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The Pathway of Organizational Sustainability through Segregation of Dimensional Indicators for Manufacturing Enterprises

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Abstract

The organizational sustainability is the burning concern around the globe. The key focus of the study is to present the most suitable concept of sustainability for manufacturing enterprises through elaborating its three-dimensional divisions. The organizational sustainability consists of economical, social and environmental aspects. This conceptual paper contains the segregation of all the three dimensions, by identification of current issues and then associating them with the inner indicators of enterprises. This includes the guideline for the management such as policy makers, top managers and employees towards the accomplishment of sustainability.

Keywords

Organizational Sustainability, Economical, Environmental, Societal Sustainability, Enterprise Sustainability, Corporate Sustainability

1. Introduction

In a last decade, a numerous books, papers, articles and blogs have been published on the organizational sustainability. Some authors offer a particular insight, compatibles tools; design a framework and directional procedures for business to fully gain sustainability. A number of studies declared a relevancy of business operations with the sustainability of the organization especially in the manufacturing organization (Silvius & Schipper, 2015). Even though the practical applicability is a dynamic factor which changes or improves with the passage of time around the globe. The understanding of sustainability in an organizational perspective is still considered to be studied more clearly (Zhang, Khan, Lee & Salik, 2019).

In the late 1800's, due to the high population, globalization, automation which consumes new policies, practices and corporative activates, governmental and societies the disordering were established for stability of the society and damaged the sustainability of the businesses (Alola, Avci & Ozturen, 2018). The whole human cycle worldwide is depended on the three critical systems such as social, economic, and environmental. The challenges are interlinked for the organizations; the water, food and energy issues are classified under an environmental domain, the increase in societal inequality is another social challenge worldwide, similarly, the increase in expenditure, increase in products cost, overall low sales, less profit are some obstacles represented by economical domain of sustainability (Krause, Feiock & Hawkins, 2016). This main focus of the study is to clear the latest concept of sustainability for an organization through explaining the dimensional division.

Considering, the Industry 4.0 as a challenge for the sustainability of the businesses around the globe. Even after this COVID-19, the Industry 4.0 is not an option; the instability is certain especially for small and medium enterprises. In a same vein, the Industry 4.0 provokes the organization to get automation even its more than that. The Industry 4.0 is the fusion of multiple latest technologies which companies are adopting in order to keep the stability in the era of digitalization (Skilton & Hovsepian, 2018). Consideration of the three dimensions of sustainability, this study provides the alignment to the organization in order to keep their business in stable level. Although, based on the recent literature, only one dimension of sustainability could not refer to the whole sustainability of a business. On that point, this study would guide the businesses how to relocate the managerial power and practices in all the forms of sustainability. It includes technical aspects, costs, environmental and social aspects and managerial, components for manufacturing sector.

2. Rationale for Sustainability Assessment in Manufacturing

In this new paradigm, sustainability is a growing behavioural and structural feature with several aspects plus three dimensions. The changing in the manufacturing businesses is characterized by hostile competition on a global scale. These revolutionizations are jointly called emerging concerns and contains technology, government regulations, population growth, depression, and consumption of natural resources, innovation, automation (Garbie, 2015). The capacity to preserve a balance in a procedure or a position in a system, whether environmental, technical or social and economical is presently known as sustainability. This stability is often observed from numerous perspectives exclusively; desirability, durability, survivability, affordability and environmental contact. The UK Engineering Council (ECUK, 2009) characterized the sustainability as: contributes to construction a sustainable society, encourages the professional and accountable leadership character; by utilizing the resources inventively and successfully; looking for multiple observations to explain sustainability confronts and managing threats to diminish unpleasant collision to people and environment in all substances connected to manufacturing. Furthermore, based on literature, the sustainability is a systemic embryonic behaviour and structural properties can be observed as; Technical functionality; cost, Programmatic balance, ecological impact, dependability, accessibility, maintainability, protection and defence and quality in product and processes (Douglas and Judge Jr, 2001; Haapala et al., 2013; Hallstedt, Thompson, and Lindahl, 2013; Kao, Nawata, and Huang, 2019; Panford, Agyemang and Konadu-Agyemang, 2006; Sila, 2007). All of the above aspects are fundamentally sustainability prerequisite performance characteristics in manufacturing.

2.1 Economic Sustainability

Currently, one of the promising issues is economical sustainability where 32% businesses disposed-off for the deficit financial crisis around the globe. The economical performance of a business works as a blood in a body, if the economical instability occurs than the whole deigning of the company would lost it credibility and functioning (Ahmad and Thaheem, 2018). Economic sustainability considered several problems like globalization, ethics, digitalization, innovation, product life cycle management (Garbie, 2014). The utilization of digital tools in the integration of products design and processes is inevitable. In order to achieve the sustainability, the identification of problems and foresightedness is important. The internationalization positioning of organizational performance is recommended to achieve sustainability (Ma and Liu, 2019). The sustainable development requires adopting competitive approach through environmental awareness product and process design, remanufacturing, and recycling mechanisms and equipment and resources. The characteristics of economic sustainability are considered as burning elements for sustainability evaluation need to be consider in order to achieve the economical sustainability. (See table 2.1.1)

Table 2.1.1 *Elements with indicators to assess the Economic Sustainability*

Elements of Economical Sustainability Evaluation	**Associated Indicator in Manufacturing Perspective**
Innovativeness	Adoption of latest technologies, IOT, cyber physical system, big data, artificial intelligence, Product development cost, digital Process development time, development capability.
Globalization	Business models, Supply chain management, quality management principles, Industry 4.0 and Technology, Energy price and markets
Reconfiguration Managerial	Organizational size and functionality, relook material handling equipments, automation of material handling storage, use of old technology identification system
Performance Evaluation	Low investment in productivity, Product cost, low lead time, Human Resource appraisal, Resources status, Product quality and process involvement of employees.
Realign Manufacturing Strategies	Lean production, agile manufacturing, recycling processes, total quality management practices.
Reorganize Management	Organization structure, Leadership role, recruitment, culture, Strategic planning.

The organizations are referred to identify and look into the above mentioned (Table 2.1.1) the elements and the relevant indicators to achieve the economic sustainability and to determine the actual status of sustainability and to set the future target to accomplish the sustainable development manufacturing.

2.2 Environmental Sustainability

The environmental sustainability refers to the less wastage of resources, low pollution, prevention of natural resources and recycling in an organization. The organization focus to invest in these all domains since years ago but still this ecological instability is increasing yearly (ul Haq and Boz, 2020). The environmental management requires resetting the procedures in order to lessen the wastage and lower the pollution in the manufacturing processes. There are several definite ecological

manufacturing practices such as dropping raw materials usage, recycling hard dissipate, and redesigning of environmental friendly products. The ecological dimension is not a static but it carries non ignorable major issues especially in the manufacturing sector (Oláh et al., 2019). The considerable elements are green management, utilization of resources, pollution, ecological seriousness, and natural atmosphere. In Table 2.2.1 each of the elements is illustrated with the relevant indicator.

Table 2.2.1 *Elements with indicators to assess the Environmental Sustainability*

Elements of Environmental Sustainability Evaluation	Associated Indicator in Manufacturing Perspective
Green Management	Set ecological budget, seeking of environmental certification, green concerns and compliance, Green human resources implications
Utilization of Resources,	Add new technological devices and software to reduce the use of energy, water and encourage Recyclable solid wastes
Pollution	The implication of latest innovative method in the manufacturing would reduce the air pollution, water pollution, land pollution
Ecological Seriousness	Avoid dangerous input, output, wastes
Natural Atmosphere	Relocate the eco-system services, biodiversity, land use, development of rural areas

The organizations are referred to recognize and peek into the above mentioned (Table 2.2.1) the elements and the pertinent indicators to attain the Environmental sustainability and to decide the genuine status of sustainability and to locate the prospect target to complete the sustainable development level.

2.3 Social Sustainability

The social sustainability is recently started taking into the consideration by the manufacturing organization in order to enhance the sustainability. In fact the latest researchers are not considering any organizational sustainably without taking the social role of organization in the sustainability (Atanda, 2019). This dimension of sustainability is based on philosophical, ethical, economic, psychical, and technological perspectives. Social sustainability consists on the inner human

recourses, outside population and community performance. The employees of an organization and the common community or customers are the main identifier of the social sustainability (Roca-Puig, 2019). The major pillars to be considered in order to attain the social sustainability are; labour management, human rights, community commitment, customers' concerns, and business management practices. In Table 2.3.1 each of the elements is illustrated with the relevant indicator.

Table 2.3.1 *Elements with indicators to assess the Social Sustainability*

Elements of Social Sustainability Evaluation	Associated Indicator in Manufacturing Perspective
Customers' Concerns	Private life protection, access to essential services, low quality, non-responsive behaviour, unethical advertisements and marketing tactics
Community Commitment	Safety of local community, educational input, healthcare benefits, job creations, societal investment, cultural investment and technological development
Human Rights	Do look strictly into child labour, freedom of association, discrimination
Business Management Practices	Avoid corruption, fair-trading, understanding foreign cultures and revise managerial approaches
Employment Management	Provide ethical working conditions, social dialogue, customers issues, human resources development

In order to attain the societal level of sustainability the organization requires relooking the identified elements (Table 2.3.1). Notably, they can use the indicators to determine the real status of the social sustainability.

3. Conclusion

The managements are the core factor to determine the sustainability, providing the awareness about a collective sustainability is not enough to achieve it. Although the several enterprises are not considering accomplishing the sustainability till yet. There are three proportions of sustainability such as economic, social and environmental. The majority of successful companies provide these services at an affordable price to their employees as they follow the social elements to get the

sustainable development. This paper is useful contribution towards the organizations as they need clear defined lines to work on in order to attain the sustainability development. Sometimes, organizations invest more in one domain for instance environmental side, but they neglect the other two economical and societal. This study recommends the management to relook into the three dimensions of sustainability as it is incomplete if any of the dimensions is ignored. The conceptualization of sustainability's three domains is very noteworthy for the manufacturing enterprises due to the most recent emerging issues around the globe.

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