be explained by the decision of the company to introduce electric automobiles as their presence in the market place will be highly use full to the company. This may even enable the company to obtain a use full place in the automobile market thereby enabling the company sustain despite the effects caused by the external environment in the form of political forces, economical forces, socio-cultural forces, technological forces, environmental forces and legal forces. This is covered under the Environmental Dimension .

Internally, the organization emphasizes optimum quality of the concerned products being manufactured, coupled with Utmost Safety of the product, thereby preventing even the minimal possible damage the product is capable of causing to both the users as well as the environment. Safety features of the automotive produce is of a superior quality. The products being manufactured by the company are ISO 14001 certified. The global implementation of Environmental operating Systems was completed in the year 2010, in order to increase the methods of monitoring the environment and thereby increasing environmental sustainability. Utility of Global Emission Manager does enable the company in the process of measuring and monitoring environmental data with regard to the

external environment of Ford. The company also follows core requirements with regard to environmental monitoring systems such as the ability of the company to utilize Quality Operating Systems along with the key process of the operating system which makes it possible for the company to achieve results which are qualitatively and quantitatively MEASURABLE, ELLIMINATE Wastes in a method causing least damage to the environment and still deliver optimum value to the consumer. Following the nine quality leadership principles from the quality leadership manual is also done by the company. The company ensures that all suppliers involved are capable of demonstrating the process of continuous improvement, and makes decision based on the data derived after utilising the complete six sigma process.

Ford company has also outlined certain green initiatives to maintain and sustain by keeping the in a environmentally friendly, sustainable manner. One of the initiatives is the utility of sustainable fabric is one of these initiatives. These fabrics are made out of post-industrial wastes. The 2008 Ford escape 2208 is believed to be the pioneer automotive output that possess a seating surface made up of 100% recycled material. It is an estimation of Ford that the use of post recycled industrial fibre can serve the purpose of conserving water to the amount of 6,00,000 gallons and 1.8 million pounds of carbon-dioxide equivalent, along with that which is equivalent to 7 million kilowatts of electricity equivalent. Other initiatives

are that Ford happens to be the leader in 6 speed transmissions which are fuel efficient in nature. By the year 2008, Ford expected to produce on an annual basis 1.3 million 6 speed transmissions. Ford did manage to improve fuel efficiency by 7% in terms of highway efficiency. Ford happened to be the first to introduce the clean diesel belonging to the segment of heavy duty pickup. There has been an immense improvement in Ford's energy efficiency from the year 2000. Monitoring the progress in this aspect, Ford has also showed a proof of further increasing its fuel efficiency by 5% progressively in the year 2006. With regard to Ford Focus and Ford Escape, more than 80% of the materials are recycled. Though the materials are recycled, high concentration of care is exercised by the company to ensure that at any cost, quality of the product is not compromised.

According to the 13th annual sustainability report of Ford, in terms of energy conservation, it was stated by the Ford that the company in the year 2016, will cut energy usage by 25%. Furthermore, economic dimensional information further strengthens the study can be mentioned using the example of the economic slowdown in the year 2008 which impacted on the automobile industry. To be more specific, the cost of labor increased, loss of jobs in the United States of America and other countries of the world caused people to postpone their decisions regarding the purchase of automotive

produce. One of the serious repercussions of this is the financial loss caused to the company which amounted to \$12.7 billion. It happened to be the greatest loss faced in the history of the company in the past 103 years. After this loss the company had to involve the concerned departments into various processes that were required to assist the company overcome the damage caused to its financial sector.

It is worth mentioning the fact that Ford did not take government help to recover from the financial situation. Ford utilized the Ford's strategy for debts and exchanges which proved to be a judicious decision on part of the company as this strategy enabled the company to convince the investors in agreeing to exchange debt for an amount of \$9.9 billion for cash and stock. This enabled the company to reduce its amount of debts by 28%. This was in the year 2009

In the same year 2009, the profits recorded by Ford in America happened to be \$2.4 billion which was the highest since the year 2000. In the same year 2009, the profits of the company amounted to \$ 2.7 billion. This was clear proof that the strategy both effective as well as efficient in its performance.

Ford's capacity to sustain in the economic environment can be further demonstrated by the fact that one of the strategies used by Ford sometime after the year 2010, enabled ford to attain the position of the second largest car maker in the world in the year 2011. During this time period the company's deferred tax

asset valuation allowance release amounted in \$11.5 billion.

As the main motive of any organization is profit maximization, Ford has to accomplish its mission by the process of business development which in the case of Ford is done by maximising the sales of cars. In order to improve this process, Ford has adopted certain strategies which are distinct in character and will thereby enable the company to steadily improve with regard to the sales of automotive produce.

Some of the strategies followed by Ford happen to be, the “Go further” strategy which is how the company wins faith from its clients by the means of winning through integrity. One of their strategies progresses in the process of using digital technology to the automotive produce, and another strategy is introduction of the electricity driven car for the future. It is worth mentioning the fact that there is an increase in the demand for electricity driven cars on a global scale.

Coming to the topic of Socio-Cultural area of Ford, it is worth mentioning that the main aspects that can be placed under this area are Corporate Social Responsibility, Customer behaviour, and intra company conduct of the employees.

Ford happens to be one of the leaders in the aspect csr when it comes to the automobile industry. The company implements various policies for the benefit of the employees within the organization. To begin with the employee benefits, the company does fight for the

rights of its employees which results in the increase of the comfort level of employees. It happens to be the belief of the executive chairman that the creation of “green jobs” will be a positive event in the life of the company as this will enable the company to produce electric automobiles which will be use full as their presence will reduce the carbon emissions in the atmosphere, thereby being an environmentally friendly automobile. With respect to the increase in fuel prices this automotive produce will help in the process of enabling the users of automobiles to curtail their expenditure on automobiles. Even the price of fuel is increasing on a global scale.

With the introduction of the electric automobile, the customer segment is well taken care of as this will not only save the environment and thereby motivate customers to purchase the automobile but will also stimulate an increase in the process of enquiry generation for the product resulting in an increase in sales of the product. Another factor which will enrich the process of enquiry generation is that this automotive produce is not effected by the increasing price of fuels.

Hence it can be concluded that the Corporate Social Responsibility undertaken by ford can be termed as an extremely wise decision of the company as the introduction of the electric automobile will be a major asset to the company. Interest of people both within the organization and outside the organization are taken care of. The company can claim to function with the

motive of profit maximization along with the taking care of the best interest of the people, the external environment as well as the economy. The explanation below

further strengthens the above findings in detail along with tabular presentation and analysis.

List and assessment of indicators:

Name	Definition	Measurement	Limit
Carbon Emissions	Emission of substances into the atmosphere which whose content is rich in Carbon	Pollution into the atmosphere by emission of substances that contain carbon.	Difficult to control.
Fuel Consumption	Amount of fuel consumed by a particular vehicle at a particular period of time.	Amount of fuel consumed by a particular automobile.	Amount of fuel in the world is limited and is depreciating in volume.
Price of Fuel	Price of one unit of fuel at a particular destination at the local currency of that destination.	How much cost will a consumer incur to purchase one unit of that particular fuel.	Increase in price of fuel, the utility of the fuel by the consumers.
Increase in demand for green goods	The process by which there is an increase in the demand in the market for goods which are eco-friendly and do not cause damage to the environment (in this case it is eco-friendly cars)	Market need for the innovated eco-friendly vehicle.	This puts pressure on the company to innovate and produce new innovative products and introduce them to the market.
Competitors	Other players in the similar market which offer similar products and similar prices and target the same group of prospective customers.	Competition in the automobile market.	Quality and efficiency of the competitor, effects the company's performance in the market, which in this case is the international automobile market.
Government acts	Various rules and regulations passed by the government.	Political environment faced by Ford in a particular nation.	Activity possible by Ford within the government permitted limits of a particular nation.

INDICATOR ASSESSMENT

Carbon emissions

As Ford is falls under the segment of the automobile industry, carbon emissions is common as most automobiles consume fuel which leads to the emission of carbon into the environment. This will exist so long as vehicles utilise fuel in the form of petroleum products for functioning. When automobiles run on electricity , carbon emissions will start reducing.

This indicator proves to be highly appropriate as the carbon emission by automobiles is becoming a problem in the world . Prospective consumers of automobiles reconsider their decision for the same due to this factor. This is the main weakness of the indicator.

Hence introduction of electric automobiles will enable the elimination of this menace thereby increasing the number of enquiry generations for the automobile which results in increase in sales for the same.

Fuel Consumption

The factor of automobiles consuming fuel will exist so long as the automobiles function. Hence this is a highly consistent and appropriate indicator. The Strength of this indicator is that if eco friendly fuel is introduced in the automobile segment , the automobiles will begin to function in an eco friendly manner thereby increasing in popularity among consumers among them, there is an increase in awareness about the environment. The converse of this fact is

that consumption of fuel which emits carbon into the atmosphere is decreasing.

Price of gases and fuels

This factor varies according to the law of demand and supply of the fuel and the number of customers who need the fuel. As no automobile can function without the use of fuel, this point remains consistent and appropriate. The price of the fuel varies in various destinations based on the availability of the fuel in that particular destination. As lot of natural fuel in the form of petroleum products are depreciating, price of these fuels are continuously increasing as per the law of demand and supply. This happens to be a weakness of this particular indicator. The Strength of this indicator is that the introduction and use of electric fuel will reduce the price of the fuel, thereby enabling the firm which introduces the electric fuel to increase in terms of sustainability in this aspect.

Increase in Demand for green goods

This indicator is a fairly new indicator which began its prominence after the rise of corporate social responsibility and increase in recognition of the need for environmental preservation. This proves its appropriateness while its beneficial results predict the future consistency of the same. This is a factor whose character is highly strengthened and possesses no substantial drawback.

Competitors

This factor does not prove to be consistent with the product as competition differs from region to region. However, it is appropriate as strategies need to be implemented to battle competition based on the market factors of the particular region. Strengths and weaknesses of the competitor play a prominent role in how the business functions. Increase in any strength of a competitor/competitors result in the concerned firm(here Ford Motor company) needing to strengthen that particular attribute of the concerned business in order to battle the competition in that particular area.

Government acts

This factor is determined entirely by the government of each nation. Every firm has to abide by the various rules and regulations laid down by the government. Consistency cannot be confirmed as these keep changing with regard to the particular government in rule in that particular nation at that particular point of time. The fact that a firm has to follow the orders, may be the only weakness.

CONCLUSION

These findings thereby co-relate the thematically analysed information obtained clearly indicating that introduction of the electric automobile will be a very use full decision to Ford . All other factors influencing can be dealt without the exercise of much care in a flexible manner. This will enable the company to sustain despite

environmental factors, thereby enabling it to achieve its mission which is profit maximization.

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A STUDY ON SUSTAINABILITY OF RAINWATER HARVESTING SYSTEM IN HOUSEHOLDS IN NORTH BENGALURU

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According to United Nations, the rate of increase in usage of water is more than twice the rate of increase in population. It estimated that about 1.8 billion people will live in areas plagued by water scarcity and with two-thirds of world's population living in water stressed regions. Rainwater harvesting (RWH) helps in preserving rainwater and therefore it is a sustainable and economic strategy to manage demand and supply of water. It is a method of collecting and storing rainwater which can be utilized for consumable and non-potable purposes in private and business structures. The different types of a typical rainwater harvesting system are catchments, coarse mesh, gutters, first flushing, filters and storage tanks. A study in Sicily, Southern Italy highlighted that rainwater harvesting systems play a considerable role as an additional water supply system.

Key words: Sustainability; rainwater harvesting.

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INTRODUCTION

According to United Nations, the rate of increase in usage of water is more than twice the rate of increase in population. It estimated that about 1.8 billion people will live in areas plagued by water scarcity and with two-thirds of world's population living in water stressed regions. Rainwater harvesting (RWH) helps in preserving rainwater and therefore it is a sustainable and economic strategy to manage demand and supply of water. It is a method of collecting and storing rainwater which can be utilized for consumable and non-potable purposes in private and business structures. The different types of a typical rainwater harvesting system are catchments, coarse mesh, gutters, first flushing, filters and storage tanks. A study in Sicily, Southern Italy highlighted that rainwater harvesting systems play a considerable role as an additional water supply system. (L. Liuzzo, V. Notaro, G. Femi., 2016). The benefits of rain water harvesting are cost effectiveness, and reduces demand on ground water. The drawbacks are unpredictable rainfall, initial high cost, require proper maintenance (J. Angeline, D. Prabhavathy and D. Ravikumar, 2019). Rainwater is used to satisfy human, agricultural, and protection demands for water to provide ecosystem offerings: water supplementation for indoor use, water supplementation for meals production and groundwater recharge (D. Stout and S. Burain , 2015).

Water saving depends on roof area, household size and size of the rainwater

tank. Large rainwater tank means more possible water savings. An investigation conducted in Sweden revealed that possible savings 30% of the total water consumption can be achieved from a 40 kilolitres rainwater tank and large roof areas with indoor plumbing for toilet flushing and laundry. (S. Trinidad and K. Gan, 2014).

The main benefit of rainwater harvesting system is that rainwater is a comparatively clean, non-chlorinated and free source of water. The key factors affecting water resources are population growth, rapid urbanization, population migration, increased competition, pollution and climate change. The size of rainwater storage tanks influences the volume of rainwater conserved and volume of rainwater flowing into the storm drains, installation costs and the quality of rainwater. (A. Fewkes, 2012). The cost of adding water supply infrastructures and replacing the ageing systems to avoid water crisis are burdening the government (N.Shaari, 2019).

The fundamental issues of broken water supply frameworks are related with four measurements; socio-natural, specialized, budgetary, practical and institutional (M. Jha, K. Dahal and S. Shrestha, 2019). Educating people about the system and its expansion gives rise to economic benefits since safe drinking water can be sold to the community. This helps to improve health of residents in areas where sources of water supply are contaminated (D.C.Nguyen and A.D.Dao, 2013). An important factor in

utilizing rainwater is the economic viability of the system. Although rainwater harvesting system may bring more sustainability to a city, it should also be a cost-effective solution (P.Ranasinghe and D.Dissanayake, 2019).

Considering the cost for installation and maintenance expenses, the system is effective and economical (S.Rahman, 2014), but effective use of rain water harvesting system still seems farfetched. The reasons maybe regular maintenance as tanks must be cleaned periodically. The gutters must be cleaned before monsoon season (R. Goyal, 2014). Maintenance is the most important component for performance of the rainwater harvesting system and for safety reasons to ensure quality. The filter used to purify the rooftop rainwater must be cleaned regularly from time to time (I. Juliana, 2017). In most of the industrialized urban cities, rainwater is not considered for drinking purpose since it is polluted. The pollutants are the result of activities that contribute to harmful gases such as nitric oxide and sulphuric oxide. This makes the rainwater more acidic and non-consumable (B. Chakraborty, 2015).

The quality of rainwater differs depending upon the storage methods and atmosphere pollution. The quality of rainwater purely depends on cleanliness and maintenance of rooftop, catchments areas and gutters. The consumption of untreated rainwater could be a risk to human health (N.Pathak and H.Heijnen, 2015). Reliability of rainwater harvesting

system is the probability that a rainwater storing tank of a given size will be sufficient to store all the water over a certain span of years. The household with the highest reliability showed other qualities like very large storage tank and roof area and households with lower reliability had small roof area with gutters with gutters for rainwater conveyance and small volume of storage tank (F. Wambura, 2010).

A field study was conducted to identify the current situation of rainwater harvesting system. Rainwater Harvesting Theme Park, Jayanagar, Bengaluru and systems in households were studied. An expert review was done by Dr.ShivaKumar, senior scientist in IISc, Bengaluru, Water Board Ex-Director and Mr.Ayyappa Masagi also known as Water Warrior of India. The outcome of field study shows there is no involvement in using the system. There has not been enough awareness about effective usage of RWHS. The gaps identified are sparse literature on sustainability and effective use of rainwater harvesting system. Maintenance and usage after installation of RWHS seems to be a drawback. This study aims to assess the factors which impact sustainability of Rainwater harvesting system in Bengaluru North.

RESEARCH PROBLEM AND OBJECTIVES OF THE STUDY

The study aims to understand the householders' perceptions about the factors which would lead to continuous

use and sustainability of Rainwater Harvesting System.

1. To develop a conceptual framework for sustenance of rainwater harvesting system
2. To analyse the relationships between identified factors and sustenance of Rainwater harvesting system

METHODOLOGY

A conceptual framework was built by choosing the variables from literature review and field study for objective 1. The variables for conceptual framework are cost effective, maintenance, quality, reliability and usage of water and Sustainability is the dependent variable. The operational definitions for the variables are given below.

Cost effectiveness: The associated costs of a rainwater harvesting system are for installation operation and maintenance. Installation cost includes the storage tank representing largest investment (O.Aladonela, 2009).

Maintenance: Correct maintenance of RWHS helps to protect water quality in several ways. Regular monitoring and cleaning of catchment, gutters, filters

and tanks result in appropriate maintenance that reduces contamination (F.Wambura, 2014)

Quality: The rainwater is straightforwardly identified with the tidiness of catchments, drains and capacity tanks. Housetop catchment surfaces gather dust, natural issue, leaves and flying creature and creature droppings, which can debase the put away water and cause silt development in the tank (S.Rahman, 2014)

Reliability: it is defined as the probability that a give size of rainwater harvesting system will be sufficient to supply the necessary amount of water (G.Freni, 2016)

Usage of water: When rain water is used for domestic water needs, the requirements can be met partially or completely if the rainwater is collected close to the individual's habitat (V.Notaro, 2016)

Dependent variable: Sustainability means avoidance of depletion of natural resources (water) or it can be defined as the ability to exist constantly (S.Rahman, 2014)

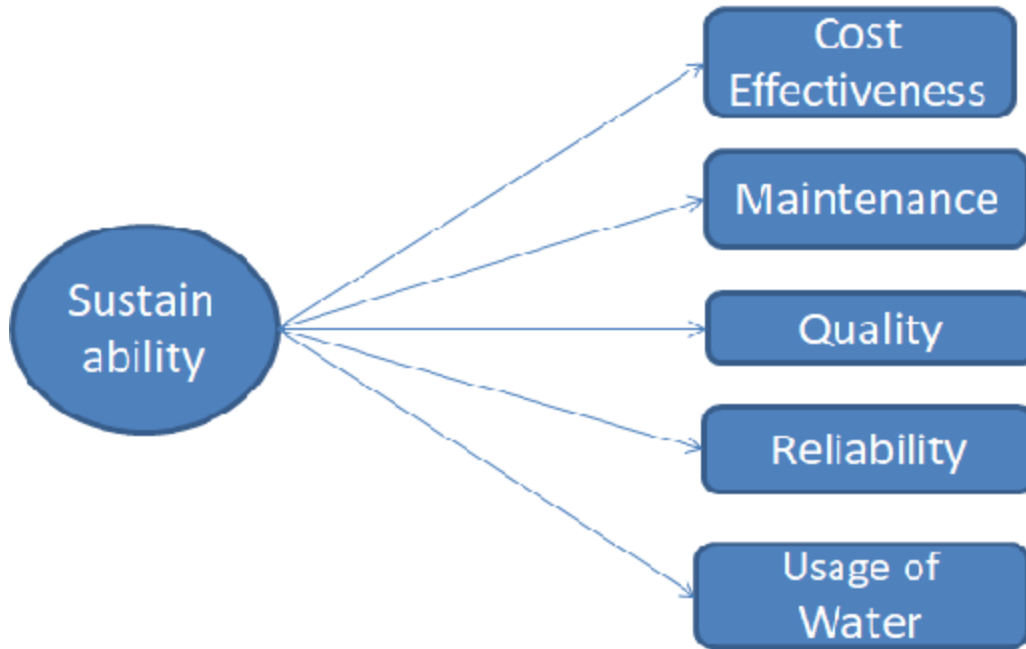


Figure 1: Conceptual framework

An empirical study was conducted to understand the actual relationships between the variables identified. Based on the conceptual model the following hypotheses were formed for each variable.

Hypotheses

H_0 = Usage of water does not have an impact on sustainability

H_1 = Usage of water has an impact on sustainability

H_0 = Cost effectiveness does not have an impact on sustainability

H_1 = Cost effectiveness has an impact on sustainability

H_0 = Quality does not have an impact on sustainability

H_1 = Quality has an impact on sustainability

H_0 = Reliability does not have an impact on sustainability

H_1 = Reliability has an impact on sustainability

A survey method was found appropriate for the study. A survey was conducted by direct interview with householders. A pilot study was conducted with 30 samples to validate the questionnaire. The Cronbach alpha was found to be greater than 0.6. Hence the survey was used for main study. The responses were collected through google forms and face to face interviews. Convenience sampling was used to collect data. A total of 152 respondents

have shared their comments. Smart PLS software is used to find the relation between the dependent and independent variables. Smart PLS uses partial least squares approach to offer an alternative to covariance-based structural equation modelling, which is especially suited for situations when data is not normally distributed. The age group of 31-50 were the respondents which comes up to 34.9%. 55.3% were male and the majority of the respondents belong to income group 1-5 lakh who live in 1200 square feet homes.

FINDINGS

The survey measures the key factors that influence the sustainability of RWHS.

The respondents were asked to answer the survey questions that used likert scale. The reliability of the constructs were ensured by finding the Cronbach alpha which was greater than 0.6 (Nunally,1972). Construct validity and reliability was confirmed through measurement model which shows the Cronbach alpha as 0.861 which is acceptable. The factor loadings (Table no 1) shows values greater than 0.6 hence convergent validity was confirmed.

Factors analysis

The outer loading is more than 0.5 hence it shows that the construct validation is accepted and they can be used to find causal relationships.

Table 1: Factor loadings

	Maintenance	Cost-effectiveness	Reliability	Quality	Usage of water
M01	0.871				
M02	0.696				
M03	0.775				
M04	0.63				
CE01		0.768			
CE02		0.817			
CE03		0.821			
CE05		0.701			
R01			0.858		
R02			0.785		
R03			0.862		

Q01				0.589	
Q02				0.815	
Q03				0.725	
Q04				0.633	
Q05				0.666	
U01					0.749
U02					0.844
U03					0.586
U04					0.562

Since the constructs were found valid, these were used to analyse causal relationships. The structural model was generated where the values of R^2 is important.

R-square is a statistical measure that represents the proportion of the variance of dependent variable that's explained by an independent variable. Since it is a new study, 19.5% can be accepted and more

variables can be identified which improves sustainability.

F-square test

F-square test is conducted to find the significance of a variable with respect to the study carried out. It shows the impact on R^2 value when the construct is removed. This shows how important the variable is for the study.

Table 2: F-square values

Variables	F-square	Frequency
Cost effectiveness	0.044	Moderate
Maintenance	0.021	Low
Quality	0.014	Low
Reliability	0.014	Low
Usage	0.006	Low

The F-square analysis showed that, cost effectiveness has the highest significance on sustainability while all other variables show less effectiveness.

Hypothesis test

Hypothesis test was conducted to evaluate two mutually independent

statements about a population to find which statement is best supported by the collected sample data. It is to test which of the two statements holds true for the relationship between dependent and one independent variable.

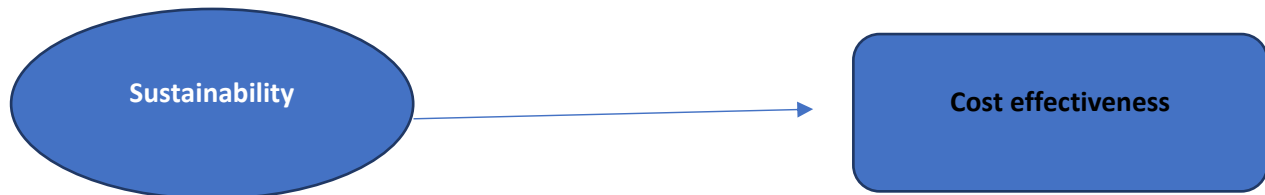
Table 3: Hypotheses Testing

Objective: 3	hypothesis	Test done	β value & P value	inference
	H0 - Cost effectiveness do not effect sustainability H1 - Cost effectiveness effects sustainability	PLS SEM	$\beta = 0.224$ P = 0.04	H0 is rejected, H1 is accepted hence cost effective effects sustainability
	H0 - Maintenance do not effect sustainability H1 - Maintenance effects sustainability	PLS SEM	$\beta = 0.159$ P = 0.25	H0 is rejected, H1 is accepted hence maintenance effects sustainability
	H0 - Quality do not effect sustainability H1 - Quality effects sustainability	PLS SEM	$\beta = 0.130$ P = 0.225	H0 is rejected, H1 is accepted hence quality effects sustainability
	H0 - Reliability do not effect sustainability H1 - Reliability effects sustainability	PLS SEM	$\beta = 0.130$ P = 0.234	H0 is rejected, H1 is accepted hence reliability effects sustainability
	H0 - Usage do not effect sustainability H1 - Usage effects sustainability	PLS SEM	$\beta = -0.082$ P = 0.467	H0 is accepted, H1 is rejected hence usage of water do not sustainability

The p-value indicates that cost-effectiveness is the only variable that had more significant impact on sustainability. All other variables do not have significant relationship with

sustainability. The analysis done showed that householders perceived that the rainwater harvesting system is sustainable since it is cost effective.

Figure 2: Final Empirical Model



IMPLICATIONS OF THE STUDY

The study shows that cost effectiveness is the only reason for sustainability today. Awareness has to be improved among people about improving the other factors such as quality, ease of maintenance so that people start perceiving it as critical for living. From our study it was found out that people did not find rain water quality suitable enough for drinking. They found it cost effective hence many houses have installed it but conscious usage and maintenance leading to green living is yet to be achieved.

Future research and limitations

Further research can be done on government policies for effective use of rainwater. The study limits to the focus on households while there are commercial buildings and open areas that also contribute to the overall sustainability of rainwater harvesting system.

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