

**Unlock
business
potential with
digital data**



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Unlock business potential with digital data

The data generated by digital transformation offers enormous value for all organizations. You can use it to better understand customers, design improved products, create new revenue streams, and more. But this new “digital data” can test traditional ways of managing and analyzing data. We outline an approach to ensure that your data assets are not wasted.

Digital transformation with cloud, artificial intelligence and IoT generates a “digital exhaust” of data, which promises new and eclectic use cases for business, customer and IT operations. This digital data, produced in real time by networks of users, machines, devices, sensors and robotic processes, has also led to a paradigm shift in the way data is valued, managed and exploited.

Cloud data and analytics platforms enable unlimited volumes and types of data to be consumed, stored, and processed to meet a variety of advanced use cases. As organizations adopt and migrate to these platforms, the diverse data collected and transformed can deliver significant value for the business.

However, getting the most out of digital data brings its own challenges. These include lack of familiarity or understanding, questionable data quality, new types of data or requirements which need complementary skills and technology to process, possible integration headaches and the sheer frequency and size of the new data arriving.

The temptation is simply to store all data, irrespective of the understanding of it or a known use for it. This practice will lead to data teams being quickly overwhelmed by inefficient, incorrect or even illegal use. It will make security

leaks more likely and make compliance to data privacy regulation more difficult. Storage costs will skyrocket for no apparent return.

But it is not an opportunity you want to miss. The world’s fastest growing organizations have all embraced digital data and are applying steps and processes to confront the data challenges. According to consultants McKinsey, these “high-performing organizations are three times more likely than others to say their data and analytics initiatives have contributed at least 20 percent to earnings before interest and taxes (EBIT) over the past three years”.¹

In this paper we outline how to get a handle on your digital data and grasp the opportunities that it can provide.

Contents

- 3 Capturing value from digital data**
- 4 Putting data to work: a retailer use case**
- 6 Nine steps to digital data success**

What do we mean by digital data?

It is important to differentiate between enterprise data and digital data. Enterprise data is highly structured and nowadays lives within a relational database or at least has originated from one. It can easily be read on import to Excel and exploited by SQL. Enterprise data is usually made up of recognizable attributes even if the metadata is not always accurate or complete. It is slow-moving in nature, predictable and relatively small in volume.

Digital data is the data generated by the applications and processes, which are the result of digital transformation, such as mobile shopping. It can include unstructured data such as video or sound. Digital data also includes machine data, which is generated by a device, with no human interaction, such as in the internet of things. The growth of the number of connected devices means machine data will be the biggest growth area for digital data.

Capturing value from digital data

Digital data can provide great insight into your market and customers. But many organizations are overwhelmed by the explosion of data from digital transformation and IoT.

The danger is they ignore existing data management conventions, which leads to poor practices and missed opportunities. Achieving business value through “data monetization” requires some classic data disciplines blended with new capabilities. As data analytics increasingly moves to the cloud, and as volume and types of data to be ingested increase, there is a risk that there is insufficient thought to its use, validity or need. In the rush to embrace digital data, you must not forget the data governance lessons that were learnt through managing and exploiting enterprise data for business intelligence (BI) over the last 30 years.

While IT may manage the data infrastructure and processes, the business must take responsibility for data use, quality and availability. Almost all new innovations in data analytics technology are based on cloud services. It is a compelling approach for data analytics: cloud platforms offer comprehensiveness, scale, elasticity, subscription funding models, security, convenience, openness, and performance. However, with little diligence, data lakes rapidly become data swamps and the value of data is compromised.

Meeting business needs

This is especially challenging when cloud platforms are increasingly commissioned and owned by the business, since the business may lack the experience and robust processes more likely found within an IT dept. One of the questions a senior

business executive may ask is “tell me something I didn’t know from the data”. To tackle this seemingly open-ended challenge, the process should be to collect candidate “hunches” as use cases, consider the expected outcomes, then identify the types of predictive, rule-based or statistical models available and their required data points.

Data lab and data mining activity may then be able to identify patterns, important data points or “principal components” within data that were hitherto unknown or not understood. This process may lead to the collection of additional or new data, or use available data that has been unexploited.

Choosing what data to store

It can be hard to decide what data to store when there is so much data being produced. Some data will always be difficult to store long term. Availability, security, access may be a problem. Machine data is often not stored for long and may live “on the edge”. The number and variety of devices and formats increases its complexity, which makes asset management very important.

Of course, if certain data has not been stored, this will limit the historical data available. Historical data is critical for model training, and ideally data scientists would train the model with years of data. Meeting new use cases, therefore, may require patience to build up sufficient data if not immediately available.





Putting data to work: a retailer use case

Digital data holds significant value for many industries. To illustrate its potential, we examine how it can transform the retail industry.

Prior to embracing digital transformation, retailers were limited to collecting sales order processing data from ERP and CRM software. This enterprise data collected the “what, when, who, why, how and how much” of sales order processing. However, the retailer had no understanding of the events, habits or behaviors over the lifetime of the relationship, or those leading up to and immediately following the sales transaction.

Other data may have been available, such as contact center call detail records (CDR), voice recordings or emails. However, it was often unused because retailers found it difficult to accurately associate this data and were unable to process unstructured data (the content, context and nuances of the voice and text) with the sales order processing data.

With digital transformation, a whole plethora of opportunity knocks. Using a smartphone app, a customer can browse, communicate via a variety of channels with the contact center, access social media to read reviews, post reviews and start the sales order process.

Improved sales analysis

From the retailer’s perspective, the digital exhaust of interactions created through mobile browsing web logs, chat logs, email, voice interactions and social media postings can be integrated with enterprise data and collated to provide customer analytics and customer views. This digital data represents the “missing” pre- or post-sales data. Now, analysis of the extended sales cycle is possible over days, weeks or even months. The combined data points can further be used for decisioning and predictions when fed into propensity, predictive or machine learning models to start stimulating customer transactions using digital marketing or location-based offers.

Improved customer experience

Collection, collation and sequencing of contact center data also allows the retailer to better plan contact center operations and appropriate levels of staffing. For example, a customer may interact over time with various contact center channels. Why is this? Is the customer channel hopping to achieve a better outcome? Is one channel quicker or better at solving one type of query over another? Is channel use and shift cyclical or dependent on customer demographic?

The retailer's contact center can employ data analytics to undertake digital customer journey discovery, optimization and customer experience. Essentially, where and how should the contact center invest its digital and human resources to maximize value, optimize the customer journey and provide heightened levels of satisfaction.

Better ecommerce performance

Further use cases for the retailer's data could include measuring and managing the performance of web, mobile, contact center, network, security and cloud infrastructure. This involves collecting and collating logs and machine event data generated by the different devices and components involved in delivering it. AIOps allows technology teams to quickly identify performance bottlenecks and degradations in service which impact business. A good example of this is customer or employee experience in the context of ecommerce – is my web infrastructure working well enough to provide minimal standards of sales throughput? This is an example of data monetization where using digital data to sniff out technical issues before they occur can prevent major revenue losses.

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Nine steps to digital data success

Analytics of digital data builds on the best practices developed with enterprise data. However, the nature of digital data means that it poses several new challenges – particularly around its volume and velocity. In the following section we look at nine key steps to ensure that your digital data is not wasted.

1 Take a top-down approach when planning a new data initiative

A top-down approach to data science will help you deliver faster results that align with business priorities. Look for the business challenge that you are trying to understand and find the data that will support it. A compelling business case is backed by a business champion who will allow you to connect the opportunity and innovation with data to your business objectives and goals.

However, don't entirely ignore "bottom-up" use cases, which start from looking at the data and identifying use cases that may use it. While most enterprises can achieve a better sponsored outcome from a top-down business case, many will also include bottom-up use cases in their data strategy. A 60:40 split between the two is common.

This shouldn't be an invitation to store too much data. Large multinationals produce so much data that they would be swamped, making it very difficult to align with business goals.

2 Challenge the use cases

Although there may be many potential use cases, they must both deliver value for the business and be feasible for the data team. You will need to answer questions such as: Are they achievable? Do the data points exist? Is the data understood? What is the quality? Do we have the technology to support it? This step will allow you to choose between different use cases and prioritize them, typically by choosing the quick wins first.

Don't forget that where there is new or unfamiliar data, data exploration, validation and data science may be required first. This can be delivered by means of a "data lab" initiative to prove the value and approach.

There could also be questions over the realities of implementing use cases, such as how fast can I achieve ROI, or does it add real business value? It is even possible that the use case could create more problems than it is worth. For example, if you plan to use data points that are or could be used to construct personally identifiable information (PII), this will need to be GDPR-compliant, which is a large regulatory workload.



Nine steps to digital data success

3 Conduct a full data strategy review

A data strategy review will help you establish both what you want to achieve with data and your data science maturity. The review will identify any gaps in data, technology or governance and will result in a data strategy roadmap, along with potential use cases.

The data strategy review will answer several questions, including: How will digital data co-exist with enterprise data? What governance or enhancements to your organization need to take place? What is the technology roadmap – can all use cases be met? Are appropriate data governance artefacts, processes and technology in place? What are the synergies between use cases to identify common and core data?

These are all necessary reflection points within the review to define the cloud data strategy and will allow the project to move forward.

4 Establish or extend data governance practices

This step is critical to the whole data monetization effort. You need structured, systematic and sustainable practices and technology for data governance. This will allow you to effectively ingest, identify, catalogue, verify, store, move, secure, integrate, model, visualize, explore and share data.

It is vital to follow the notions of “audited data” and “non-audited data”. The most available and commonly used data will be audited data, which is persistent, validated and marked as approved for enterprise use. “Non-audited data” will be non-persistent data, unvalidated and only accessible to limited and specialist groups working on specific projects.

Over time, non-audited data should either become audited (perhaps with some enrichment and/or correction) or be discarded. In short, all data assets should contribute towards a use case, be understood and documented, otherwise justification for maintenance is questionable.



Nine steps to digital data success

5 Build data science capability

Acting on the outputs of a data strategy requires a team of specialists. Does your organization have the right skills and competencies? Do you have a data science team and a data engineering team?

These functions are not just the existing data management and business intelligence (BI) staff with new titles – they are different roles. Existing staff can retrain to take these roles, however, and their experience and knowledge of the data and business will be invaluable.

Most importantly, the project will require a data science leader with the ability to influence senior executives. It will also require a data engineering team with the skills and experience of new types of data and cloud platforms, including DevOps processes.

6 Validate results

Use cases will need to deliver a measurable return on investment (ROI). You must establish clear and unequivocal success and acceptance criteria early in the cycle. Key performance indicators will expect very high levels of accuracy for actuals data (e.g. 99.9%), but lower levels for predicted results against actuals, after look-back testing (e.g. 80%).

Validation can get complex and time consuming because the predicted results will need to be stored and validated against actuals as they become available (look-back testing). Various different types of model may need to be tested and executed with varying weightings and parameters. Results will gradually improve over time with the iterative and natural process of model refinement and data point selection. However, there will be a point where small improvements in accuracy are not worth the further time or effort, because of the law of diminishing returns.

In addition, there will be situations where predicted results can never be validated since the actuals data may never exist. In these cases, consider general trends or other business performance metrics, such as customer loyalty. If material decisions are made on predicted data points and business performance is improving over an extended time frame, it is likely that those predictions are impactful.



Nine steps to digital data success

7 Data sharing

One of the benefits of executing a data strategy is to provide meaningful, accurate and up-to-date data and services to employees as part of a self-service or managed data environment. This data can range from simple reports to real-time dashboards. Careful thought must be given to the needs, aptitudes, training, and interests of the employee to ensure they are provided with the correct access, tools, breadth of data and support.

In addition, organizations in many sectors make business or service data available to customers, suppliers, and consumers. An example is supply chain data. Business partners are likely to share data to drive pan-enterprise business or to provide SLA performance reporting. However, appropriate metrics and SLAs are often not defined in a contract, and the reliability, quality and breadth of data which forms part of the service can be limited. Providing high quality and timely data or meeting SLAs as demonstrated by data analytics for business partners can be a significant advantage for contract renewal and even increase the value of a contract.

8 Consider data privacy and GDPR restrictions

Data privacy is an important issue for many data monetization projects. Since May 2018 with the introduction of GDPR, data subjects (individuals) present in the EU, EEA and the UK post-Brexit have extensive rights of and access to data about themselves. This can either be at the point of data capture, or data subjects elsewhere transacting with organizations in those jurisdictions. Organizations who ignore their responsibilities can face penalties of up to 4% of their global, annual revenue not to mention bad publicity and loss of trust.

To meet GDPR requirements, you must be able to prove that you use data in a way commensurate and appropriate to your business operations. Using some of the data governance artefacts, practices and components mentioned so far, you must be able to respond to up to eight types of data subject access request (DSAR) in a timely fashion. You should use as much automation as possible for processes to be sustainable. The monetary value of this is huge in avoiding fines and developing customer trust and loyalty.

The added requirements of GDPR means that use cases including personal data are complicated and make the business case more difficult to achieve. For example, you will need to maintain business rules on the system based on GDPR preferences. These restrictions will hinder use cases that are focused on personalization.

Nine steps to digital data success

9 Monitor the success and use of solutions and associated data

Finally, you should establish and track metrics which record usage profiles, savings, value of new capabilities, user experience and satisfaction. Try to link these to business metrics and outcomes. Also retire data sets with little or unsuccessful use as there is no point in maintaining them. Note that organizational objectives evolve over time, the regulatory framework develops and business sponsors change. These factors will all impact the data landscape and ensure it is fluid.

Why Orange?

Orange Business Services supports its clients' digital and data transformation initiatives. Our portfolio of offerings include data analytics strategy and roadmap, contact center and omnichannel analytics, customer engagement, AIOps, Big Data lab, IoT and Industry 4.0 analytics.

For more information on how to achieve the maximum return from your data assets contact the author Julian Human at julian.human@orange.com



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