

## **Realizing ‘Big Data’-enabled business value: Insights from top retailers’**

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### **Abstract:**

The operational and strategic potential of ‘Big Data’ in generating business value in the retail industry has recently caught the attention of scholars and practitioners, providing the opportunity for some of them to even suggest that ‘Big Data’ is the ‘next big thing in innovation’ (Gobble 2013, p.64) or ‘the next frontier for innovation, competition, and productivity’ (Manyika et al. 2011, p.1). The extant research in academia and industry shows that retailers can achieve up to 15 to 20% increase in ROI by putting big data into analytics (Perrey, Spillecke & Umblijs 2013). While the concept of ‘Big Data’ remains fuzzy, it appears that very few studies have been conducted to assess its real business value within various sectors in general, and specifically in the retail industry. One general research question drove this study: how do retailers derive business value by putting big data into analytics? In order to answer this research question, the study conducts a review of ‘Big Data’ initiatives of the top 10 retailers in the world drawn from the list of the top 100 retailers in the world (Schulz 2013). Therefore, the objective of the study is to conceptualize the nature of big data and how they can be leveraged to derive business value for the global retail industry (see Table 1). The study synthesizes critical insights from top retailers’ initiatives by assessing benefits for both individual retail units (e.g., marketing, supply chain, customer service) and the organization as a whole. Overall, the study concludes by indicating some future research directions where ‘Big Data’ is likely to transform the retail sector.

<b>Nature of Big Data</b>	<b>Operationalization</b>	<b>Business value for top-retailers</b>
<b>Voluminous</b>	Large volume of data that either consume huge storage or consist of large number of records (Russom 2011).	Coca-Cola monitors consumers' comments about its products in real time. Coke, the first brand to reach 50 million Facebook "likes," while Diet Coke had 225,000 Twitter followers as of the end of 2012 (Chandrasekaran et al. 2013).
<b>Variety</b>	Data generated from greater variety of sources and formats, and contain multidimensional data fields (Russom 2011).	Procter & Gamble created a group consisting of more than 100 analysts from different functions to improve total business performance (Davenport, Thomas H 2006).
<b>Velocity</b>	frequency of data generation and/or frequency of data delivery (Russom 2011).	eBay conducts thousands of experiments with different aspects of its web site to determine optimal layout and other features from navigation to the size of its photos (Manyika et al. 2011).
<b>Verification</b>	Generating authenticated and relevant data with a capability of screening out bad data (Beulke 2011).	eBay Inc. faced an enormous data replication problem, with between 20 to 50 fold versions of the same data scattered throughout its various data marts. Later, EBay developed an internal website (data hub) that able managers to filter data replication (Davenport, Thomas H. 2012).
<b>Veracity</b>	Inherent unpredictability of some data requires analysis of big data to gain reliable prediction (Beulke 2011).	Data fusions by top retailers (e.g., Amazon) to combine multiple less reliable sources to create a more accurate and useful data point, such as social comments affixed to geospatial location information (Schroeck et al. 2012).

Keywords: Big Data, business value, benefit realized, retail, top 10 retailers

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