

REPRINT

R&C risk & compliance

CREATING OPPORTUNITIES USING BIG DATA AND ANALYTICS

REPRINTED FROM:
RISK & COMPLIANCE MAGAZINE
JAN-MAR 2015 ISSUE



www.riskandcompliancemagazine.com

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Published by Financier Worldwide Ltd
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Kurt Salmon

Kurt Salmon is a global management consulting firm dedicated to building the market leaders of tomorrow. More than just partnering with our clients, we ally with them, integrating ourselves seamlessly into their organisations in order to develop innovative, customised solutions for their 21st-century business issues. Our global CIO Advisory Practice assists CIOs in formulating, planning and executing programs that improve the responsiveness, adaptability and cost-effectiveness of their IT organisations and that drive overall business performance.

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Shahryar Shaghghi has more than 25 years of experience with information technology, specialising in strategy, transformation, operations, and risk and compliance for leading financial services companies, manufacturers, healthcare, and retail and consumer products and services companies. Mr Shaghghi joined Kurt Salmon from Citigroup, where he led a number of key strategic and reengineering initiatives for both the Global Operations and Technology and the Citi Transaction Services organisations. He also has extensive consulting experience, having worked for Deloitte, PricewaterhouseCoopers and Accenture.

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Dr Daryouche Behboudi leads Kurt Salmon's CIO Advisory practice in North America. He has over a decade of consulting experience with top-tier financial services firms, focusing on IT operations and organisational design, IT integrated planning, IT procurement and outsourcing, enterprise data centre strategy, enterprise network architecture, IT cost takeout, IT strategy articulation and enterprise program management office design and implementation. Before joining Kurt Salmon, Dr Behboudi was a managing director at BearingPoint.

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Robin Cyrus is a senior manager in Kurt Salmon's CIO Advisory Group. He has over 22 years of IT risk security and management experience within the financial services industry, including expertise in big data analytics, omnichannel technology, risk and compliance, and cloud technologies. A former executive director in J.P. Morgan Chase's IT Risk Management division, he has managed numerous, global projects at companies including Bank of Tokyo-Mitsubishi, Citigroup and Wells Fargo.

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Walter J. McGuigan Jr joined Battalia Winston in 2013 through the acquisition of Norm Sanders Associates, where he spent over 25 years as a managing director and founder. Mr McGuigan has extensive experience in recruiting practice leaders and partners for world-class consulting firms, as well as recruiting senior level systems and technology professionals for clients in the Financial Services sector, including banks, investment banks, institutional asset managers, mutual funds, and insurance companies. Prior to joining Norm Sanders Associates, Walter was a Vice President with Handy Associates. He entered the executive search industry with KPMG where he developed a financial services industry recruitment function.

RC: Could you provide a brief overview of big data and its growing importance to businesses in recent years?

Shaghghi: For many years organisations have focused on ways to better source data, improve the quality of their data, analyse the data and correlate and connect unrelated data to make meaningful decisions. As we have moved further into the digital age, we use and produce data through the internet and social media more than ever before. This has introduced opportunities for businesses to have access to additional sources of unstructured and structured data with unprecedented volumes, velocity, variety and veracity. If properly defined and implemented, current and future big data solutions and advanced analytics will incrementally and significantly enhance organisations' capabilities to build value in many ways. Although the adoption and value realisation of big data programs varies by industry, every business should look into big data as a core component of their strategic decision-making process.

RC: What are some of the key benefits and competitive advantages that can be leveraged from big data analytics?

Shaghghi: Advanced analytics can provide great benefits in many ways. At times, the benefits come from insights hidden in the raw data within an organisation that can improve and enhance its products and services, differentiating the company from others and even helping improve time-to-

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Kurt Salmon*

market. Also, depending on the application of big data, benefits can vary by industry. While big data analytics in the securities industry may focus on risk management and fraud detection, within a large retail bank looking to downsize, analytics may focus on cost reduction opportunities. At a retail company, on the other hand, analytics may shed light on customer behaviour and experience or be applied to predictive analysis and modelling of customer preferences. Organisations need to identify strategies based on their core values and objectives to determine how to

maximise the return on their investments as it relates to big data solutions.

RC: To what extent does big data impact some regulatory and privacy requirements? What challenges will big data introduce for data security and data confidentiality?

Shaghghi: Obviously, centralisation of data within the big data space will add more complexities as it relates to data governance, data protection, data privacy and other security concerns. With increased speed and volume of data, existing issues related to data privacy and security do not go away and may even become more difficult to manage. Organisations need to pay special attention to who will access data, from where and how, and truly understand local regulatory and privacy laws to mitigate violations. They also need to be able to understand the state of data in every phase of its life cycle. For example, M&A data at different times, pre- and post-deal, has to be treated differently. Also, advanced analytics can provide greater insight into risk and fraud detection and monitoring capabilities to supplement existing enterprise solutions which mostly use rule-based algorithms.

RC: What advice can you offer to companies on sifting through the vast amounts of available data and identifying the best information to analyse in order to create value?

Cyrus: Companies are gathering and storing vast amounts of data with high velocity. Data

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Kurt Salmon*

gathered is varied by source, coming in from ubiquitous information-sensing mobile devices, aerial sensory technologies, software logs, blogs, cameras, microphones, radio-frequency identification (RFID) readers and wireless sensor networks. Justifying the collection and analysis of this data to senior management is important. Companies need to develop two to three business cases that demonstrate where big data could provide the most

value, relevance and probability of success. Once the business cases have been identified, data scientists need to evaluate and take a full inventory of all the available data sources. Only then can the respective data sources be mapped to each business case and identified as valuable or not. Then, pick one business case with the least amount of production system impact, with a small number of users, and perform a proof of concept test. Upon successfully achieving the expected analytics results, kick off the other business cases as projects.

RC: How can companies turn big data into 'big information'?

Cyrus: The big data space is complex; an ever changing technological journey with many vendors and solution providers. It will be important for companies to have the right human capital on boarded to guide, develop and run the required big data analytics. Expert talent such as data scientists, applications conceptualisation specialist, data analysts, data engineers, analytics architects and data stewards will need to be recruited for the big data endeavour.

RC: The big data ecosystem is vast, with many vendors and tools. Where and how do companies start to evaluate these vendors and tools?

Cyrus: Don't rush into buying a variety of tools. Look into your current enterprise and take an inventory of your tools currently being utilised for initiatives, such as data warehousing or business intelligence. Big data tools requirements can be classified into four areas: extract, transform and load (ETL), NoSQL databases, analytics, and visualisation. The ultimate goal is to develop a single, unified workbench – a big data ecosystem of tools. Consider your enterprise data requirements. Does your enterprise utilise streaming media? Will there be data integration requirements into existing data warehouses? Consider the users application interface (APIs) requirements. Consider your enterprise platform requirements. Will you be moving to a Platform as a Service (PaaS)? What will be your ongoing data platform drives for storage?

RC: How effective are companies' IT and business alignment with respect to big data analytics?

Cyrus: Enterprises have invested decades of time and resources in developing architectures for traditional querying, reporting and analysis. While they have been good for streaming data into spreadsheets using static structured data sets extracted from enterprise front-end systems, they are limited in undirected data discovery. Big data now demands 'access to the raw data'. Companies looking to adopt big data go through a cycle early

on of bringing together the business process owners, the information consumers, the technical infrastructure innovators, the application developers, the data scientist and the enterprise architects to work on the evaluation. Together, these varied stakeholders make decisions on and help to roll out big data analytics. This collaborative approach will ensure IT and business are aligned throughout the analytics life cycle.

RC: How important is the culture and agility of a company when it comes to making use of data and moving in new directions?

Behboudi: This is very important. Big data analytics, by definition, is the discovery of unexpected insights from the data that a company owns or has access to. Therefore, culturally, the company has to have the agility and the mindset to act on these unexpected insights that may lead the company in new directions, sometimes even leading them to re-evaluate the old business plan and coming up with a new one. The other way that agility and big data intersect is the low shelf life of the data itself. If a company is not agile enough to act quickly on the results, they may completely miss the opportunity, as the data may have become dated and no longer pertinent.

RC: In what ways do you expect big data to shape business practices in the years ahead?

Behboudi: Big data analytics is a powerful tool in a company's toolset to address its tactical and strategic business problems. Like all other tools, if used wisely it will help companies increase their profits, enlarge their market share or develop new business models. However, big data analytics, by its nature, can also

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*Daryouche Behboudi,
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be very dangerous. If wielded carelessly, for example, without proper safeguards for clients' privacy and confidentiality, it may lead to increased reputational risk and other legal, regulatory and compliance problems. Backlash from clients who may feel that

their data is being misused by a company is a real risk that may wipe out all other gains.

RC: What are the new emerging roles in big data, such as applications conceptualisation, that will be essential to success?

McGuigan: As companies are establishing in-house data analytics capabilities, they are aligning them against the lines of business or by product line. In either case, a role that is emerging and will play a critical role is 'applications conceptualisation.' This role requires someone with enough understanding of the business and of data analytics that they can effectively work with line managers to determine what areas of the

business can use data analytics to exploit greater returns, and then translate that information to

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the data science group which can then use their methodologies to provide the results. **RC**