Good Example # 1 Walmart

With more than 245 million customers visiting almost 11,000 stores and 10 active global websites, Walmart generates roughly $36 million dollars in sales every day. Walmart relies on big data analytics to leverage its ability to manage supply chains and keep inventory levels optimal, perform research on constantly changing customer trends and demographics, and market across a multitude of social media outlets. Business analysts track data consisting of what customers are buying online, outcomes of local sporting events, what is trending on Twitter, and even how local weather deviations impact buying patterns. Walmart collects 2.5 petabytes of unstructured data from over 1 million customers every hour.

Walmart has been able to take such a significant amount of unstructured data and turn it into actionable intelligence by migrating from an experiential 10 node Hadoop cluster, to a 250 node Hadoop cluster allowing data from 10 global websites to be consolidated into one massive data ecosystem. This data is then analyzed to cover millions of products with 100s of millions of customers across several different sources. Data is then analyzed into 100s of millions of keywords to optimize the bidding of each keyword on a daily basis. It is with this actionable intelligence that Walmart strives to reach its primary objectives of optimizing the shopping experience for each of its customers (both online and in-store). The outcome of Walmart's ability to successfully apply business analytics to strategic decision making has resulted in 10-15% increases in online sales in incremental year-over-year revenue.

The quality of Walmart's business analytics plan is excellent as it combines an extremely large volume of data with the speed to analyze it quickly. Walmart's ability to not only obtain this much data, but also store and organize it allows the company to edge its competitors and drive its organization. The three most prevalent characteristics of Walmart's business analytics strategy that has led to its success over the years includes its ability to accumulate analytics, Walmart's use of best statistical practice, and its capability of collecting and storing data through a complex network of data management systems. This requires strong leadership throughout the organization with a clear vision to truly understand their customer's wants and needs.

Failed Example #1: KMart

In contrast to the success Walmart has achieved with effective business analytics, the consequences of ignoring your data or analyzing it inefficiently could have serious repercussions on the overall success of your company. Kmart is a great example of when business analytics fail to be successfully applied to strategic decision making. Once, one of the largest retailers in the United States, Kmart has been on a consistent decline since the 1980s as it struggles to compete with big box retailers like Target and Walmart. Despite efforts to restructure debt, remodel stores, acquire new business partners (Sears in 2004), and even implement a new Business Intelligence Platform (Business Objects in 2003) Kmart has failed to adapt to changes in the marketplace and align business analytics with strategic goals.

Kmart is a great example of why simply implementing a new business intelligence system alone is not enough to succeed in business analytics. The importance of performing statistical analysis on your data to truly understand how your customers are being treated and how efficiently you are able to give them what they want is critical in the retail industry. Kmart's inability to analyze data and understand product trends and manage inventory levels would eventually result in a poor customer experiences as customers continuously complain that they are not able to find what they are looking for inside Kmart stores. This is largely attributed by Kmart's failure to adapt to a more modernized "just-in-time" inventory management system (like Walmart implemented), which would have allowed the retailer to restock shelves more quickly and efficiently.

In addition, Kmart failed to differentiate itself from Walmart (low cost retailer) and Target (more focused on value-based products for younger, image-conscious demographic) by offering several low budget designer goods (Jaclyn Smith designer apparel) paired with more high-end appliances (IE: Kenmore appliances) with no clear concept on how to cater to a specific target market. Not only does this show Kmart's inability to capture market trends through business analytics and research, but this also shows a clear lack of leadership and organization throughout the company. Without the leadership needed to make data driven strategic decisions, Kmart lacked the decision-making capabilities, technical practice, and use of best statistical practice to be an effective retailer.

As a result, Kmart's stock price fell 63% between 1998 and 2000 which ultimately would lead the company to bankruptcy in 2002. Despite several efforts to obtain new management and business partners, Kmart has continued to see declines in sales year after year. From $37 billion in sales in its 2000 fiscal year, to $12.1 billion in 2015, Kmart has closed hundreds of stores across the U.S. Kmart once had 2,165 stores (in 2000) to 979 in 2015. Kmart is a prime example of the consequences of poor management and an inability to leverage data to make strategic business decisions and adapt to a constantly changing market.

Good Example #2: American Cancer Society

For over 100 years, the American Cancer Society (ACS) has been leading the fight against cancer illnesses. Some of their biggest assets are their websites and mobile applications that allow users to learn about screening, detection and treatment, as well as volunteer opportunities and accepting donations. The latter being extremely important as the ACS is a non-profit organization. In 2012, senior members at ACS determined they needed a better understanding of their users and a better approach to marketing. They enlisted the help of Google Analytics and marketing company Search Discovery to help them evaluate their current marketing strategy and develop a plan for emerging markets. The goal of the project was to use analytics to understand how current users interacted with the ACS websites and mobile applications, monitor user behavior over time and subsequently remarket to new segments more effectively.

To better understand their users, Google Analytics was employed and the results were evaluated. It was determined that there were three main segments: information seekers, donors, and event participants. The next step was to determine the conversion rate for each of those segments. The conversion rate is where a user visits a website and completes an action. For instance, if a user visited the ACS website to view event details, and then completed a sign-up for that event, that would be a successful conversion. A customer scoring system was developed by Search Discovery that showed when each user was successful or unsuccessful at meeting a goal. The scoring system was used by the ACS marketing team to determine the health of each of their websites and to follow users' trends over time. The biggest gain, however, was that the ACS could use the information provided by the segments and scores to remarket to users by sharing fundraising ideas, or registering for local events among others.

The end result was that within two years, the ACS was able to successfully evaluate user patterns and subsequently develop marketing strategies to specific user segments. In one particular case, the team noticed an uptick in queries on their main site for breast cancer donors, however, they were expecting those donors to instead visit the site directly related to breast cancer. In answer to that data, they created a new promotion on their main site driving those specific donors to the breast cancer website. The result was an increase of 5.4% in revenue year over year. ACS is now using the scoring metrics to

measure the performance of other website changes and redesign projects to help in their efforts to increase their reach to a new generation of support, patients and donors in the fight against cancer.

Failed Example #2: UK National Health Service

Several years ago, the UK National Health Service undertook a project to integrate all patient medical records into a central healthcare database. The analytics this project predicted from this project would have been significant and valuable to the National Health Service. Information regarding illness, treatments and costs could have been tracked allowing the system to manage its resources more effectively. Illness and health trends among the population could have informed health care providers how to counsel patients and predict illness based on risk factors. The system would have also provided oversight to ensure standard treatment protocols for various procedures, offering better patient outcomes. This effort was originally estimated to take ten years and cost €6.4bn. By 2011, the program was shut down after spending more than €10bn.

The failure of the NHS National IT program is directly related to several challenges. First, the effort to build this analytical platform began with a lack of clear business objectives. Each health care provider within the system had different requirements yet they needed each of their systems to work together. Because the leadership team did not clearly understand, define or communicate the benefit of this effort to those affected, health care providers continued to work within their respective silos and did not find common ground upon which to build such a platform. The program was also challenged by technical difficulties stemming from a lack of expertise within the analytics team, pointing to relevant technical experience as a critical component of a successful analytics project; NHS did not have this experience and therefore had issues in understanding the complexity of the system it needed to build. This resulted in vendor disputes and overall lack of progress. Finally, the project defined the customer as the NHS itself. While the NHS would clearly benefit from this analytics initiative, the real customers were the patients and the providers. Had the project understood its customers and their journeys from the start, this effort may have been better supported and more reflective of the business model.

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