Big Data, big capabilities

Supporting senior professionals on the Big Data journey

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How can organisations and their leaders make the most of Big Data? In this brief, we outline the critical capabilities needed by senior professionals to harness the potential of Big Data to enhance organisational performance and competitiveness, and the key enablers and barriers.

Accounting and Accountability Research Group & Organisation Studies Research Group

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In today's digital world, we all produce data, whether it's in our interactions with organisations, our movements around towns and cities or in our behaviour online. This creates extremely large, varied and rapidly changing data sets that are too complex for traditional data processing software, known as Big Data.

For organisations, this data offers unprecedented opportunities for insights into customer behaviour, consumer trends and company processes. Despite the opportunities, **there is a lack of understanding among senior professionals about how to use Big Data effectively, resulting in varied levels of adoption.** This is not only about technical skills. It is also about cultural and organisational shifts needed to navigate the complexities of Big Data.

Research overview

We examined how senior professionals in the UK can effectively harness Big Data to enhance decision-making and strategic planning. We spoke to senior finance and accounting professionals at a range of medium-sized UK organisations – spanning technology, manufacturing, healthcare and financial services – to understand the critical digital capabilities needed, examine how organisations are currently using Big Data and to identify enablers and barriers to leveraging its full potential. We carried out:

- Extensive literature review
- In-depth interviews with 35 senior professionals from 30 medium-sized UK organisations
- Two workshops with senior professionals to validate the findings and explore solutions

Recommendations for organisations

1. **Develop organisational policies that recognise Big Data as a strategic asset across all departments**, not only IT or technology departments.
2. **Move beyond data management to data analytics in non-technical departments** such as accounting, finance and marketing to foster data-driven decision-making and leverage Big Data.
3. **Break down organisational silos by facilitating cross-functional collaboration** to share insights from Big Data across departments.
4. **Implement new comprehensive training programmes for senior professionals**, focusing on data literacy, soft skills for data-driven leadership and adapting to technological advances.
5. **Foster a culture of innovation, collaboration and data-driven decision-making** across the organisation, with senior leadership championing the integration of Big Data analytics.
6. **Call on professional bodies and associations to provide guidance**, share best practices, facilitate industry cooperation and advocate for relevant policy changes supporting Big Data adoption.

Digital capabilities are essential

The effective use of Big Data can help companies enhance their financial reporting, risk management, customer understanding and market analysis. However, the integration of Big Data into organisational strategy requires more than access to large datasets; it necessitates a comprehensive set of digital capabilities.

These range from hard technical skills – around data management, data ethics and analytical insights – to softer skills, such as the strategic use of Big Data for decision-making.

Drawing on our research, we organise these digital capabilities across four areas:

- **Technological**: infrastructure, software and literacy
- **Organisational**: training, skills and structures
- **Environmental**: external support from professional bodies or market
- **Individual**: creative and critical thinking

Spectrum of Big Data use

Our research identified three distinct levels of Big Data use among medium-sized UK organisations – low or 'sceptical', medium or 'curious' and high or 'enthusiastic', showing the varied stages of digital maturity across organisations and within sectors. Each presents unique challenges and opportunities.

Need for tailored support

Different levels of Big Data use need tailored support, with senior leaders taking strategic approaches to overcome barriers and capitalise on opportunities. This includes fostering a culture of innovation, promoting cross-functional collaboration and investing in training to develop capabilities.

Barriers and enablers to Big Data integration

Our in-depth interviews with senior executives at companies across a range of sectors helped us to identify specific barriers and enablers to harnessing the potential of Big Data.

Barriers include:

- Lack of awareness of Big Data's potential
- Resistance to change
- Organisational silos

Enablers include:

- Starting small by developing proof-of-concept cases
- Building literacy around Big Data
- Adopting a mindset of experimentation
- Recognising Big Data as a key strategic asset

> Don't be scared of the data, be curious and actually find out what it can do for you."
>
> **Chief Financial Officer of an organisation producing sustainable energy (interviewee #30)**

Strategic approach to integration

Organisations should take a strategic approach to Big Data integration, with senior management professionals driving this transformation in culture. This approach should align with the overarching organisational goals and should be supported by senior leaders, including chief executive officers, chief financial officers and board leadership.

> [Big Data] allows us to know what the customers want. So, it's a builder of revenue. It allows us to target customers in a way that we know their habits...we will offer new things."
>
> **Chief Financial Officer of an organisation producing sustainable energy (interviewee #30)**

Bespoke training to support your Big Data journey

Do you want to understand more about how to get the most out of Big Data as well as other emerging technologies, including artificial intelligence and blockchain? **Get in touch with us to discuss bespoke evidence-based training tailored to your needs and to support you on the Big Data journey.**

> …the biggest challenge, not just here, but I think in previous businesses as well, is just, a) the sheer volume of information that's collected within a business and b) the consistency of that information across the business"
>
> **Chief Financial Officer of an international clothing business (interviewee #10)**

Find out more

Watch our bite-size video series: Big Data, big capabilities

Underpinning research

Merendino, A. and Meadows, M. (2024). Big Data, Big Capabilities: Navigating Big Data journeys to develop the professionals of the future, Working Paper, Queen Mary University of London, pp. 1-31

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Alessandro Merendino is a qualified chartered accountant in Italy and the UK. With expertise in corporate governance, he is interested in the intricacies of board dynamics and the strategic decision-making processes of directors. His research focuses on the integration of digital technologies, such as Big Data and artificial intelligence, in shaping strategic decisions and digital strategies.

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With a background in mathematics, statistics and operational research, Maureen has over 20 years' experience of working with customer data and analytics, both as a practitioner and academic. Maureen is interested in the use of data, particularly customer/consumer data, by organisations of all kinds; the analysis of Big Data to support decision-making and enhance strategic conversations; and the impact of data sharing and privacy on customer behaviours and new business models.

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