

# Review of Business Intelligence and Portfolios Performance with Case Study

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## Abstract

This paper deals with a most important issue that is the effects of business intelligence on portfolios performance, business intelligence can be summarized as the operation to offer the right needs for the right customer which helps the companies' sustainability and continuity also integrity. A study and statistical analysis is performed on some samples of companies and portfolios collected and studied in Jordan. A relationship via business intelligence for both prices discrimination and switching costs and success percent is constructed.

**Keywords:** business intelligence, portfolios, switching costs.

## 1. Introduction

Business intelligence systems combine operational data with analytical tools to present complex and competitive information to planners and decision makers. The objective is to improve the timeliness and quality of inputs to the decision process. Business Intelligence is used to understand the capabilities available in the firm; the state of the art, trends, and future directions in the markets, the technologies, and the regulatory environment in which the firm competes; and the actions of competitors and the implications of these actions. The emergence of the data warehouse as a repository, advances in data cleansing, increased capabilities of hardware and software, and the emergence of the web architecture all combine to create a richer business intelligence environment than was available previously.

Although business intelligence systems are widely used in industry, research about them is limited. The term "business intelligence" was originally coined by analysts and consultants of Gartner, Inc. (Anandarajan et al., 2003). Since then, various stakeholders such as consultancies, software vendors, practitioners, and last but not least the scientific community have used the term rather vaguely to describe processes and systems dedicated to the systematic and purposeful analysis of an organization and its competitive environment. Consequently, BI is primarily aimed at supplying top management with relevant information in order to support strategic decision making. This fact has been particularly emphasized by Chamoni and Gluchowski who conceive BI as a collective term for characterizing systems capable of supporting an organization's top management in its planning, controlling, and coordinating activities based on internal data from accounting and finance as well as on external market data (Gluchowski, 2001; Chamoni and Gluchowski, 2004). These definitions of BI bear two important implications:

(1) Oftentimes, approaches to BI are marked off by means of supported functions, systems, or system types (Kemper et al., 2004). For example, Mertens (2002) differentiates between seven distinct approaches to or variants of BI that represent functions (such as "continuation of data handling and information processing", "filter against information overload", and "storage of information and knowledge") or systems ("management information systems", "early warning system/alerting", and "data warehouse" (DWH)) for the most part.

(2) BI is primarily aimed at supplying an organization's management circle (i.e. all levels of management as well as supporting staff functions) with decision-relevant analytic information in support of their management activities (Kemper et al., 2004). Operational tasks (i.e. the execution of business processes and support processes) are scarcely supported by BI processes or systems. Dien D (et al. 2010), As more retailers evolve into customer-centric and segment-based business, business intelligence )BI( and customer relationship management )CRM( systems are playing a key role in achieving and maintaining competitive advantage .For the past ten years, the authors have had the rare opportunity of observing and interviewing employees and managers of three different management teams at three separate Fingerhut companies as they experimented with various ITs for their companies .When the first Fingerhut company peaked in 1998, as many as 200 analysts and 40 statisticians mined the database for insights that helped predict consumer shopping patterns and credit behavior .

Data mining and BI helped Fingerhut spot shopping patterns, bring product offerings to the right customers, and nurture customer relationships .By 1998, Fingerhut was the second largest catalogue retailer in the U.S .with revenues nearing \$2 billion .However, after Federated acquired Fingerhut in 1999 and made it a subsidiary, Fingerhut Net, it suffered great losses and was eventually liquidated .Finally, a new company, Fingerhut Direct Marketing, was resurrected in 2002 under a new management team, and it once again became successful .What went right? What went wrong? The paper concludes with CRM and BI systems success factors and a discussion of lessons learned.

## 2. Literature Review

Maira Petrini a, Marlei Pozzebon, (2009), In this paper we explore how management of sustainability in organizations can be supported by business intelligence (BI) systems .We suggest that BI has an important role to play in helping organizations implement and monitor sustainable practices .We pay particular attention to one phase of any BI project, the information planning phase, i.e., the systematic way of defining relevant information in order to integrate it in reporting activities. Using grounded theory, the main contribution of our study is to propose a conceptual model that seeks to support the process of integration of socio-environmental indicators into organizational strategy for sustainability. Mohamed Z, 2008, Business intelligence (BI) systems provide the ability to analyze business information in order to support and improve management decision making across a broad range of business activities .They leverage the large data infrastructure investments (e.g .ERP systems (made by firms, and have the potential to realize the substantial value locked up in a firm's data resources .While substantial business investment in BI systems is continuing to accelerate, there is a complete absence of a specific and rigorous method to measure the realized business value, if any .By exploiting the lessons learned from prior attempts to measure business value of IT-intensive systems, we develop a new measure that is based on an understanding of the characteristics of BI systems in a process-oriented framework .We then employ the measure in an examination of the relationship between the business process performance and organizational performance, finding significant differences in the strength of the relationship between industry sectors .This study reinforces the need to consider the specific context of use when designing performance measurement for IT-intensive systems, and highlights the need for further research examining contextual moderators to the realization of such performance benefits. Tobias Bucher and Anke Gericke and Stefan Sigg,2009, Purpose – The purpose of this paper is to deliver an insight into the interaction effects of process-oriented management and business intelligence (BI). (Design/methodology/approach – The paper takes up publications from the fields of BI and business process management and analyzes the state-of-the-art of process-centric business intelligence (PCBI) .(To highlight the potentials and limitations of the concept, two exemplary use cases are presented and discussed in depth .Furthermore, a vision for the technical implementation is sketched. Findings – PCBI is found to play an important role in an organization's strive for competitiveness. The concept's potential benefits are significant .However, the overall levels of adoption and maturity of the concept within real-world organizations appear to be rather low at the moment. Research limitations/implications – The paper discusses solely two exemplary use cases – the most that could be done within the scope of a journal publication .Therefore, the explanatory power and the representativeness of the results need to be scrutinized in detail. Practical implications – The paper highlights the practical significance of PCBI .It therefore represents a useful source of information for both practitioners and academics who are interested in improving the efficiency and effectiveness of an organization's information supply in support of its processes. Originality/value – The paper motivates, describes, and analyzes the concept of PCBI .Furthermore, it provides examples of the concept's adoption and benefits from a practitioner's point of view. Hai Wang and Shouhong Wang, 2008, Purpose – Data mining (DM) (has been considered to be a tool of business intelligence (BI) for knowledge discovery .Recent discussions in this field state that DM does not contribute to business in a large-scale .The purpose of this paper is to discuss the importance of business insiders in the process of knowledge development to make DM more relevant to business. Design/methodology/approach – This paper proposes a blog-based model of knowledge sharing system to support the DM process for effective BI. Findings – Through an illustrative case study, the paper has demonstrated the usefulness of the model of knowledge sharing system for DM in the dynamic transformation of explicit and tacit knowledge for BI .DM can be an effective BI tool only when business insiders are involved and organizational knowledge sharing is implemented. Practical implications – The structure of blog-based knowledge sharing systems for DM process can be practically applied to enterprises for BI.

Originality/value – The paper suggests that any significant DM process in the BI context must involve data miner centered DM cycle and business insider centered knowledge development cycle. B.S. Sahay and Jayanthi Ranjan, 2008, Purpose – Rapid innovation and globalization have generated tremendous opportunities and choices in the marketplace for firms and customers .Competitive pressures have led to sourcing and manufacturing on a global scale resulting in a significant increase in products .The paper tries to identify the

need for real time business intelligence )BI (in supply chain analytics.Design/methodology/approach – The paper provides argument and analysis of the advantages and hurdles in BI. Liezl van Dyk and Pieter Conradie, 2007, Purpose – This article seeks to address the interface between individual learning facilitators that use course management systems )CMS (data to support decision-making and course design and institutional infrastructure providers that are responsible for institutional business intelligence. Design/methodology/approach – The design of a data warehouse is proposed that draw data from institutional transactional systems to provide decision support to individual action researchers. A prototype data warehouse is built to evaluate by means of a case study the usefulness validity of analyses performed. Findings – Many facilitators of learning draw manually the same type of queries from CMS data for purposes of action research .On the other hand, more and more HEI infrastructure providers create data warehouses to support many kinds of decision-making .It is possible and valuable to follow a business intelligence approach to facilitate the queries drawn by individual action researchers from course management systems )CMSs.( Practical implications – The expectation exists that as the technology on which CMSs, as well as business intelligence tools are built evolves, the creation of full-scale business intelligence will become more feasible and scalable. Originality/value – This article addresses the gap between individual action researchers that use CMS data to support decision making and course design, on the one hand, and institutional infrastructure providers that are responsible for institutional business intelligence on the other hand. Research questions are asked and addressed and processes are designed to manage business measurements consistently. Sheila Wright and Jonathan L. Calof, 2006, Purpose – Seeks to examine three empirical studies carried out in Canada, the UK and Europe with comparisons drawn on their approach and findings. Design/methodology/approach – The studies were compared using a framework, developed by the authors, along four central elements and two influencing drivers. Findings – Little measurement consistency or output value was evident .The current focus on isolated studies, carried out at a macro level, is discouraged. Practical implications – Future studies need greater rigour, and consequently might be of more value to academics and practitioners. Originality/value – The lack of research consistency is highlighted . Recommendations are made for stronger adhesion with other disciplines to develop a robust research agenda. Solomon Negash, 2004, Business intelligence systems combine operational data with analytical tools to present complex and competitive information to planners and decision makers .The objective is to improve the timeliness and quality of inputs to the decision process .Business Intelligence is used to understand the capabilities available in the firm; the state of the art, trends, and future directions in the markets, the technologies, and the regulatory environment in which the firm competes; and the actions of competitors and the implications of these actions. The emergence of the data warehouse as a repository, advances in data cleansing, increased capabilities of hardware and software, and the emergence of the web architecture all combine to create a richer business intelligence environment than was available previously. Although business intelligence systems are widely used in industry, research about them is limited .This paper, in addition to being a tutorial, proposes a BI framework and potential research topics .The framework highlights the importance of unstructured data and discusses the need to develop BI tools for its acquisition, integration, cleanup, search, analysis, and delivery .In addition, this paper explores a matrix for BI data types )structured vs .unstructured (and data sources )internal and external (to guide research.

One suggested model for parameters affect the business intelligence is shown in fig. 1 below.

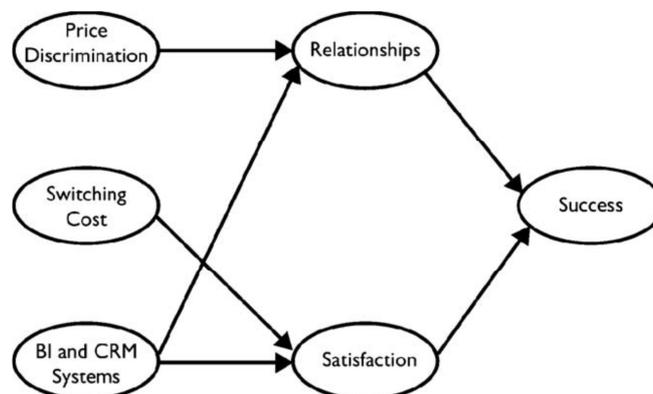


Fig. 1 PI and CRM model

### 3. Results and Discussion

This paper focuses in finding the effect of both prices discrimination and costs switching on business intelligence.

-Samples, Data Collections and Analysis

Table (1) Samples and Data Collections

Portfolio	% of prices discrimination	Abs. Switching costs%	Number of consumers	Number of right consumer	%of success
1	5	5	150	60	40
2	10	10	180	100	55
3	15	15	200	130	65
4	20	20	300	200	67
5	25	25	500	350	70

Fig.2 shows the percent of success of portfolios depending on percent of prices of discrimination and absolute switching costs percent.

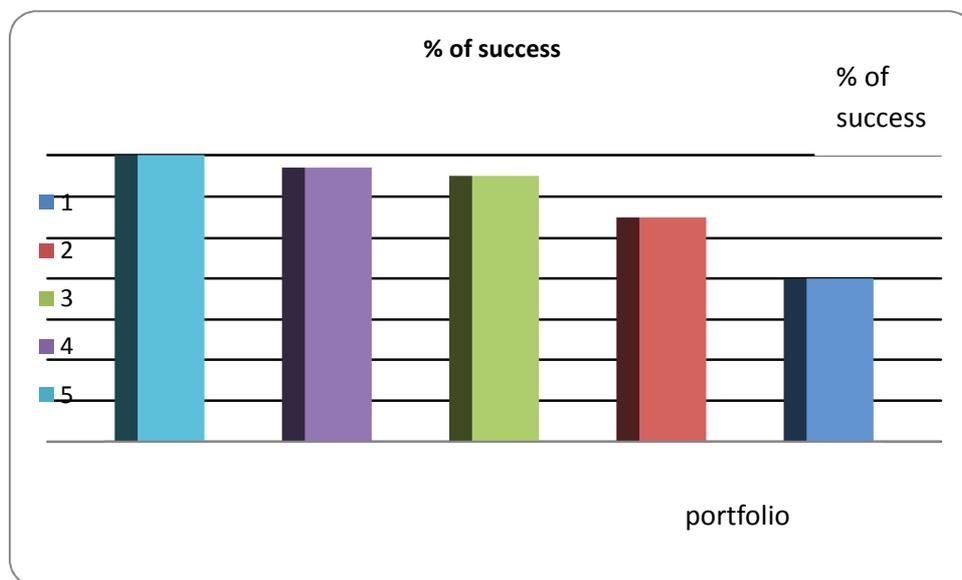


Fig.2 percent of success of portfolios

#### 4. Conclusions

Both prices discrimination and costs switching percents effect number of right consumers in studied portfolios. Also the percent of success affected directly by switching costs. As the percent of switching costs increases and then number of customers increases and so percent of success increases.

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