



This article constitutes a summary of a larger white paper.

BIG DATA ANALYTICS: WINNERS OF THE NEXT DECADE

“It’s big data that sets the agenda. It doesn’t matter if we look at health care or at a shopping center. The development and innovation of our society lies in the understanding and utilization of data. Those who have the ability to tap into knowledge through big data analytics are the winners.”

- Kjell Nordström, Economist, writer and innovative speaker



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Since costs on average represents 80 % of a company revenue¹, organizations are to a significant extent utilizing big data within supply chain. That especially applies to fast-moving consumer goods (FMCG) companies. Now, that growth in this industry has stagnated, utilization of big data analytics (BDA) is more crucial than ever.²

This article shortly introduces BDA, examines the importance of BDA within the FMCG industry, and focuses on why companies are adopting it. Additionally, based on best practices, it entails a model illustrating how to get started successfully.

The results reveal that FMCG companies are adopting BDA partly to take advantage of the countless opportunities it offers, and partly to withstand the various pressure or challenges originated from the external environment. However, organizations can only obtain value from big data if they employ advanced analytics, approach incorporation of BDA very systematically, and build analytical capabilities and skills.

The importance of data analytics for FMCG firms & within the field of SCM

As the Swedish author & economist Nordström expresses it, “the winners in an information-overloaded urbanized future are those who can either master one very specific skill that can’t be digitalized or those who have access to tools that can transform the endless stream of data into knowledge”.³

DET KAN DU LÆSE MERE OM

- Introduktion af Big Data Analytics (BDA)
- Hvordan kan virksomheder benytte BDA til at blive mere konkurrencedygtige
- Hvordan kommer du godt igang med BDA

Against this backdrop, for FMCG, the role of data analytics is more significant than ever. FMCG companies are adopting BDA not only to improve firm operational capabilities for better firm performance but also to withstand external challenges.

FMCG companies are today dealing with a host of challenges including;

- Elusive growth
- Political - & economic uncertainty;
- Value conscious consumer with fast changing needs
- Fast pace of digital technologies
- Short product lifecycles
- Volatile environment and
- Intensified costs pressure due to retailer consolidation and the rise of hard discounters.⁴

Large established entities like Amazon & Walmart are already using BDA in their supply chains. Walmart handle more than a million customer transactions each hour, and asks their suppliers to tag shipments with radio frequency identification (RFID) technology creating massive amounts of data. Amazon monitor, track and secure 1.5 billion items in its inventory, and relies on predictive analytics for its “anticipatory shipping”, to predict when a customer will

purchase a product. After the purchase the item is pre-shipped to a depot close to its final destination.⁵

Benefits & applications of big data analytics

BDA leads to competitive advantage across the entire supply chain. A retail survey shows that supply chain efficiency can be improved by 10% or greater, by embedding big data in operations.⁶ Companies that have successfully incorporated big data analytics into their current business are experiencing higher return on investment (ROI) on their big data analytics investment, as “they are better able to navigate challenges they encounter in collecting and storing data, selecting right analytics tools, generating usable insights from their data, and ultimately being able to act on those insights to achieve positive business outcomes.”⁷

Summarizing the advantages, BDA enables quicker reaction to changes, improve decision making, provide future insight, enhance profitability, improve efficiency, boost competitiveness, and optimize supply chain management.⁸

Figure 1 brings to surface some examples of BDA applications throughout the entire supply chain by allocating them over the four types of big data analytics. Additionally, it allows for maturity level determination. Hence, for managers intending to examine their company BDA maturity level, this figure could be highly valuable.

How to get started with BDA

Adopting BDA requires more than just installing some systems. To be successful, companies must be clear about how they will approach big data analytics strategy, operation, talent, and risks.

APPLICATION VS. MATURITY OF BDA WITHIN THE VALUE CHAIN

Application areas across the value chain					
Maturity level	Suppliers	Production	Warehouse	Retail	Customers
1. Descriptive	<ul style="list-style-type: none"> Assess risks connected with different suppliers 	<ul style="list-style-type: none"> Assess capacity/asset utilization 	<ul style="list-style-type: none"> Assess space/resource utilization 	<ul style="list-style-type: none"> Evaluate changes in customer needs 	<ul style="list-style-type: none"> Assess customer feedback to gain useful insights
2. Diagnostic	<ul style="list-style-type: none"> Analysing past sourcing success and failure 	<ul style="list-style-type: none"> Diagnosis of production issues 	<ul style="list-style-type: none"> Analyse warehouse efficiency with use of big data 	<ul style="list-style-type: none"> Get a better form of demand & supply synchronization through BDA 	<ul style="list-style-type: none"> Personalize product/service through analysis of customer data
3. Predictive	<ul style="list-style-type: none"> Adjust sourcing strategy with predictive analysis 	<ul style="list-style-type: none"> Predict error frequency and then correlate the result by product & employee 	<ul style="list-style-type: none"> Predict demand for “anticipatory shipping” 	<ul style="list-style-type: none"> Improve predictability of future product needs 	<ul style="list-style-type: none"> Shorten order-to-delivery cycle times with predictive analytics
4. prescriptive	<ul style="list-style-type: none"> Manage supplier relationship with prescriptive analysis 	<ul style="list-style-type: none"> Manage product portfolio via prescriptive analysis 	<ul style="list-style-type: none"> Manage warehouse via digital camera and lower human interaction 	<ul style="list-style-type: none"> Use sensor-integrated products to manage a pending change or replenishment 	<ul style="list-style-type: none"> Make informed strategic decisions to achieve new level of customer loyalty & sales

Figure 1. Source: © Syncronic 2018

Assessment	Opportunities	Prioritization	Roadmap development	Implementation
<ul style="list-style-type: none"> • Conduct preliminary analysis • Document overall strategic direction and objectives • Technology assessment • Competence assessment • Resource assessment 	<ul style="list-style-type: none"> • Develop BDA enterprise wide strategy • Hire talents with a mix of deep analytics skills • Share data with retailers • Overinvest in power partnership • Rapidly experimenting 	<ul style="list-style-type: none"> • Determine prioritization criteria • Increase value over reducing prices • Focus on strategic alliances • Share data: Take data driven RGM* • Rapidly experimenting via BDA factory 	<ul style="list-style-type: none"> • Finalize big data analytics enterprise wide strategy • Develop roadmap containing: <ul style="list-style-type: none"> - Initiative; - Technology; - Competence; and - resource planning • Finalize business case • Ensure buy-in from important stakeholders 	<ul style="list-style-type: none"> • Execute a pilot • Adjust BDA set-up • Adjust roadmap • Roll-out adjusted solutions • Improve continuously

• Revenue growth management (RGM)

Note: A company bda maturity level may range from 1 to 4 and depends on application application vs. maturity of bda within the value chain

Figure 2. Source: Syncronic®, 2017.

Leading firms are highly sophisticated when integrating big data analytics into their business. Before introducing big data analytics, high-performing entities develop a clear big data analytics strategy and ensure people, resources, capabilities and technologies are aligned accordingly while making difficult trade-offs, and prioritize how to compete using BDA as an enabler. This could e.g. be to reduce time to market, reduce customer order lead-time, increase efficiency and cost, increase customer centrality in the supply chain services and individualization in product design etc.

As a result, key practices distinguishing high-performing companies from others are:⁹

- ▮ Robust big data analytics enterprise-wide strategy
- ▮ Embedding big data analytics into operations to improve decisions making
- ▮ Hire talents with analytics and business competence

▮ Make difficult trade-off

▮ Compete priorities

A way of getting started with big data analytics could be to leverage a structured and phased approach based on 5 key steps as shown in figure 2.¹⁰

A structured approach to onboarding BDA will enable quick business impacts and secure successful incorporation of BDA into the ongoing development of the company’s competitiveness.

Conclusion

Big data analytics is key to future FMCG success and in particular within the field of supply chain management. FMCG companies are adopting BDA mainly to take advantage of the countless opportunities it offers and partly to withstand the various pressure/challenges originated from the external environment.

Winning organization like Arla Foods and Nestlé advance the incorporation of BDA very systematically as they build an enter-

prise-wide BDA strategy ensuring people, resources, capabilities, and technology are aligned accordingly, make difficult trade-off, and compete priorities. Other organizations may similarly utilize a phase approach to get started which secures successful adoption. /

NOTES:

¹ <http://www.dell.com/learn/us/en/uscorp1/secure/2013-02-fy13fullq4pr>

² Alldredge et al., 2016, "Winning in consumer packaged goods through data analytics" McKinsey & Company

³ https://www.sas.com/da_dk/insights/articles/analytics/local/meet-the-winners.html

⁴ Alldredge et al., 2016, "Winning in consumer packaged goods through data analytics" McKinsey & Company

⁵ https://www.researchgate.net/publication/270506965_Big_Data_Analytics_in_Supply_Chain_Management_Trends_and_Related_Research

⁶ <http://www.mojix.com/big-data-analytics-retail-supply-chain/>

⁷ https://www.accenture.com/t20160106T194441__w__/_fi-en/_acnmedia/Accenture/Conversion-Assets/DotCom/Documents/Global/PDF/Digital_1/Accenture-Global-Operations-Megatrends-Study-Big-Data-Analytics-v2.pdf

⁸ https://www.accenture.com/t20160106T194441__w__/_fi-en/_acnmedia/Accenture/Conversion-Assets/DotCom/Documents/Global/PDF/Digital_1/Accenture-Global-Operations-Megatrends-Study-Big-Data-Analytics-v2.pdf

⁹ https://www.accenture.com/t20160106T194441__w__/_fi-en/_acnmedia/Accenture/Conversion-Assets/DotCom/Documents/Global/PDF/Digital_1/Accenture-Global-Operations-Megatrends-Study-Big-Data-Analytics-v2.pdf

¹⁰ Synchronic BDA methodology targeting FMCG based on proven experiences and best practice studies, 2017.