Chapter 10

Enterprise Integrated Business Process Management and Business Intelligence Framework for Business Process Sustainability

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ABSTRACT

In the modern business scenario, organizations are vesting high efforts in managing process sustainability as part of their operations management practices. The global environmental concerns for the welfare of the society have facilitated this change. Research studies have reported Information and Communication Technology (ICT) as one of the prerequisites in developing and maintaining efficient business processes. The process sustainability related initiatives and various processes related regulatory compliances have created the need for sophisticated IT tools like BPM (Business Process Management) and BI (Business Intelligence) in organizations. Thus with the advancement of ICT, a strong desire to enhance the business process performance through BPM and BI applications is felt across organizations. However, there is scant research available on leveraging the advantages of these applications in sustainability development. Therefore, this paper aims to present a conceptual architecture framework using an integrated BPM and BI solution to develop an orientation among practitioners and academicians towards the inclusion of ICT in attaining a sustainable, energy efficient business operations or processes. The framework is based on the literature pertaining to the role of BPM and BI in process sustainability as well as from the inputs of practitioners involved in the field of BPM and BI.

1. INTRODUCTION

The need to attain business process sustainability has always been a matter of concern amongst business managers, consultants and academicians due to the scarcity of organizational resources such as time, capital, manpower etc. Modern organizations are under continuous pressure because of the cost over-heads incur due to inefficient business processes. Despite having sophisticated control mechanisms, they are unable to control the burden of social costs associated with those processes. The rise in the social cost is a double-edged sword for the organizations as it triggers the rise in pollution, global warming and other environmental hazards because of organization's inefficient business processes. This has cre-ated the need to implement changes in organizational structures, redesign business processes and other organisational aspects with a sustainability orientation (Kogetsidis, 2011). The above idea gets support from Brundtland Commission's Report which defines sustainable development as "the development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (United Nations, 1987).

The term 'Sustainability' in literal term means perpetuity. Propounded micro-economic theories suggest that any living or non-living resource in the world is limited. Therefore, sustainability of human race or Mother Nature is under tremendous threat due to increasing industries, intense competition, rivalry and uneven distribution of world resources. However, with the increase in industrial growth, technology has matured and has helped industries to gain momentum with unlimited boundaries. Usage of information technology (IT) applications in organizations mainly focuses on the reduction of time and cost factor through automation. In the same context, Business Process Management (BPM) can be used as a tool to automate manual activities and design efficient business process as a part of process improvement initiatives. BPM provides the development and continuous improvement of organizational strategies and makes companies focus on redesigning their business processes to take competitive advantage by delivering value to customers (Gallotta, Garza-Reyes, Anosike, Lim, & Roberts, 2016).

The present economy, known as the 'New Economy' relies on the advanced information technology (IT) systems to manage the huge amount of information related to different functional departments of the organization (Filos & Banahan, 2001). This involves frequent interactions between the business processes of the organization. The effective and efficient management of information is still a challenge for most organizations. It is reported in the literature that despite the right alignment of the corporate vision and mission of the organization, the strategic information derived from different functions is highly ineffective. The reason can be attributed to the huge amount of different types of inter-dependent information available in the systems. Therefore, it is a high time to introduce Business intelligence (BI) in the business process management paradigm. BI is used in the process of procuring digital information regarding the entire organization so that data-driven strategic measures can be taken to gain competi-tive advantage (Malhotra, 2001). It is surprising that though sustainability has a tremendous impact on the organization's bottom-line, few organizations are adopting sustainability as part of their operations management practices. However, Burnes (2003) reported the failure rate of these sustainability initiatives is quite high and may range between 40% to 70%. There can be multiple reasons behind the failure but the real question should be asked is "what makes few successful and others not?" It is highly important that organizations should be clear on the sustainability *perspective* and its *area of influence* before delv-ing into any sustainability initiative. It has been observed that organization's lack of focus in achieving sustainability through the seamless integration of all functional departments causes the major blow in its success. Therefore, this paper aims to present a conceptual framework using an enterprise wide integrated

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