A Business Intelligence Perspective for Churn Management

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Abstract

This study looks into the issue of Churn faced by various competitive industries (like telecom) from the perspective of Business Intelligence (BI). The presented work with the help of existing literature on BI takes into consideration the benefits of deploying a BI system for churn management. Sub-objective of this work also includes suggesting a conceptual framework for handling churn with the aid of a BI system. As large numbers of Business Intelligence systems are not able to meet the expected benefits associated with them, it calls for taking into account several intangible benefits along with the tangible ones. The way BI systems can assist in churn management in-line with the business strategy of the firm can enhance the strategic value of both tangible and intangible assets manifold times thereby providing a whole new dimension to organization’s value chain.

1. Introduction

Today’s dynamic business environment has escalated the need for understanding the importance of one of the most valuable and volatile intangible asset residing in the firm – ‘Knowledge’. Knowledge, which is also considered fifth factor of production in current economy and its generation play critical roles in a firm’s competitive advantage and economic performance (Barney, 1991; Grant, 1996; OECD, 1996). People are considered to be most critical entity for any organization; be it customers or employees. The longer they (people) stay with the organizations better is the probability of success. Thus, it becomes pragmatic to prevent the attrition of people by managing the churn of both customers and employees. Organizations attempt to use knowledge in order to renew their competitiveness (Chase, 1997) for managing churn of customers and employees. Business Intelligence is a system that turns data into information and then into knowledge thereby adding substantial value to firm’s decision making processes (Loshin, 2003). Shortened business cycle in present hypercompetitive business scenario has heightened the BI’s role for having faster and more informed decision making (Turban et al., 2008) and churn management.

2. Business Intelligence and Churn Management

BI encompasses the whole “decision spectrum”, ranging from strategic decisions, through tactical decisions, to operational decisions (Taylor & Raden, 2007); in spite of this in literature a universally accepted definition of BI is

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hard to find (Negash, 2004). This can be attributed to the fact that different software vendors and consulting organizations have defined Business Intelligence as per their need to suit their products (Arnott & Pervan, 2005, p. 71). Few major definition of BI are given in the table I below:

<table>
<thead>
<tr>
<th>Definition</th>
<th>Author(s)</th>
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<tr>
<td>The process of gathering and analyzing internal and external business information.</td>
<td>Okkonen et al., 2002</td>
</tr>
<tr>
<td>BI is an architecture and a collection of integrated operational as well as decision-support applications and databases that provide the business community easy access to business data.</td>
<td>Moss &amp; Atre, 2003; Papadopoulos &amp; Kanellis (2010)</td>
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<tr>
<td>Information to better understand business and to make more informed real-time business decisions.</td>
<td>Raisinghani, 2004</td>
</tr>
<tr>
<td>An organized and systematic process by which organizations acquire, analyze, and disseminate information from both internal and external information sources significant for their business activities and for decision-making.</td>
<td>Lonnqvist &amp; Pirttimaki, 2006</td>
</tr>
<tr>
<td>Business Intelligence (BI) is technologies and applications employed in use of several financial / non-financial metrics / key performance indicators to assess the present state and deciding future course of action for business.</td>
<td>Hari Misra, 2007</td>
</tr>
<tr>
<td>BI means leveraging information assets within key business processes to achieve improved business performance.</td>
<td>Williams &amp; Williams, 2007</td>
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<td>Business Intelligence (BI) refers to various solutions for enhancing the overall business performance.</td>
<td>Wang &amp; Wang, 2008</td>
</tr>
<tr>
<td>BI is the conscious, methodical transformation of data into new forms to provide information that is business-driven and results-oriented.</td>
<td>Ranjan, J, 2008</td>
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<td>BI is a set of business information and business analyses within the context of key business processes that lead to decisions and actions.</td>
<td>Popović, Turk, Jaklić, 2010</td>
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An effective business intelligence system not only aids in increasing the quality of strategic and operative planning but at the same time reduces the time used for decision-making by improving the various information processes and information quality (Hannula and Pirttimäki, 2003).

2.1. Benefits of Business Intelligence

A major topic in BI research for both practitioners and academicians that still remain relevant has been cost-benefit analysis of BI system as it is relatively easier to determine the costs but difficult to define the benefits of BI as benefits are majorly intangible in nature (Lonnqvist & Pirttimäki, 2006; Turk et al., 2006; Williams & Williams, 2007; Đekić & Mladenović-Ranisavljević, 2010). Majorly, IT investment in the past has been oriented towards improving operational efficiency as it was considered necessary at that time but the fact remains that these organizations still remains data-rich but information-poor (Williams & Williams, 2007; Davenport & Short, 2003; Dewett & Jones, 2001; Forslund, 2007; Gibson et al., 2004; Williams, 2004b).

Deploying BIS consumes considerable amount of resources and at the same time its wide applicability in both the internal and external business environments presents organisations with numerous benefits, makes it imperative to evaluate both tangible and intangible benefits before a BI project is undertaken Wu (2000). Table II given below list some major benefits observed by a firm after deploying BIS:
### Table II: Major Benefits from Business Intelligence

<table>
<thead>
<tr>
<th>Major Categories of Benefit</th>
<th>Author(s)</th>
</tr>
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<tbody>
<tr>
<td>Faster and more accurate business reporting</td>
<td>Pellissier &amp; Kruger. (2011); Dekić &amp; Mladenović-Ranisavljević (2010).</td>
</tr>
<tr>
<td>Improved decision-making process</td>
<td>Hočevar and Jaklić (2010); Dekić &amp; Mladenović-Ranisavljević (2010); Carver and Ritacco (2006)</td>
</tr>
<tr>
<td>Improved customer satisfaction</td>
<td>Hočevar and Jaklić (2010); Carver and Ritacco (2006); Atre &amp; Moss (2003)</td>
</tr>
<tr>
<td>Reduction in costs</td>
<td>Carver and Ritacco (2006); Atre &amp; Moss (2003)</td>
</tr>
<tr>
<td>Increase in revenue</td>
<td>Carver and Ritacco (2006); Atre &amp; Moss (2003)</td>
</tr>
<tr>
<td>Improved Quality of Information and Communication</td>
<td>Popović, Turk and Jaklić (2010); Yeoh, Koronios &amp; Gao (2008); Hari Misra (2007); Carver and Ritacco (2006)</td>
</tr>
<tr>
<td>Increase in market share</td>
<td>Atre &amp; Moss (2003)</td>
</tr>
</tbody>
</table>

Apart from the above mentioned benefits there are number of studies and frameworks that attempts to justify investment made on ‘Data Warehousing’ (an important technological element of BI) presenting possible sources of benefits for such investments (Watson and Haley, 1998; Watson et al., 2002; Sentry Market research and IDC study, Power, 1997). Further, payback of data warehousing investments ascends from new or improved business processes enabled by the data warehouse project itself (Taub, 1999). The main categories of business intelligence benefits should be liked to business strategy in order to achieve strategic objectives of the firm (Hočevar and Jaklić, 2010).

### 2.2. Churn Management

One of the most talked about BI benefit in literature has been improved customer satisfaction (also supported by table II above). Customer satisfaction is defined as a customer’s overall evaluation of the performance of an offering to date (Johnson and Fornell 1991). This overall satisfaction has a strong positive effect on customer retention across a wide range of product and service categories, including telecommunications services (Fornell 1992; Fornell et al. 1996). As an overall evaluation that is built up over time, satisfaction typically mediates the effects of product quality, service quality, and price or payment equity on loyalty (Bolton and Lemon 1999; Fornell et al. 1996). For an industry like telecom industry which is prone to high churn rate, overall customer satisfaction has a positive effect on the duration of the relationship for telecommunication customers (Bolton, 1998) as well as usage of telecommunications subscription services by the customer (Bolton and Lemon, 1999). With India adopting the mobile number portability in case of mobile telecom services from year 2011, all telecommunication service providers have witnessed a sharp change in the churn rate. Churn, which is often used synonymously with ‘attrition’, has been described as “annual turnover of the market base” (Strouse, 1999) in context to customers while in employees context it is more closely linked with their retention. Employee Retention has been defined as “the ability to hold onto those employees you want to keep, for longer than your competitors” (Johnson, 2000). Analysis of employee retention becomes altogether more important as its influences can be felt at multiple levels (Klein et al., 1994; Klein and Kozlowski, 2000; Raudenbush and Bryk, 2002; Yammarino and Dansereau, 2004).

In a world where technologies, processes and products are quickly duplicated by the competitors, while at the same time pace of change and level of competition are constantly increasing, it is becoming progressively difficult to keep ahead in the race. One solution is to make sense of the available data to arrive at most reliable sources of advantage—better service, increased responsiveness, stronger customer relationships, employee satisfaction and innovation that can keep a company one step ahead of its competitors always. The problem is in this information age many industries are facing the problem of ‘Data Deluge’ (The Economist, Feb 25, 2010) which makes role of BI system far more significant to the business world than ever before. The presented work attempts to provide a framework for managing churn with the aid of business intelligence system keeping in view two very important
entities of business in focus: customers and employees. Further research can be taken up to empirically validate this presented framework in an industry of choice and authors suggest Indian telecom industry for the same. The reason for suggesting Indian telecom industry is based on the fact that with adoption of mobile portability in 2011 and concept of ‘free roaming’ soon to be embraced by the said industry is going to put tremendous competitive pressure on Indian telecom players. Study can be taken up to look at the effect of business intelligence system maturity on churn management.

2.3. Maturity Models and Business Intelligence Systems

Usually, generic maturity model assumes that progress comes in stages, ultimately reaching an end goal. For the study purpose, how BIS evolve from a low-value, cost-centre operations to high-value, strategic utilities that drive market share in terms of BIS maturity model can be taken into consideration (TDWI, 2005). In literature one can find number of BIS and/or BI maturity models (TDWI, 2005; Williams & Williams, 2007) in–fact Rajterič (2010) has conducted analysis of six major BIS maturity models. Maturity model perspective of BIS provides organization with an ‘instant update’ on the status and the perspectives of their BIS initiative. For the presented work, widely accepted six-stage BI maturity model given by the TDWI institute (2005) (Table III below) has been taken into consideration as it provides sound basis for BIS maturity assessment albeit the major limitation being that it provides this from technical viewpoint only (Rajterič, 2010).

<table>
<thead>
<tr>
<th>Stage</th>
<th>Architecture</th>
<th>Analytics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parental</td>
<td>Reporting</td>
<td>Paper Report</td>
</tr>
<tr>
<td>Infant</td>
<td>Spread arts</td>
<td>Briefing Book</td>
</tr>
<tr>
<td>Child</td>
<td>Data Marts</td>
<td>Interactive Report</td>
</tr>
<tr>
<td>Teenager</td>
<td>Data Warehousing</td>
<td>Dashboard</td>
</tr>
<tr>
<td>Adult</td>
<td>Enterprise DW</td>
<td>Cascading Scorecards</td>
</tr>
<tr>
<td>Sage</td>
<td>Analytical Services</td>
<td>Embedded BI</td>
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</table>

Business Intelligence by means of its analytics prowess offers business professionals in both marketing (for loyalty based programs) and human resource domain to consolidate and monitor the various facets of two most important entities for business viz customers and employees along with their linkages to business (Custis, 2012). Persuasively, true business value of business intelligence systems lies in improvised business processes and enhanced firm performance (Popovič, Turk and Jaklič, 2010). Business professionals can use BI system strategically by deploying the same for long impacting moves like new product development; customized offers to huge number of customers, understanding employee’s job profile in accordance with minority categories and business areas, better talent acquisition and numerous other benefits. The framework given below elaborates how BI system can help businesses in their quest of obtaining strategic advantage over their competitors.

By accessing accurate, timely, comprehensive data from BI systems comprehensive analysis can be carried out for whole business very quickly which results in faster and better decision-making. It’s important to note that BI systems are technology only until they are seamlessly integrated into the business thinking (Custis, 2012) by the top management. To be effective enterprise wide, the BI implementation shall be driven by the top management (Đekić & Mladenović-Ranisavljević, 2010).
3. Conclusion

Business Intelligence empowers businesses to tap opportunities and tackle threats on a proactive basis rather than reactive basis. In current hyper-competitive scenario a manager must not be limited by administrative issues but shall take into cognizance a fact-based systematic approach to solve business problems while at the same time offering a longer-term viewpoint in order to cope up with the fast paced environmental changes. The key task of business professional is to proactively produce solutions to strategic business issues facing the one’s organization. In this quest of managers, BI system provides a vital aid to these already hard pressed professionals. While going for ‘cost-benefit’ analysis of a system like ‘Business Intelligence’ an organization must take into account numerous intangible benefits along with the tangible ones and the mode in which BI system strategically benefits the organization (Papadopoulos & Kanellis, 2010; Custis, 2012). Failure to do so will hugely undermine the book value of BI system when in reality the picture can be upside down. The way BI system can assist in churn management in-line with the business strategy of the firm can enhance the strategic value of both tangible and intangible assets manifold times thereby providing a whole new dimension to organization’s value chain.

References


