Business Intelligence – Improving Performance of Reengineering Project

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Abstract

Traditional competitive intelligence solutions are typically one-sided. Intelligence firms deliver either technology tools to facilitate the intelligence process, independent research deliverables that supplement internal analysis or general consulting to guide the process. Once the solution or report is delivered, the firm is on his own, to piece together these cookie-cutter components into an effective, integrated business intelligence function.

The task of reengineering project is to produce intelligence - a unique combination of hardware, software, communications, information and human - and process facts and judgements, opinions and evidence through the complex calculus of human reasoning. It make the chaotic intelligible, the inchoate coherent and the disorganised clear-cut. In the course of a year, it will gather and evaluate millions of different pieces of information, improving reengineering project. They will organise each information element into one or more of more than 3,000 distinct categories and select the most salient items for distribution to the consumers who depend upon their work. The specific information may vary from day to day, but the results always have the impeccable, clock-like precision and reliability.

*Key words: intelligence, business intelligence tools, organisational change,
                    reengineering*

JEL Classificiation: L21, L20, L24

1. INTRODUCTION

1.1. Business Intelligence tools

Organisations invest in information technology in an effort to more expeditiously gather and analyse information and to create and share knowledge that can be leveraged for improving performance. An important component of this investment is in Business Intelligence (BI) systems. BI is identified as an amalgamation of reporting, data mining

and online analytical processing applications. (Hoelscher, 2002:66) BI provides access to data that has been integrated and cleaned so that it can be analysed, manipulated, transformed, and combined to discover correlations, trends, and patterns that offer new insights, aid in decision making, and alter the competitive scene.

Business intelligence (BI) tools enable organisations to understand their internal and external environment through the systematic acquisition, collation, analysis, interpretation and exploitation of information. Two classes of intelligence tools are defined. (Carvalho and M. Ferreira, 2001:333). The first class of tools is used to manipulate massive operational data extract essential business information from them.

Examples include decision support systems, executive information systems, online-analytical processing (OLAP), data warehouses and data mining systems. They are built on database management systems and are used to reveal trends and patterns that would otherwise be buried in their huge operational databases. (C.W. Choo, 1998) The second class of tools, sometimes called competitive intelligence tools, aims at systematically collecting and analysing information from the competitive environment to assist organisational decision making. This review focuses on the second class of tools, where information is mainly gathered from public sources such as the Web.

Fuld et al. found that the global interest in intelligence technology has increased significantly over the past four years (L. Fuld, K. Sawka, J. Carmichael, J. Kim, and K. Hynes, 2002). They compared 13 BI tools based on a five- stage intelligence cycle: (1) Planning and direction, (2) Published information collection, (3) Source collection from human, (4) Analysis, and (5) Report and inform. We are interested in step 2, 4, and 5 which can be automated by using information technologies. They concluded that more BI tools should use intelligent agents to dynamically retrieve information (step 2), existing analysis capabilities of BI tools are still weak (step 4), and these tools generally provide good reporting capabilities in textual, table or chart formats (step 5).

A closer look at Business Intelligence tools reveal their weaknesses in content collection, analysis and interface used to display large amount of information. In general, many BI tools simply provide different views of the collected information (e.g., *Market Signal Analyzer*, *BrandPulse*) but not more thorough analysis. Some more advanced tools use text-mining and rule-based techniques to process collected information. *For example*, *ClearResearch Suite* extracts information from documents and shows a visual layout of relationships between entities such as people, companies, and relationships, and events. However, such kind of analysis capability is not commonly provided in many BI tools. In terms of the interface of displaying the results, many BI tools integrate their reports with Microsoft Office products and present them in textual format. Owing to the limited analysis capability, they are not capable of showing the landscape of large number of documents collected from the Web.

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From our literature review, we found three research gaps. First, existing BI tools suffer from a lack of analysis and visualization capabilities. There is a need to develop better methods to enable visualization of landscape and discovery of communities from public sources such as the Web. Second, hierarchical and map displays were shown to be effective ways to access and browse information.

However, they have not been widely applied to discover business intelligence for reengineering projects. Third, none of the in developing business intelligence systems, existing search engines allows users to visualize the relationships among the search results in terms of the relative closeness of them. Therefore, we identified two research questions:

(1) How can document analysis techniques be used to assist in the business intelligence cycle?

(2) How can hierarchical and map display of information help to discover business intelligence on the Web for improve performance of reengineering project?

2. WHY IS GOOD REENGINEERING PROCESS SO IMPORTANT?

As long ago as 1931, the distinguished American economist, William Edwards Deming said that "If you can't describe what you are doing as a process, you don't know what you're doing!"(Deming, 1990:450)

In IT today it is still difficult to describe how a business requirement ends up as part of a functioning business service. This is almost never written down as a single contiguous process. At best we seek to articulate this across several different process methodologies, at worst we recognise no process methodology at all and re-invent the wheel with each new project development.

In reengineering project it is essential that we should know what we are doing. It is equally essential that we should know record and understand what we have done and how we did it. This is the essence of balanced control with good management and to achieve this we need to ensure that we follow a defined, consistent and repeatable process. Process is there to help people and it has some very important attributes that are essential to the delivery of quality BI Services as shown in Figure 1 below.
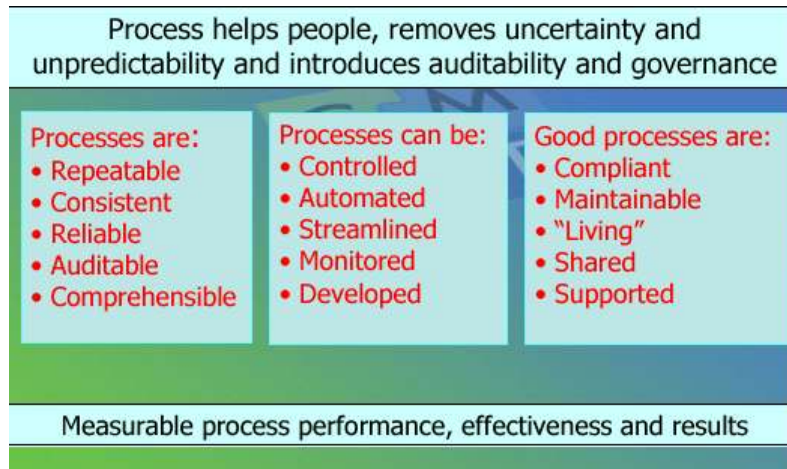
Figure 1 – The attributes of Process

2.1. The common objectives of Reengineering Project

Fundamentally, a reengineering project should have, as its common objective, the delivery of a fully functional business/customer service. The reengineering project should be complementary to and supportive of business processes within the enterprise. The reengineering team consists of designers, implementers, and people well versed in technology. The team should be cross-functional, and include members from all potentially impacted organizations.

We can suggest that the following tasks be part of any functional management approach to reengineering projects:

- **Step 1—Define** functional objectives, determine and follow a functional management strategy for streamlining and standardizing processes, and establish process, data, and information systems baselines from which to begin process improvement. A framework is established by defining these baselines, objectives, and strategies.

- **Step 2—Analyze** business processes to eliminate non-value-added processes, simplify and streamline limited value added processes, and examine all processes to identify more effective and efficient alternatives to the process, data, and system baselines.

- **Step 3—Evaluate** alternatives to baseline processes through a preliminary functional economic analysis to select a preferred course of action.

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- **Step 4—Plan** implementation of the preferred course of action by developing detailed statements of requirements, baseline impacts, costs, benefits, and schedule.

- **Step 5—Approve.** Extract from the planning data the information needed to finalize the functional economic analysis, which is used by senior management to approve proceeding with the proposed process improvements and any associated data or system changes.

- **Step 6—Execute** the approved process and data changes, and provide functional management oversight of any associated information system changes. Technical developers provide information system changes on a fee for- service basis in response to the OSD Principal Staff Assistant's validated requirements, and in conformance with a DoD-wide technical integration and migration strategy.

3. ENSURING REENGINEERING SUCCESS

Much research has been conducted to determine why many reengineering projects fail or miss the mark. Department of Defence (DoD) has indicated that successful reengineering planning organisations have a number of common elements. They are strongly supported by the CEO, they are small or medium- sized elements, most have a willingness to tolerate change and to withstand the uncertainties that change can generate, and many have systems, processes, or strategies that are worth hiding from competitors.

Following are six critical success factors that ensure reengineering initiatives achieve the desired results as identified by author Sharon L. Caudle in his publication.

Table-1: Six critical success factors

1	**Understand reengineering**	- Understand business process fundamentals. - Understand reengineering. - Differentiate and integrate process improvement approaches.
2	**Build a business case**	- Have necessary and sufficient business - mission delivery - reasons for reengineering. - Have the organisational commitment and capacity to initiate and sustain reengineering. - Secure and sustain political support for reengineering projects.

3	**Adopt a process management approach**	▪ Understand the organisational mandate and set mission - strategic directions and goals cascading to process-specific goals and decision - making across and down the organisation. ▪ Define, model, and prioritise business processes important for mission performance. ▪ Practice hands-on senior management ownership of process improvement through personal involvement, responsibility, and decision-making. ▪ Adjust organisational structure to better support process management initiatives. ▪ Create an assessment program to evaluate process management.
4	**Measure and track performance continuously**	▪ Create organisational understanding of the value of measurement and how it will be used. ▪ Tie performance management to customer and stakeholder current and future expectations.
5	**Practice change management and provide central support**	▪ Develop human resource management strategies to support reengineering. ▪ Build information resources management strategies and a technology framework to support process change. ▪ Create a central support group to assist and integrate reengineering efforts and other improvement efforts across the organisation. ▪ Create an overarching and project-specific internal and external communication and education program.
6	**Manage reengineering projects for results**	▪ Have clear criteria to select what should be reengineered. ▪ Place the project at the right level with a defined reengineering team purpose and goals. ▪ Use a well-trained, diversified, expert team to ensure optimum project performance. ▪ Follow a structured, disciplined approach for reengineering.

Apart from lack of top-level leadership, some of the problems that have plagued reengineering project efforts are related to the lack of performance measurement information, the lack of cost drivers, and insufficient process mapping. Following are a number of other factors that can hinder reengineering success that Hammer and Champy have suggested:

- Try to fix a process instead of changing it.
- Do not focus on business processes.
- Ignore everything except process redesign.
- Neglect people's values and beliefs.
- Be willing to settle for minor results.
- Place prior constraints on the definition of the problem and the scope of the reengineering effort.

- Allow existing, corporate cultures and management attitudes to prevent engineering from getting started.
- Try to make reengineering happen from the bottom up.
- Assign someone who does not understand reengineering to lead the effort.
- Skimp on the resources devoted to reengineering.
- Bury reengineering in the middle of the corporate agenda.
- Dissipate energy across a great many reengineering projects.
- Fail to distinguish reengineering from other business improvement programs.
- Concentrate exclusively on design.
- Try to make reengineering happen without making anybody unhappy.
- Pull back when people begin to resist making reengineering's changes.
- Drag the effort out.

3. CONCLUSION AND SUMMARY BENEFITS

The promise and the possibilities of reengineering are exciting and monumental, just as the early writings on it suggested. But to remain vital, the process of reengineering must rethink and reengineering itself to look at how the process of implementing it has often led it astray. The power of his approach can be released only when a company embarks on the process with courage and with a willingness to set sail into unknown territory. The engagement of an experienced consultant can make this venture easier but it does not remove the risk, the uncertainty, or the struggle that the company must undergo to consciously and radically change itself.

Reengineering can generate a significant change in product and service requirements, a significant change in controls or constraints imposed on a business process, or a significant change in the technological platform that supports the business process. Implementation of a reengineering initiative usually has considerable impacts across organizational boundaries, as well as impacts on suppliers and customers. For this reason, we consider that using business intelligence we can improve with success the performance of the reengineering project.

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