Chapter 6

Extending and Applying Business Intelligence and Customer Strategies for Green ICT

Bhuvan Unhelkar
University of Western Sydney & MethodScience, Australia

Amit Tiwary
Solution Architect, Australia

ABSTRACT

This chapter extends and applies the concepts of Business Intelligence (BI) within business to help improve its environmental performance. When BI is used to improve customer service and optimize business performance, the result can also be used to reduce the carbon footprint of the organization. Various ways to improve customer service as well as cross-selling and up-selling to customers are discussed in the context of the carbon footprint – and with suggestions to improve that footprint. This is a strategic approach to the use of BI in environmental performance – resulting in what is called Environmental Intelligence. The suggestion is to use Business intelligence to improve the overall resources usage (by reducing energy and paper usage) of the organizations without compromising on customer services. For example if the customers are serviced on first contact, the follow on activities involving multiple contacts with customers and marketing paper material could be reduced. This will provide the organizations with better customer satisfaction and also reduce the extra energy usage in developing heavy duty BI infrastructure and paper used for the marketing purpose to woo back the customers.

INTRODUCTION

There is a phenomenal amount of intelligence that exists in business. This intelligence, which is more than mere analysis of data and informa-

tion, has been garnered by businesses to achieve enhanced customer experience and related business efficiencies. Such intelligence is gleaned from the organization's various systems (such as ERP, CRM, HR and SCM), corresponding processes and vast amount of underlying data in

multiple formats. These various elements of an organization's intelligence that are embedded in its systems and data emerge as invaluable decision making tools when they all work together. This systems level collaboration and correlation results in ongoing improvement in customer service and optimization of business activities. The creation of this collaboration and correlation is business intelligence. Business intelligence (BI) is the process of using collective information within the organization to optimize its business performance, enhance its customer service and provide it with overall competitive advantage and sustainability.

Such business intelligence has tremendous potential for application in the modern-day environmentally-conscious business world. In fact, the business environment today mandates a highly intelligent approach that would make optimal use of all resources available to an organization. The environmental issues of a business are not too far removed from the issues of business efficiency and customer service. However, care needs to be taken to ensure that the environmental considerations of business do not embroil the business in expensive and, occasionally expansive, projects emanating out of its greening effort. For example, an organization embarking on environmental consciousness should not add to the already existing complexities of data warehouses and business systems in the organization. Another simpler example would be that a reduction in paper usage by the organization should not result in greater use of server space. An environmentally astute approach would make use of existing intelligence, without overloading it, to enable the organization to achieve its environmental objectives. This chapter is dedicated to the discussion on the use of existing business intelligence towards what the lead author calls "environmental intelligence". Environmental Intelligence (EI) has been discussed and presented earlier by Unhelkar and Trivedi (2009a, 2009b, 2009c) and has been researched by the lead author. This chapter aspires to think creatively in the use of Business Intelligence (BI) towards EI

UNDERSTANDING ENVIRONMENTAL INTELLIGENCE – A CUSTOMER PERSPECTIVE

While business intelligence (BI) is made up of complex correlations that are possible through the business systems, the end-goal of BI is to improve business efficiency and improve the decision making. An intelligence that imbues the people, processes and technologies in organizations with a new value system provides potential beyond imagination. In the current business environment, BI is achieved by having heavy duty data warehouses, processes and servers with the processing power to slice and dice available data. The focus of business intelligence within organizations has been primarily for enhancing customer service and bringing about business efficiencies. However, in this discussion, these BI reasons are considered in the context of their impact on the environment (carbon footprint). The end result is Environmental Intelligence (EI). EI is a combination of building on top of existing BI infrastructure as well as coming up with new initiatives relating to the environment. As earlier defined by Unhelkar and Trivedi (2009a), "Environmental Intelligence can be understood as the use of business tools and technologies to understand and coordinate a response to the environmental challenge". This understanding of EI creatively extends the understanding of Business Intelligence (BI) as it enables the derivation of knowledge that is specific to the carbon footprint of the organization.

Effective and efficient information flow is a vital ingredient of business.. Business Intelligence not only integrates information to improve the flow, but it also seeks out otherwise hidden and archaic information that may make sense in a particular context. For example, while serving a travel customer in a remote location, current information on the region, its weather and its political climate is taken into account through collaborative systems. Another example is to facilitate cross-

Related Content

3D Modelling of Urban Environment: Data Collection Techniques
Eberhard Gulch (2001). *Environmental Information Systems in Industry and Public Administration (pp. 25-40).*
www.irma-international.org/chapter/modelling-urban-environment/18527

Geographical Information Systems for Biomass Estimate and the Search for Renewable Energy Sources
Giuseppe Borruso (2012). *International Journal of Agricultural and Environmental Information Systems (pp. 26-39).*
www.irma-international.org/article/geographical-information-systems-biomass-estimate/62064

Service Path Attribution Networks (SPANs): A Network Flow Approach to Ecosystem Service Assessment
Gary W. Johnson, Kenneth J. Bagstad, Robert R. Snappand Ferdinando Villa (2012). *International Journal of Agricultural and Environmental Information Systems (pp. 54-71).*
www.irma-international.org/article/service-path-attribution-networks-spans/68009

Automatic Detection and Severity Assessment of Pepper Bacterial Spot Disease via MultiModels Based on Convolutional Neural Networks
Qiufeng Wu, Miaomiao Jiand Zhao Deng (2020). *International Journal of Agricultural and Environmental Information Systems (pp. 29-43).*
www.irma-international.org/article/automatic-detection-and-severity-assessment-of-pepper-bacterial-spot-disease-via-multimodels-based-on-convolutional-neural-networks/249690

Microbes as Indicators of Water Quality and Bioremediation of Polluted Waters: A Novel Approach
Barkha Sharma (2018). *Microbial Biotechnology in Environmental Monitoring and Cleanup (pp. 44-60).*
www.irma-international.org/chapter/microbes-as-indicators-of-water-quality-and-bioremediation-of-polluted-waters/196791