Integrated Management System for Sustainability – A case study from an IT Complex

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ABSTRACT

Management Systems based on ISO 9000 standards covering Quality (ISO 9001), Environment (ISO 14001) and Health and Safety (OHSAS 18001), are initiatives taken by organizations to bring in process focus. Integrated Management Systems (IMS), improve the effectiveness of such initiatives, by focusing on composite output measurement, integrated process control and optimum resources provision. This paper presents the implemented case study of an integrated management system for achieving sustainability for a large IT complex. This IMS puts together management systems for Quality, Environment, Safety and Energy.

Keywords: Integrated Management System (IMS), Sustainability, PDCA

1.   Introduction

Sustainability is a significant factor for IT complexes especially in countries like India , where huge commercial complexes with millions of square feet and thousands of employees , are created in an around large cities , leading to   potential concerns ranging from bio diversity to energy , environment and waste besides social issues. Whereas such IT complexes are considered to be economic centric, for long term for the long term existence they have to take into account for sustainability as well. To achieve this IT complexes need a balanced strategy for sustainability and sound practices to internalize it. This paper presents the structure and the functioning of an Integrated Management System (IMS) model that drives the sustainability practice in a huge IT Complex in India. A case example illustrating the successful implementation of this sustainability model in a large IT complex in India.

2.   Sustainability

The word "Sustainability "is gaining increasing importance in the context of balanced and responsible performance of business organizations (Blewitt, J 2008). This has necessitated organizations (especially those connected with international market)   to work toward sustainable process compliance apart from product or service delivery.   Many organizations are orienting themselves to various levels of sustainability compliance ranging from minor programs in this direction, to measuring sustainability indices.

Sustainability can be simply defined as the balanced co existence of Economy, Society, and Environment, having following three pillars – **3Ps**. (Elkington J, 1994)

Profit   – Yes an organisation must earn profit to exist
People   – But the people of the organisation and society must be cared for
Planet   – and care for environment and earth too.

2.1 Sustainability Approach in IT Complex .

Based on the above sustainability understanding, the sustainability model deployed by the IT Complexhas been founded on the following major factors. (see Table-1)

Sustainability Pillar	Business Focus	Code
Profit	Operational Efficiency	OE
Planet	Environment	EV
Planet	Waste	WS
Planet	Water	WR
Planet	Bio Diversity	BD
People	Society	SO
Planet	Energy	EN

Table-1 Sustainability Factors

The sustainability model developed and used for IT Complex enables the effective alignment of sustainability goals and sustainability practices as presented in the following figure. (See Fig 1).
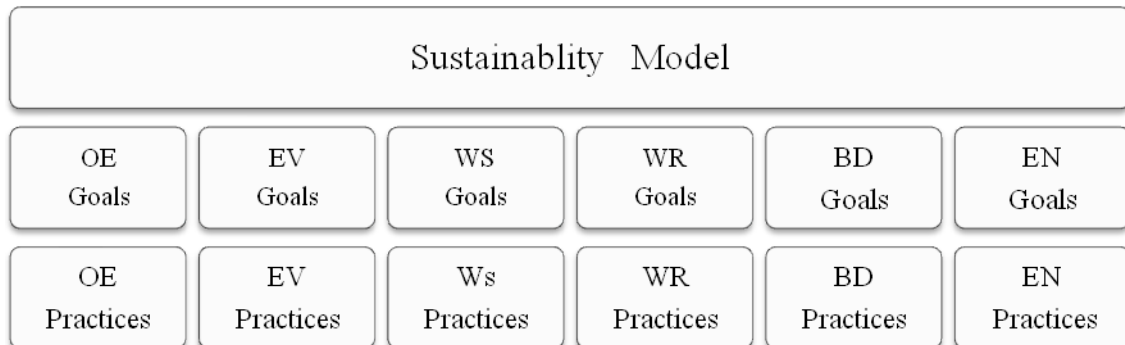

Figure -1 Sustainability Model

3.   Integrated Management System (IMS)

An Integrated Management System IMS – is a management strategy that integrates the management Systems and processes. Organizations with process focus implement management systems like Quality Management Systems (QMS) based on ISO 9001, Environment Management Systems (EMS) based on ISO 14001, Safety Management systems (SMS) based on OHSAS 18001. Progressive organizations integrate all these management systems into an IMS, facilitating common resources, common processes, common documentation and common internal and external audits.   IT Complex had implemented these standards (QMS/EMS/SMS) at a very early stage, with an IMS approach and has been certified for IMS in the year 2011. Subsequently Energy Management System (EnMS) was implemented in IT Complex in the year 2012 which was also included in the IMS, enhancing the IMS into a sustainability model. The broad frame work of the IMS model including the EnMS is given in the following figure. (see Fig 2)
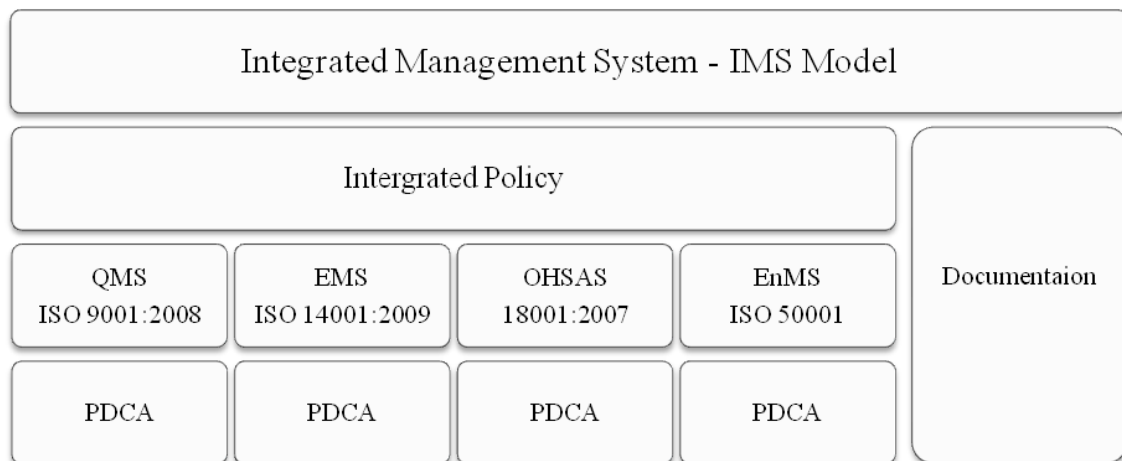
Figure -2 – IMS Model

The above figure illustrates that the IMS is driven by a common policy and common documentation base. The documentation has typical levels like Apex Manual, Departmental Processes, Guide lines and formats. In the IMS structure envisaged for Ramanujan IT city, all the four systems like QMS, EMS, SMS and EnMS, have common policy, Manual, and processes. At guidelines level and formats level the required variants are provided.

PDCA approach (Ishikawa K, 1985) is used to ensure the daily management by aligning policy, processes, tools and action.

4. IMS – Sustainability Model.

The enhancement of the IMS model into IMS- Sustainability model is achieved by incorporating the sustainability requirements in the IMS model in a consistent way. The superimposition of IMS model and the sustainability model is shown in Figure-3. The figure explains how the sustainability success factors like , OE , EV, WS ,WR ,BD,SO and EN (see Table -1) have been integrated with the IMS structure. The model provides PDCA focus to ensure continuous improvement. The structure and functioning of the model is explained below. Relationship with PDCA indicated in bracket.

4.1.   Integrated Policy (P)

Integrated policy provides the policy level guideline for the implementation of IMS- Sustainability model.

4.2.   Sustainability Success Factors (P)

The sustainability factors like Operation Efficiency (OE), Environment (EV), Waste (WS), Water (WR), Bio Diversity (BD), Social (SO) and Energy (EN) are identified and appropriately linked with QMS, EMS, SMS and EnMS systems. (see Fig 3)

4.3.   System Planning (P)

For QMS, system planning is the identification of gaps and quality planning. For EMS and SMS, it is the identification and prioritization of environmental aspects and safety hazards, and EnMS it is energy review base and base lining.

4.4.   Objective setting (P)

Based on the System Planning appropriate objectives are set for QMS, EMS, SMS and EnMS. The sample list objectives identified for IT Complex is given in Table -2.
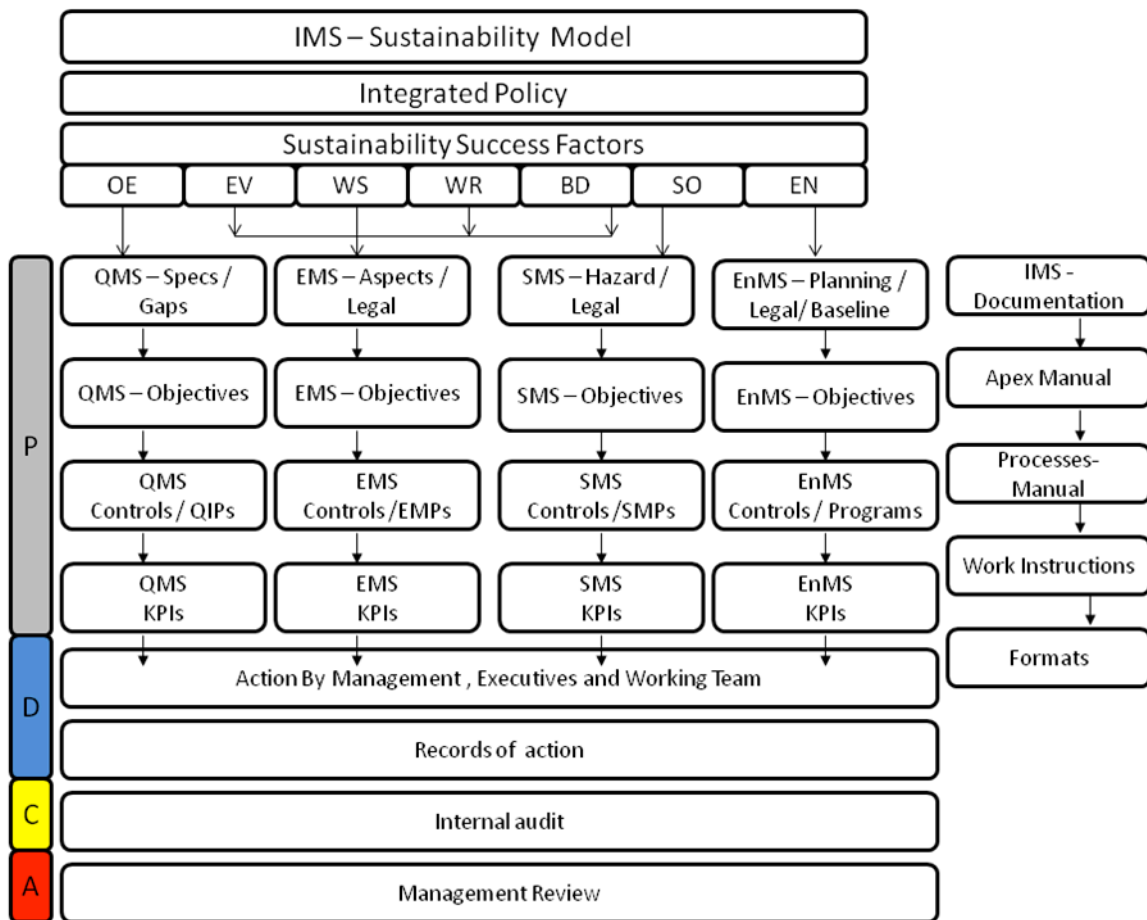
Figure – 3 IMS Sustainability Model

4.5. Management Programs (P)

Management programs are established for QMS/EMS/SMS and EnMS which are aligned with objectives.

4.6. Key Performance Indicators - KPIs (P)

KPIs are established for QMS/EMS/SMS and EnMs – to track the efficiency of the process and process control.

4.7. Actions and Records (D)

The internalization of the processes is ensured by tools for the process steps, which are a set of formats and templates maintained for QMS / EMS/ SMS and EnMS.

4.8. Internal Audits (C)

Internal audits to ensure the effective compliance to IMS is carried out once in 3 months.

4.9. Management Reviews (A)

Structured management reviews are carried out once in 3 months to act on the resources requirements and other interventions.

5.   Conclusions

- Driving sustainability through IMS approach has helped IT Complex in alignment and focus.
- Common processes lend themselves for easy measurement and control.
- KPIs are established and monitored for each sustainability factor.
- Significant improvements have been achieved in each of the sustainability factor namely OEE, environment, Waste, Water, Bio Diversity, Social and Energy, which is summarized in the following table.