TATA CONSULTANCY SERVICES

Winning with Data: How CPG Companies can Enhance Data Utilization

Abstract

Consumer Packaged Goods (CPG) companies find it increasingly challenging to differentiate themselves and stay competitive amid rapidly changing consumer preferences, subdued growth, increasing costs, shrinking margins, and regulatory pressures. Traditional strategies are losing their relevance in the digital era, compelling organizations to reimagine business processes to mitigate uncertainties and stay ahead of the competition. This requires CPG companies to capture and analyze data that originates from both within and outside an organization, to derive critical insights that enhance decision making and open up new avenues for growth.

Data Takes Center Stage in the CPG Industry

CPG enterprises are investing in developing new capabilities and systems to change the way they use data, in order to create value for the business as well as consumers.

Reimagining business processes and operating models

These business trends reflect new ways of leveraging data and analytics, aimed at changing existing operating models and business processes, and reimagining the way CPG companies do business. These practices enable industry players to reduce costs, increase productivity, accelerate business agility, and drive growth:

- **External data integration:** Collaborations with key retail partners have helped several CPG companies gather transaction data from the point of sale (POS) and integrate this information into their supply chain activities. When used for supply chain forecasting, such integration helps reduce lead times and optimize inventory, while maintaining superior service levels.

- **Social media analysis:** CPG companies are increasingly monitoring and analyzing the 'social activity' of consumers, to better understand how consumers interact with brands in the digital world. Several CPG companies have deployed dedicated digital transformation teams to monitor their brands' social feedback at a global level to identify and address anomalies proactively.

- **Predictive pricing models:** Many CPG companies are using causal analysis to understand what drives and impedes product sales. This allows them to take measures to correct a drop in sales, through temporary price adjustments based on 'what-if' predictive models.

- **POS-driven consumer insights:** An in-depth analysis of POS information helps derive interesting consumer insights, which are immensely useful for enhancing sales and marketing efforts. CPG organizations are collaborating with retailers to optimize in-store promotions and merchandise assortments to align with consumers' purchasing patterns, thereby improving the ROI.

- **Trade promotion scenario building:** Analyzing historical data and quantifying the impact of various drivers on

Digitally savvy consumers create enormous volumes of data with every 'click', especially on social media.

incremental sales enable the identification of favorable retail conditions for effective trade promotions. Several CPG firms are using statistical models and scenario builders to predict the sales lift associated with different promotion tactics.

- **Simulation-driven product development:** Simulation models are empowering CPG companies to create and analyze numerous digital prototypes, ensuring optimal product performance by validating different design variables. This approach helps minimize the time and resources needed for traditional product development that involves the creation of physical prototypes and market testing.

- **Sensor data powered process optimization:** CPG companies generate data from multiple sources including process control systems such as temperature, pressure, and flow sensors. The proliferation of devices driven by the Internet of Things (IoT) also allows manufacturers to improve operations by embedding real-time granular data from networked sensors into production processes.

Restructuring the IT landscape

CPG enterprises are restructuring their IT landscapes to enable faster data acquisition and processing, facilitate a unified view of data, and reduce the total cost of ownership (TCO) of IT systems. Some of the major technology trends are:

- **Advanced data capturing:** CPG companies heavily focus on tapping into new sources of data such as search engines, social media, embedded sensors, and mobile apps, for effective decision making. Data from these external sources complements internally generated data and helps derive actionable insights through the use of advanced data mining tools.

- **Data layering:** CPG companies seek clarity on data layering based on storage volume, workloads, performance, and more. In order to enable seamless end user experience, data landscapes are being redesigned with clear provisions to hold data in landing, staging, as well as integrated data and access layers.

- **Enterprise information management (EIM) re-architecture:** EIM re-architecture helps gain clarity on data lineage, improve data quality and security, and strengthen the master data. This unified view of data in turn supports the operational, tactical, and strategic reporting needs of business users within CPG firms.

■ **Self-service analytics and advanced visualization:** CPG enterprises, realizing the need for a single source of truth, are investing heavily in advanced analytics and visualization tools. In addition to providing business users with advanced, intuitive visualization and interactive reports for them to grasp critical insights, organizations are also offering self-service analytics to enable quick decision making.

The 4C Approach for Transformation into an Insights-driven Organization

A 4C approach—capture, consolidate, contextualize, and consume data—enables organizations to progress smoothly on the journey toward a data-driven organization.

To realize the full potential of data—both internal and external to the enterprise—CPG companies need to develop advanced capabilities and deploy sophisticated systems and processes.

Capturing data from alternative sources

With global expansion as the prime objective, CPG companies need to capture data from new and unconventional sources across geographies - especially emerging markets, to drive innovation across the value chain. Data sources may include syndicated research data, supplier data, transportation data, weather data, retailer data, social media bites, and even macroeconomic variables. Collating this data involves synchronous and asynchronous data capture techniques, management of heterogeneous data sources, data cleansing, and profiling.

'Social listening and sentiment analysis' and 'Sensor data analytics for preventive maintenance in manufacturing plants'

Consolidating data to support analytics

Consolidating data from different sources is a critical step before combining, analyzing, and contextualizing it. This involves data harmonization in alignment with enterprise rules, conforming to data dimensionality protocols, and development of efficient and scalable data models such as columnar stores.

'Enterprise data lake to handle heterogeneous workloads' and 'Active data storage and archive for consolidating dissimilar data sources'

Contextualizing data to enhance usability

After consolidation, data needs to be contextualized through high performance platforms such as in-memory computing, to derive insights in real time. Relevant data sets need to be identified, analyzed, and enriched before they can be utilized by business users.

> 'Demand-supply congruence analysis using syndicated data' and 'Advanced consumer insights by integrating structured and unstructured data'

Consuming data for quicker decision making

To derive maximum value from contextualized information, the information should be readily available to business users at all times, in relevant formats. This can be achieved through intuitive information-sharing enabled by visualizations, APIs, or reports that are either process- or role-specific, delivered as workflow- or role-based insights.

> 'Decision dashboards for aggregated data on key functions' and 'Predictive analytics to forecast category-wise sales performance data'

Conclusion

Digital technologies are increasingly influencing consumers in their 'moments of truth', compelling businesses to address the new ways to reach them. In CPG businesses, the increased volatility adds to the already complex landscape, leaving no room for error while making critical business decisions. The industry must adopt innovative techniques to support decision making and execution, and enhance the value they deliver to consumers across channels. In this pursuit, leveraging data effectively to gain actionable insights will prove to be a key source of sustainable competitive advantage.

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