BUSINESS PROCESS RE-ENGINEERING: A STRATEGIC APPROACH FOR ALIGNED PROCESS IMPROVEMENT IN INFORMATION TECHNOLOGY

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Abstract

IT has transformed itself from a support function to a strategic business function, discharging vital roles right from business strategy formulation to operations. The effect of this transformation is that IT is under increasing pressure to demonstrate its value. Given the investment in IT applications, the increasingly complex nature of application infrastructure and demand for continuous improvements associated with cost reduction it is acknowledged that there is a strong need for institutionalizing robust performance management systems and continuous improvement approach to help IT organizations stay competitive.

This paper lays emphasis on viewing BPR as a strategy for process improvement in IT and how an aligned process improvement approach will facilitate process improvement initiative. The authors share their experience of successfully integrating two such tools – The IT Balanced Score card and Six Sigma – to help IT organization manage their performance and also pursue a continuous improvement journey, thereby continuously re-engineering their processes as required.

The authors have developed and tested a unique framework to bring radical change in Business by facilitating the implementation of IT-BSC known as IDEAS©. This has been integrated with the Design for Six Sigma (DFSS) using DMADV approach to attain breakthrough performance improvements in IT processes.

Keywords

BPR, BSC, IT-BSC, Six Sigma, DFSS, DMADV

1. Introduction

IT is the happening business today and has grown in size over a period of time. Dependence of Organizations on IT has also become very high. Under these conditions management of IT and deriving value out of IT had been a real challenge. IT-Performance Management (ITPM) is one of the biggest challenges that lie in front of the CIO today. Organizations are strained to identify ways and means to manage IT to bring about breakthrough improvements and derive maximum returns from their IT Investments. This calls in for a customized performance management approach for IT. The objective of this paper is to show case our experience in synergizing the best practices for Performance Management and Breakthrough Transformation to help the organizations to align IT-Objectives and Strategies to their business goals.

"To optimize IT's impact, CIO's will focus on process, performance, marketing IT, and business innovation" – Forrester

This paper focuses into the first two aspects of Process and Performance. The authors propose an experiential based methodological approach towards this problem integrating two powerful and tested process improvement tools - "BSC" and "Six Sigma". This paper lays its emphasis on how to leverage Six Sigma to the Balanced Score Card approach to help the organizations align IT-Objectives and strategies to the Business goals and Six Sigma as the means to achieve the targets and sustain.

2. IT- A Business Function

In order to understand IT as a business it is imperative to understand the fact that Customer requirements or Service Level agreements (SLA's) determines the way an IT organization responds with the services it offers. This leads to a set of strategic goals that outline expected process performance. The need arises from the customer and the processes are defined or redefined to meet those requirements. The process performance is determined by the consistent quality delivered in an unpredictable environment, and continuous improvement of the same along with cost reduction .Effectively delivering the same will indicate the IT organizational capability to meet the emerging business needs. This mandates the IT unit to function like a business unit or profit center more than a support function as it was earlier. This requires the development of good business strategies and efficient operations to deliver the products and services required in implementing the strategies

2.1 Value Perspective of- IT

There is consistent pressure to deliver results within an optimized cost. CIOs are working hard to ensure that things are done right, but they hardly have time to validate whether the right things are being done. Doing the right things and doing things right is a not only a balancing act, but also forms a part of shrewdness of the organization which makes it a leader or bleeder in the competition. This requires understanding IT value perspective. Understanding the business value of IT has two significant aspects namely

- Effective utilization of IT assets – Resource Optimization Challenge
- Business value delivered by IT – ROI Challenge

Effective utilization of IT assets directly translates into maximization Value of the Business delivered by IT and is relatively a complex component that needs to be ascertained by a cross functional mapping of IT assets value and applied value it creates also the return it generates at the end of the process.

2.2 Measuring IT Performance

"*You cannot manage what you cannot measure*"-

Performance Measurement is the process of assessing progress toward achieving predetermined goals. Performance Management is building on a process adding the relevant communication and action on the progress achieved against the predetermined goals. If Performance Management is the superstructure of a building then Performance Measurement is its foundation. Processes, such as planning, budgeting, sales and billings have direct correlation to the measurements of the various processes that are carried out in the business.

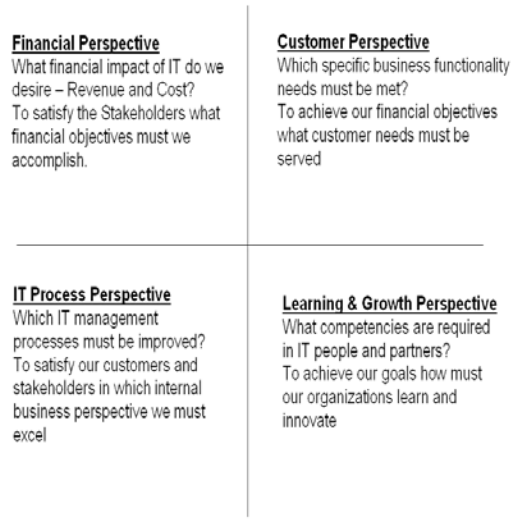
Before embarking on a journey of process improvement and transformation an organization has to baseline its performance. This is essential to ascertain its current "as-is" situation and validate its measures & metrics to identify whether it's using right measurements.

This requires clear articulation of business processes and IT Process that supplements these business processes and their value mapped which may or may not be financial. So the measurement system for such a set up must be a balanced one which not only focuses on financial but also non financial parameters associated with it and helps in managing the process. In order to do that we

must understand the IT processes and map it to the business processes and objectives, identify the process disconnects & gaps, implement performance improvement plans. "It's is easily said than done". This calls in for a Performance Management System - a system that translates Vision and Strategy into action; lays down measures that aligns the organizational objectives with strategies, monitors and drives performance. An approach for building such a Performance Measurement system is the IT - Balanced Score Card (IT-BSC).

IT-Balanced Scorecard is a classical derivative of BSC that uses measurement systems to effectively align, communicate, focus and review Strategy Implementation across the IT organization. IT-BSC primarily focuses on balancing the measures across the four dimensions of financial, internal processes, customer, and learning and growth using leading and lagging measures (Fig 1)

Fig 1 – Four Perspectives of IT-BSC



2.3 BPR and DFSS

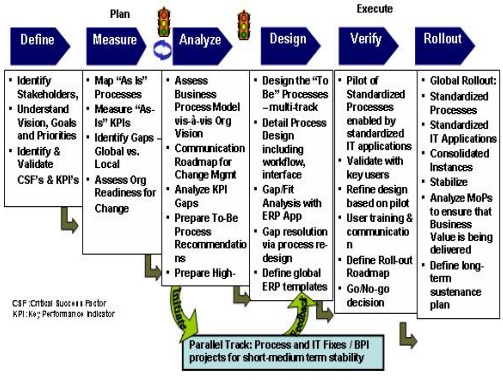
The primary focus of any Performance Management initiative is to set meaningful goals and track process performance in achieving these results. This could be addressed by understanding the process gaps and identifying improvement initiatives or by creating the processes that will facilitate the attainment of these objectives. Prima focus to achieve this would be to improve organizational process effectiveness and efficiency. The new process initiatives and process improvement to the current operations will help in realizing organizational objectives and customer specified requirements and SLA's

Designing or re-designing a process starts with understanding the gap that lies between expected results and the "as is" performance. More often than not it has been seen that processes need break through improvement or complete revamp to deliver the business requirements. This leads to "Business Process Re-Engineering" using a systematic approach like DFSS (Design for Six Sigma). (Fig 2)

DFSS is a methodology for designing / re-designing products and/or processes from ground up and facilitates usage of Six Sigma methodology early in the life cycle. Such an approach will facilitate maximizing the value derived out of the IT investment. It also helps to optimize IT investment for meeting the business objective that is balanced in financial and non-financial aspects. DFSS focuses on predictive design that will facilitate early problem identification and faster penetration to markets at lower costs with robust products for customers delight

DFSS based BPR is the framework to bring about this process transformation in IT for better results.

Fig 2 – DFSS – DMADV Methodology for BPR



3. Satyam's Approach

Information technology (IT) is the key enabler of "radical change", the crux of BPR. IT and Business Process share a mutual relationship. Business processes are aimed at maximizing effectiveness of functional tasks and we view IT as more than an automating alternative. It is used to primarily streamline the way business is done. Integrating these two entities involves measuring and base lining of the current process and comparing it to the requirement and bridging the gaps using appropriate process creation. Based on our experience at Satyam and also from working with leading corporates across the globe, we have developed an integrated and systematic approach to the redesign of a business enterprise. The Framework discussed here is a blend of best practices like IT-BSC/Six Sigma which are proven tools to bring about the Process Revolution in the organization. We look at BPR as a structured strategy that is maneuvered by integrating the principles of

- IT Balanced Scorecard (Business Analysis, Process Harmonization) using IDEAS@ methodology (Fig 3)
- Process Modeling (DFSS- a Proven Six Sigma Methodology) using DMADV approach.

3.1 IDEAS© to Align

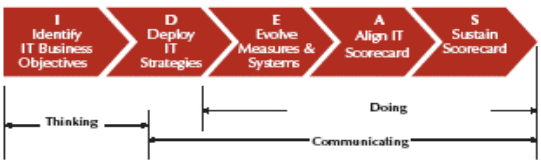


Figure 3 Illustration of IDEAS© - Satyam's Proprietary Methodology for implementing IT-BSC

The authors have developed and tested a unique approach for facilitating the implementation of IT-BSC known as IDEAS©

Identify IT business objectives: Understand the business strategy and Critical Success Factors to ascertain IT objectives under the four parameters of IT BSC.

Deploy IT strategies: Evaluate alignment of IT strategies to business goals and facilitate BSC deployment framework.

Evolve measures & measurement systems: Evolve measures and metrics to understand the value perspective of IT, build an effective measurement system, facilitate the monitoring of resource utilization for optimization and establish process control.

Align the IT scorecard: Design and facilitate deployment of IT scorecard across IT organizations, using either a process-based or a customized tool approach.

Sustain Scorecard: Develop & deploy a Six Sigma based BPR model to monitor, review and improve the scorecard measures thro process re-engineering.

Benefits of IDEAS© - "ALIGN"

- Articulation of objectives
- Localizing efforts for global results
- Institutionalizing performance-driven culture
- Growing with balanced perspectives
- New learning and development opportunities

3.2 Satyam's customized approach for BPR:

Our Business Process consulting team has helped companies meet their business objectives and gain competitive advantage through the power of superior business processes through Business Process Reengineering.

Business Analysis – This involves detailed study of business processes and operations and capturing to-be process and system functionality requirements to support IT enablement efforts.

Process Harmonization - Mapping differences in the process across multiple operations and then

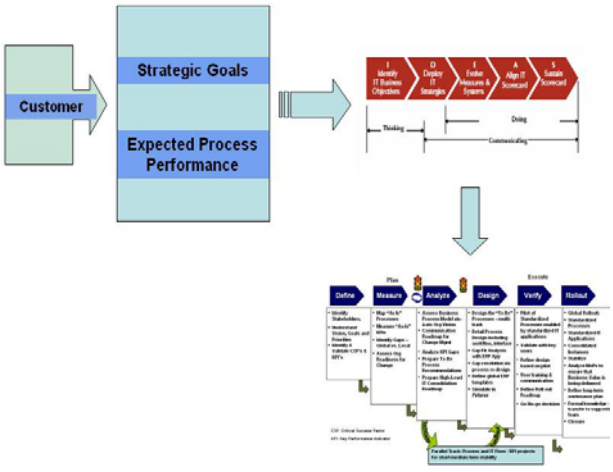
creating one version of process keeping in view the best practices to achieve uniformity in business operations.

Process Modeling – Mapping & Modeling To-Be business processes covering detailed breakdown view of sub processes, activity sequences, and decision points, actors involved and input-output at each stage. This is done by using Satyam's iSTRIVE™ approach. Where we

- Evaluate the contribution of each selected application to business on various defined criteria
- Arrive at a robust decision framework to retain, retire, replace and re-engineer applications
- Establish a governance model for the decommissioning process

Benefits:

- Exposure to best practices in application rationalization and decommissioning
- Improve current processes
- Framework for driving and managing process improvement initiative
- Achieve cost savings



3.3 An Integrated Approach for aligned BPR in IT

Figure 4 : Integration of IT-BSC and DFSS for BPR

The approach stated above could be articulated as two step process for deploying Business Process Reengineering as a strategy for bringing about Radical change and facilitate effective IT-Performance Management

- Establishing Balanced Scorecard
- Re-engineering the Process Using DMADV

3.3 A Case Study

We share the following experience in a leading Global Petroleum Major.

Challenge: To deploy process improvement initiatives and re-design appropriate IT Processes aligning to the business strategy.

Approach: Created a IT-BSC using IDEAS© and process redesign through DMADV-R and iSTRIVE™ for aligning the IT process with Business Strategy

Benefits: A systematic management system that facilitates

- Measurement, Monitoring and Control
- Understand Value Perspective of IT
- Establish process baselines and subsequent Sigma levels
- Aligned IT Process Improvement with Business Process Re Engineering

4.0 Conclusion

In this paper we have shared a framework for Business Process Re Engineering in IT based on the Balanced Scorecard technique, completed with DFSS approach adding appropriate elements of information management, business – IT alignment and radical redesign of Process. The suggested framework is a strategic management tool that

enables management to follow up the measures and to drive performance based on the goals that were set based on the Customer requirements and SLA's. This methodology caters to the specification and integrates a balanced performance tracking system along with building a robust process which will help in executing good strategy successfully and constantly improving upon it.

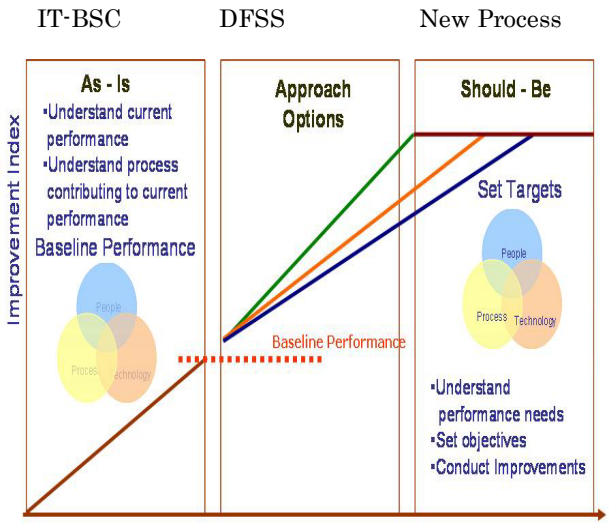


Figure 5: Prescribed BPR as an approach for aligned IT-Performance Improvement-adopted from Quality Management Principle

Our Experiences proves us such a methodology can be of meaningful for IT BSC helps us to focus on the relevant areas of improvement to attain the desired goals; coupled with robust Processes built based on Six Sigma .This framework can be implemented as such, in many cases, the total cost of implementing such a framework can be lower than expected, since many of the needed operational measures may already be available to build a scorecard and lead way to the process re engineering

Deploying BPR as a strategy is almost like embarking on a journey to some far-off, exotic location through unknown territory: It sounds like a great place to go, but you're not exactly sure how to get there. Such a journey could be successful and will yield results when one has a map and necessary utilities. Similarly IT-BSC will be the map that leads way towards business process reengineering through DFSS.

This will facilitate

Efficiency of IT in execution, development and operations in business – Addressing the challenge of *Aligning IT to Business*

Effectiveness of the process (through Resource Optimization) that use IT to attain Business goals – Addressing *ROI* Challenge

Integrating Efficiency and Effectiveness will lead the way to Performance Enhancement. And we are here with our BPR approach for aligned process improvement in IT using IDEAS© and iSTRIVE™

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