Breaking Down Silos: Business Intelligence for Non-Profit Organizations; -Case study of a voluntary health organization

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Introduction:
Most businesses have lots of data. Virtually every company collects data about employees, customers, products, sales, and transactions. Yet, most companies are data-rich but information-poor. In other words, these enterprises lack the kind of actionable information and analytical tools needed to improve profits and performance (Williams & Williams, 2007). Data has now been recognized as the enterprise asset in Profit or Commercial organizations, and so far, these organizations have been reaping the business benefits by utilizing this greatest asset though Business Intelligence (BI) systems and technology. The main tasks of a BI system include “intelligent exploration, integration, aggregation and a multidimensional analysis of data originating from various information resources” (Olszak & Ziemba 2007). BI helps massive data from many different sources of a large enterprise to be integrated into a coherent body to provide ‘360 degrees’ view of its business (Wang & Wang, 2008). Organizations are utilizing powerful BI tools to turn data into knowledge and develop insights for better decision making.

The non-profit sector is usually defined in terms of organizations that cannot legally redistribute their surplus to their owners (Pryor, 1994). They are characterized by complexity in aims, in the influences which shape their mission in society and in the diffuse exchange relationships which markets do not capture (Jegers & Lapsley, 1998). Today voluntary nonprofit organizations are now involved in all aspects of people's lives. There is an increasing interest in the management of such organizations as they are now facing a period of great change. According to the Non Profit Finance Fund (2014):

- More than half of nonprofits (55%) have 3 months or less cash-on-hand.
- 28% ended their 2013 fiscal year with a deficit.

These statistics speak to the importance for non-profit organizations to re-evaluate their business practices. Professional leadership at the helm of these organizations has led to thinking whether voluntary non-profit organizations should now be more business-like. There is an urgent need for non-profit organizations to start recognizing ‘Data’ as an ‘asset’ and looking at the benefits of Business Intelligence.

Objectives:
Typically, the not for profit organizations depend on Donors for the funds and subsequently, generate donor related reports for certain degree of analysis. The usage of these analytical reports is restricted to a few divisions, or a few business units, and this often leads to a lack an enterprise or holistic view. A number of business units exist within these not for profit organizations, each of which is focusing on fund raising and has a direct or indirect contact with the Donors. A typical non-profit organization with this kind of structure would want to look at the Donors in a unified view and perform cross-functional analytics albeit the silos of information on donors exist within the organization.

Many non-profit organizations are looking towards data integration and business intelligence program to maximize their revenue. These not for profit organization are primarily focused on multiple areas and most of them raises the funds to keep their mission of promoting healthy living and other host of social changes. A quick study of these organizations, of their existing infrastructure and analysis of high level business requirements, leads one to define a road map and strategy for their Data Integration and Business Intelligence program(s). This paper is based on the study performed on these organizations as well as the author’s vast experience in business intelligence implementations.

This paper will try to highlight through a case study, the ‘building blocks’ while implementing a Business Intelligence solution for one of the not for profit organization involving promotion of healthy
living. This would apply to any non-profit organization that engages its customer in multiple ways including the ‘fund raising’ and maintaining the silos of Customer profiles & transactions.

- A ‘Customer Hub’ through ‘Master Data Management’ (MDM) process
- Integrating Silos of Customer interactions/transactions
- Creating a 360 View of Customer
- Intelligence Insights into information – Customer Intelligence, Market Intelligence, Customer Sentiment Analysis.

Overview of the organizational process
This not for profit organization is the oldest, largest voluntary health organization devoted to fighting/raising awareness against one of the most common lifestyle illness. This organization funds innovative research, fights for stronger public health policies and provides lifesaving tools and information to save and improve lives. It also provides science-based treatment guidelines to healthcare professionals to help ensure the best treatment for every patient, every time. To keep these services rendered to the society, this organization raises the funds/donations from the citizens, corporate and other charitable organizations. There are numerous ‘Volunteers’ involved with this organization in supporting of this organization’s mission in spreading the awareness of healthy living. This organization raises the funds through various campaigns, events etc. Any individual/Corporate can interact with this organization by participating in one or more events, volunteering the events, providing donations etc. Let us call these individuals/corporate as ‘Customer’ of this organization for further discussions in this paper; hence, any individual or corporate that has interaction or is engaged by this non-profit be termed as ‘Customer’. Thus, a ‘Customer’ can seek any informational material by calling this organization or provide an online donation or participate in an event conducted by the organization & offer donation or volunteer an event/activity like review of research papers or buy a product related to prevention of illness and promotion of healthy living.

Challenges – Data silos, data quality and lack of 360º view
As seen from previous paragraphs, a ‘Customer’ has multiple entry points into this organization’s core transactional systems and each of them has been catering to a specific business area/process. The transactional system built for these business areas were designed to optimize for the corresponding business processes and these systems are not always in ‘sync’. For instance, the IT system that captures the customer information for a business process like an ‘Event Registration’ does not know if the same ‘Customer’ has already been captured by another System like ‘Call Center or CRM’ during another instance. To add to the complexity, the level of Customer information captured varies among these systems thus posing a challenge to match and uniquely identify the customers between these systems.
The ‘data silo’ nature existing in this environment poses major challenge when the organization wants to have an enterprise view of its customers. Though each of the business areas/units is exceptionally good at servicing and engaging its customers, at the enterprise level, the organization is unable to have a holistic view of its customers so as to retain and engage them continuously. Lack of this holistic view causes the organization not engaging its customers effectively and resulting to treat its relationship with the customers more ‘transactional’ rather than ‘long-term engagement’. The organization has been realizing the need of an integrated view of its customers and track all the engagements/activities of the customers irrespective of how Customers are engaged with the organization (be it a conventional channel like Direct Mail or a non-conventional channel like Social Media) and provide a 360° view.

Another challenge that this organization has been facing is ‘multiple’ versions of truth about the customer profile and other related information. Due to the multiple entry points of Customer Data entry, multiple versions of same customer exist causing the quality issues and the organization misses the golden opportunities of retaining the customers and engaging them on a continual basis. Also, this introduces the risk of its customers not able to view this organization as a single ‘entity’ because various business units interact /engage the customers differently.

Let us look at few example scenarios that are impacts of data silos.

- An individual – Kumar, had donated once to this organization via online. Apparently, there was no follow-up from the organization to encourage donations from Kumar for subsequent years. Also, Kumar has been supporting this organization as a ‘Volunteer’ in certain programs. Unfortunately, no business unit could get complete visibility of Kumar’s activities/interaction with this organization. Hence, the organization misses the opportunity to engage Kumar for further donations as well as get Kumar to volunteer for other programs that he is not already associated with.

- A corporate leader attends a ‘fund raising’ event organized by the organization. The institution that he leads could be one of the ‘prospect volunteers’ for organizing certain local community events as well as helping to raise funds. Due to silos of data, the volunteer coordinator in the organization does not know the details of this corporate leader and misses the opportunity of engaging this leader and his institution further to build long-term relationship

- An individual calls the organization’s Service or Contact center requesting a specific Health educational materials but the service center staff helping this individual, in real-time, does not get the visibility if the caller is already associated with the organization like Life time donations, life time engagements or activities etc. Hence the staff is unable to ‘cross-sell’ to the caller of any other activities or events that the caller can be part of, in supporting the organization’s mission.

Road map to success – Data integration and Business Intelligence

Faced with the challenges, this organization recognizes that constant flow of information will only help managing the organization, remain competitive and grow. Although there exists list of simple measures, reports etc., the organization needs a different view of information collected and that should be an integrated view of information with ‘Customer’ being at the center and all the transactions, activities, interactions surrounding the customer.

This ‘integrated view’ of information should allow the organization to:

- See the relationships that lead to more donations
- Understand the current level of Customer engagement and take them to next level (for example- Volunteer to Donor; Donor to Life Patron; Donor to Advocate)
- Understand the customer behavior & preferences so as to personalize the engagement
- Measure the effectiveness of services, from both a program and cost perspective
It is clearly evident from the above discussions that the organizations can get to this integrated view by breaking down the walls between these data silos and combining information from many different business areas. What the organization needs is ‘Business Intelligence’ with the solid foundation of Data Integration and Customer Mastering Process.

The deployment of Business Intelligence tools enables the company to acquire the ability to handle the data that every organization amasses every day and transform it into actionable information that drives success. BI systems ensure that meaningful information can be delivered at the right time, at the right location, and in the right form to assist individuals, departments, divisions or even larger units (Bose, 2009) to facilitate improved decision making.

To achieve, the ‘integrated view’ of information, the organization needs to combine the data from disparate sources/systems. A solid ‘data integration’ will be required in place to enable ‘integrated view’. The data integration framework proposed should be easily configurable and extensible to accommodate ever growing data sources for future integrations. There is also the need of creating a central repository of Customers called ‘Customer Hub’. This central repository will host the ‘Golden Record’ of Customers after cleansing and de-duping the multiple versions of customers. Both the Data Integration and Customer Hub will be building blocks for an effective Business Intelligence system. These two should reinforce each other to enable integrated-view and thus the Cross-Functional analytics within the enterprise.

In conclusion, the case study of this voluntary health organization reveals that effective use of data is of paramount importance for any organization and more so for a not for profit organization who rely on lean and unpredictable inflow of funds for their functioning. The vast explosion of available data combined with hardware with ability to crunch data faster gives multiple opportunities for analyses leading to material as well as social benefits.

Non-profit organizations should also come to realize that BI systems are the key to delivering value though contributing to better decision making. The first step is to invest in information systems and data warehouses to collect data and then ultimately becoming data driven organizations capable of turning data into actionable information. According to Elbashir et al. (2013), BI business value is only created when the BI system is integrated effectively with the organizations’ data warehouses, and configured to provide analysis and reporting that can be effectively used in decision making and managerial control to support an organization’s specific processes and strategies. BI will help non-profit organizations increase the speed, cost and complexity of assessing performance data and present them as information that could anticipate the needs of the organizations and point to solutions for immediate execution and improvement.

References:


Williams, S & Williams, N. (2007), The Profit impact of Business Intelligence, Morgan Kaufmann Publishers, San Fracsisco (CA).