

Sustainability Business Model to Tackle Energy Transition and Meeting Future Challenges

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Abstract

Can a Business Model become an useful tool for the Managers of the Indian Power sector to meet the challenges arising out due to energy transition? Probably, “Winners Sustainability Model[®]”, a management tool developed with the sole intention of Business Sustainability, may be helpful in strategizing and converging the efforts towards this.

Based on the varied training and consultancy experience, the author has developed a generic Business Excellence model or a Sustainability Framework and named it as “Winners Sustainability Model[®]” to address sustainability issues of the businesses. This model, rather framework, can be used to address and assess the change related issue. The model also supports energy related strategy supporting innovation, Learning and Development, Legal and Regulatory etc.

This model can be an integral part for the development of the corporate business strategy and can be percolated down further as lead and lag measurement parameters in the corporate Balance Score Card or unit level SMART objectives and even up to KRA and KPI of the individuals so that efforts towards any ensuing change can be focused effectively. This model provides a framework for effective deployment and also can be used as an ‘Assessment Tool’, which shall be able to find out Opportunities for Improvement and Non-Conformity along with their impact levels adequately.

The Application of the model shall follow the following important steps:

1. The model is incorporated from the Strategy Development phase itself. Considering the model as a framework, the management of the organization and the assessors agree on a protocol. The protocol points become the parts of the business strategy.
2. The next step is the deployment of strategy. The organization ensures implementation of the protocol points with sanctity.
3. Third major step is assessment or audit. The protocol is used to pinpoint the positioning of the organization for the sustainability per se. The assessment report will contain the following:

S – Strength; C – Conformity; OFI – Opportunities for improvement; NC – Non-conformity Impact level of the non-conformities as “High”, “Medium” and “Low” and NC closure activities as “Easy” and “Difficult”

4. After this, the organization may even go for a compliance audit/assessment
5. There may be possible benchmark of performance for each of the categories included in the framework.

The framework of the Winners’ Sustainability Model[®] is divided into 10 (ten) distinctive Non-finance Modules. The Modules of the Model (or Framework) are as follows:

Module 1	- Leadership and Governance (L&G)	Module 7	- Human Focus
Module 2	- Legal and regulatory requirements/compliance (C)	Module 8	- Environment
Module 3	- Risk assessment (RA)	Module 9	- Corporate Social Responsibility (CSR)
Module 4	- Work and Organization Management (WM)	Module 10	- Operational & Business Excellence
Module 5	- Occupational Safety (OS)	Almost all modules will be helpful to assess and envisaged the challenges occurring due to energy transition.	
Module 6	- People’s competency/learning and development (L&D)		

1.0 Introduction

Present Indian energy sector is predominantly fossil fuel based. Coal is the prime fuel for thermal power plants. Crude oil is used for industrial boilers. Petrol and diesel for surface transportation. Aviation fuel for the aircraft is also derived from fossil fuel.

So far, the energy transition is concerned, we are intended towards use of renewable energies, biodegradable and eco-friendly fuels. Surface transportation to be by EVs which are likely to come in a big way for terrestrial transport. Aviation by using biological fuels which are already under test. For power sector, transition from centralized coal based super thermal stations to localized renewable energy generating stations.

The transition is inevitable, one, to save earth from global warming and other ecological problems and secondly to get away from expensive import of fossil oil fuels. For power sector the changes in generation pattern will also necessitate changes in transmission pattern, distribution pattern, load dispatching modalities, cross subsidy pattern etc.

Infirm power from wind and solar energies will need to be backed up by controllable sources such as pumped storage plants. The low “capacity utilization factors” and low efficiencies of renewable sources will make the power costlier than cheap fossil fuel-based power. The transition will be cost intensive, which may result into consumer resistance.

Efficient and practical methods of energy storage need to be found. Bio degradable batteries, cheaper batteries, dependable inverter devices will open up new challenges. Repairs and maintenance of state-of-the-art electronic devices, generating devices in rural areas will provide skill set problems. Import export tariff in net metering will need to be more lucrative to draw in small roof top solar generators. As there is no major breakthrough in battery technology and their high cost, the transition to hydrogen fuel may be a less problematic option. Hydrogen cells are easy to handle, disposable and cost could be lesser due to mass production possibilities.

2.0 How the Transition Brings in Challenges?

Any transition is a process to change. And any change causes turbulence. Energy transition is no exception. This turbulence brings in instability, which needs to be countered through a sustainable.

For controlling the turbulence, as a first step, we need to know ourselves first; our present capacity and capability and the future requirement that the transition would bring. This means, we need to make a stock of the present situation with appropriate method of monitoring and measurement and a

robust process of gap analysis. We must know where and why the gap exists and how can it be reduced. And then develop and deploy a business strategy that can neutralize the turbulence. This will call for a systematic strategy with appropriate learning integration.

Skill gap may be found at various operational areas and at various levels of the organizations. So as skill development activities in Indian power industries is concerned, activities may be grouped as per the requirements. In this VUCA world, where everything is volatile, uncertain, complex and ambiguous, gap generation is so natural and common phenomenon that now it is almost impossible to eliminate it fully. At the best, the gap may be reduced. This is the biggest challenge that transition would bring.

3.0 Change and Business Sustainability

The concept of sustainability is composed of three pillars: Economic, Environmental, and Social—also known informally as Profits, Planet, and People or ‘3P’s. This gives a framework called ‘Triple Bottom Line’. Of course, we may add three more ‘P’s (Prosperity, Peace and Partnership) to the most important of this ‘3P’ called People.

The energy transition and the subsequent changes in operation philosophy, maintenance practices, supply chain management – all would have impact on all these ‘3P’s. Zero harm, the first focal point of business sustainability, means no incident like accident, occurrence, unintentional fire or discharge or any abnormal activities, which is harmful to the life, property and environment.

A recently published report identified that 100 energy companies have been responsible for 71% of all industrial emissions since human-driven climate change was officially recognized. the energy transition is preliminary aimed to reduce these industrial emissions with a consideration as the duty of corporations to redress climate change through environment-friendly power generation techniques. Adaptation of a “Business Sustainability Model” helps the organization to systemize and monitor their performances.

4.0 Innovation to Manage Transition

Innovation, which plays a very crucial role for both business survival as well as sustainable growth, can manage the transition arising out of any change effectively. As a result, order of the day is to look for innovative ways to tackle these issues and innovation can certainly play a very crucial role here and appear as a business survival.

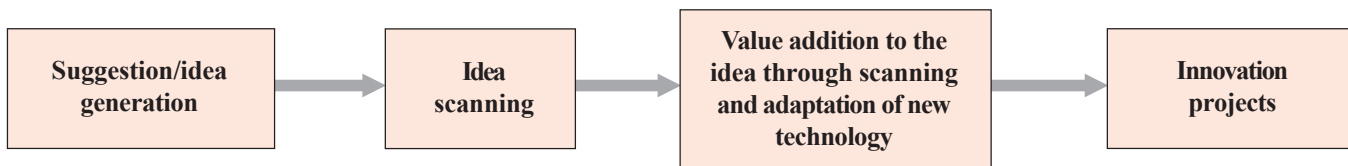


Figure 1: Steps that amalgamates ideas and technology

Organizations need a strategy and robust process for obtaining steady flow of ideas from their employees, who are closest to the processes and have their ears to the ground. Perhaps the most common, and certainly the oldest type of initiative to tap ideas, is the suggestion scheme. However, these ideas need to be enriched and converted into successful innovation through adaptation of latest technology.

Technology adaptation is an initiative to manage changes. Often this may not appear to be very much financially viable. However, many of our corporate houses have been doing it fruitfully only because they have a systematic process for “New Technology Scanning and Adaptation”. The following steps, as mentioned in Figure 1, are generally followed.

The same story is here too. The organization may not sustain their innovation for want of a robust “Business Sustainability Model”.

5.0 Business Model Framework to Manage Transition

As a business consultant, we felt, the approach initiated by the business house is anecdotal and hence needs to be processed based with a strategic support for its long-term sustainability.

We developed a specific “Business Sustainability Model” with an evaluation framework, which can be helpful during both development as well as deployment phases of the business strategy to achieve high level of business sustainability.

This Framework can be percolated as lead and lag measurement parameters in the corporate Balance Score Card or unit level SMART objectives and even up to KRA and KPI of the individuals. Assessment report shall be able to find out opportunities for improvement and non-conformity rightly along with their impact levels. The report may also indicate the sustainability index of the organization. The organizations can systematically meet their overall climate change mitigation goals by adopting this model.

6.0 Strategizing Business Sustainability

Strategizing business sustainability with an intention to manage change is a proven technique. We developed a framework for assessing the sustainability of the organization with a focus on the intersection of environmental, social/cultural and economic systems through the lens of the science, social science and humanities.

We have named this framework as “Winners’ Sustainability Model”[©] (Copyright Registration No. L – 104410/2021), which is one such low-cost generic, fairly simple and straightforward tool that helps the organization to achieve a high level of sustainability.

7.0 Winners’ Sustainability Model”[©] (Copyright Registration No. L-104410/2021)

7.1 Model Objective

The objective of the Winners’ Sustainability Model[©] is to produce a fairly simple and straightforward tool that they could enhance business sustainability

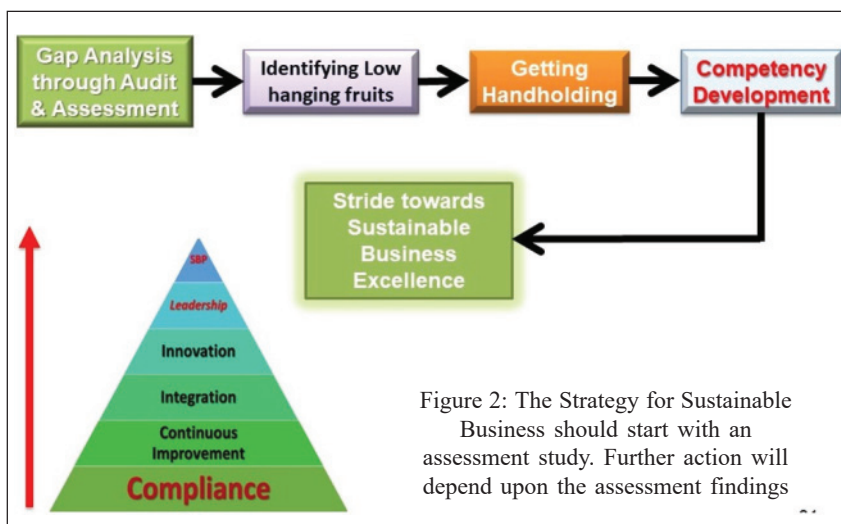


Figure 2: The Strategy for Sustainable Business should start with an assessment study. Further action will depend upon the assessment findings

considerably. One of the major strengths of this model is that it is quite compact and focused, while still maintaining the depth of sustainability issues and coverage of both human and ecosystem dimensions along with the organization work method and system improvement.

The model has been made with input taking from various standards and applicable rules and regulations, best industry practices etc. However, it may be customized based on the nature, corporate requirements and QHSE and CSR Policy of the auditee organization.

Keeping changes and transition in mind, assessment questions may be slightly skewed towards innovation, change management and human issues along with assessing/addressing the system as well as managerial effectiveness.

7.2 Applicability of the Winners' Sustainability Model

The application of the model shall follow the following important steps:

1. The model is incorporated from the strategy development phase itself. Considering the model as a framework, the management of the organization and the assessors agree on a protocol. The protocol points become the parts of the business strategy.
2. The next step is the deployment of strategy. The organization ensures implementation of the protocol points with sanctity.
3. Third major step is assessment or audit. The protocol is used to pinpoint the positioning of the organization for the sustainability per se. The assessment report will contain the following:

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Protocol Questions (Answers must be supported with evidence)	Evidence	S/ C/ OFI/ NC	Impact Level - High/ Medium/ Low	Implementation – Easy/ Difficult	Score	Scoring Guidelines and Remarks
Does it cover all categories of sources of hazards - people, equipment, environment, materials?			High	Easy	0 to 5	Depending upon of the level of implementation of the process
Do risk management processes cover all routine, non-routine, normal, abnormal activities in the organization?			Medium	Easy	0 To 5	Depending upon of the level of coverage across the organization
Does the organization report formally all high risks to the Top Management/CEO/ Director?			Low	Easy	0 or 5	If yes 5 ; If no 0 Also 0 in case of selective reporting

Figure 3: Typical assessment table

4. After this, the organization may even go for a compliance audit/assessment
5. There may be possible benchmark of performance for each of the categories included in the framework.

7.3 The Modules

The framework of the Winners' Sustainability Model© is divided into 10 (ten) distinctive non-finance modules. The modules of the model (or framework) are as follows:

- Module 1 - Leadership and Governance (L&G)
- Module 2 - Legal and Regulatory Requirements / Compliance (C)
- Module 3 - Risk Assessment (RA)
- Module 4 - Work and Organization Management (WM)
- Module 5 - Occupational Safety (OS)
- Module 6 - People's Competency/Learning and Development (L&D)
- Module 7 - Human Focus
- Module 8 - Environment
- Module 9 - Corporate Social Responsibility (CSR)
- Module 10 - Operational and Business Excellence

Almost all modules will be helpful to develop and deploy a strategy for combating changes in the organization.

7.4 Model Implementation

Focused attention towards business sustainability and managing changes can be achieved conveniently if the model is incorporated as 'Frame Work' of the business strategy, which are then percolated as lead and lag measurement indicators in the corporate balance score card or unit level SMART objectives and even up to KRA and KPI of the individuals covering a wide spectrum of issues.

Training shall be provided to the associates to implement the protocol points of the frame work. An audit or assessment is conducted by a third party and the organization is then assessed for its sustainability performance and a score in the form of Organizational Sustainability Index (OSI).

7.5 Organizational Sustainability Index (OSI)

An audit or assessment also may be conducted preferably by a third party and the organization is then assessed for its sustainability performance and a score in the form of Organizational Sustainability Index (OSI) is given. To develop such a sustainability index, various factors critical to the business are considered and the most suitable ones are adopted.

Depending upon the importance and impact, each protocol set points may carry marks or weightage. The OSI can be simply marks, per centage or grade.

If the protocol point is a strength (S) or the organization is just fulfilling or conforming (C) to the protocol requirement, generally full marks are given. 0 (zero) is given for all NC and some OFI. Partial marks on OFI is a subjective matter and will depend on the impact level and the difficulty in implementation.

8.0 Conclusion

From the discussion hitherto we had, it has been now to some extent understood that a Business Sustainability Model like "Winners Sustainability Model©" a management tool developed with the sole intention of business, may become a useful tool for the managers of the Indian power sector to meet the challenges arising out due to energy transition by strategizing and converging their efforts.

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