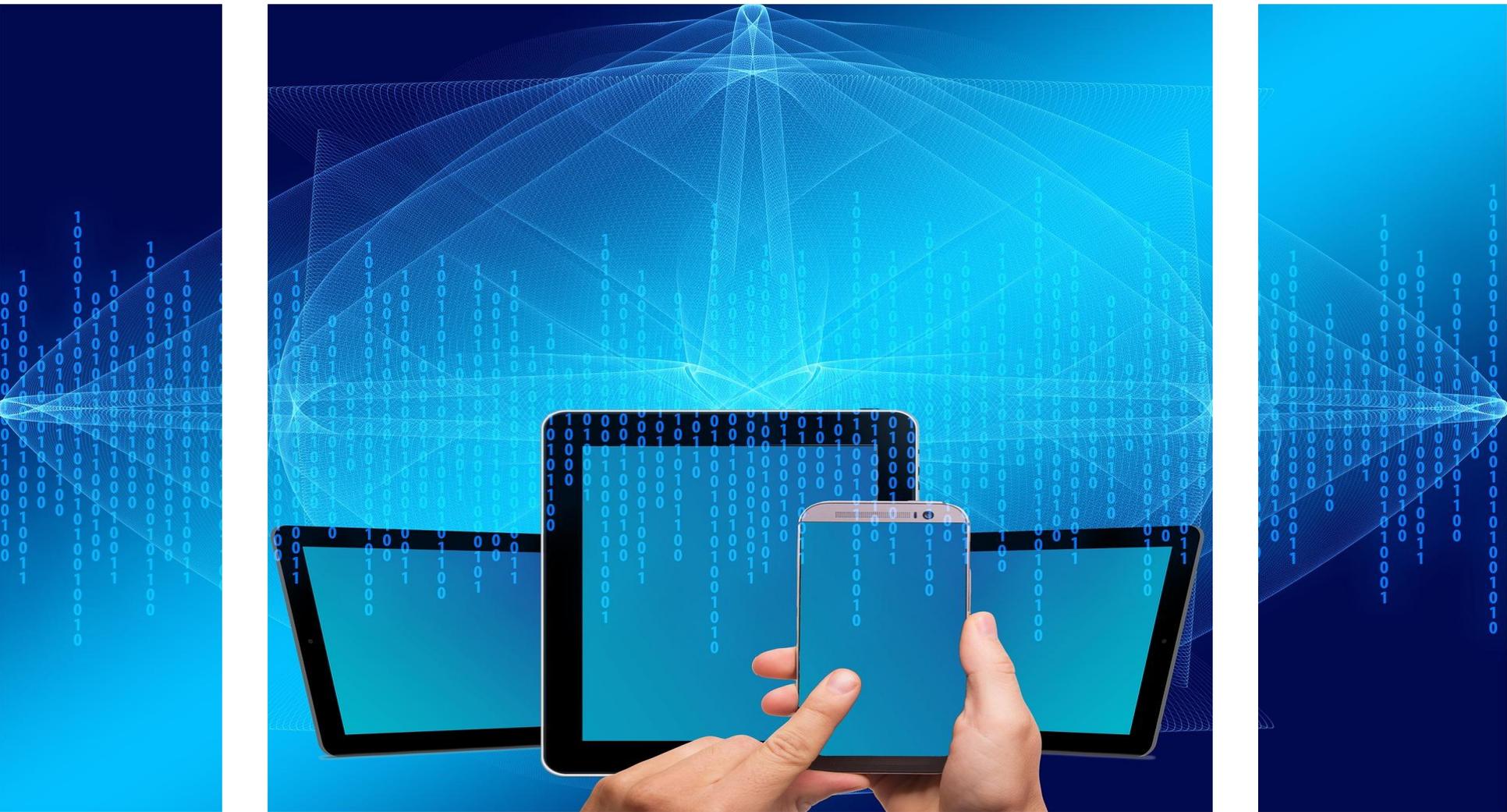


How the Internet of Things will transform your business



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Introduction

Much has been written about the Internet of Things (IoT); it has generated vast tomes of printed and digital articles about its ability to revolutionise the way we interact with everyday objects. Considering how much the internet and connectivity has transformed our lives over the past three decades, it is no surprise that the IoT is set to provide a similar reform.

The IoT is the inter-networking of physical objects which have their own unique identifier, creating a network connectivity that allows them to collect and exchange data. At a basic level this interaction between physical objects and IT systems allows improved efficiencies and accuracies to provide financial benefits. At a more advanced level it transcends into a cyber-physical system such as smart grids, smart homes and intelligent transportation (think remote security systems and automated cars).

The opportunities for IoT are huge. Although the lifecycle of the IoT is only just starting, analysts are forecasting that the number of objects interconnected

will be over 200 billion within 5 years. Of this 14% of objects will be autonomous connected things. This has an implication for businesses and individuals, as spend on IoT related technology and services is set to grow to over \$8 trillion as companies identify new ways of interaction.

The pace of change and scale of transformation is unquestionable; traditional ways of interaction with previously inanimate objects will become a thing of the past.

From a corporate perspective these changes offer additional benefits which give valuable insights, generate a competitive advantage and create customer loyalty; all of which provides a financial contribution to the overall bottom line of the organisation.

However the revolution for smart businesses is not focusing on the Internet of Things. After all that is just creating an infrastructure that links uniquely identified objects to let them collect and share data; for the truly smart business the focus is not the infrastructure of the IoT but the data collected and shared.

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Extracting the value from the data

As objects move from passive to interconnected, it provides the whole business with a new business channel.

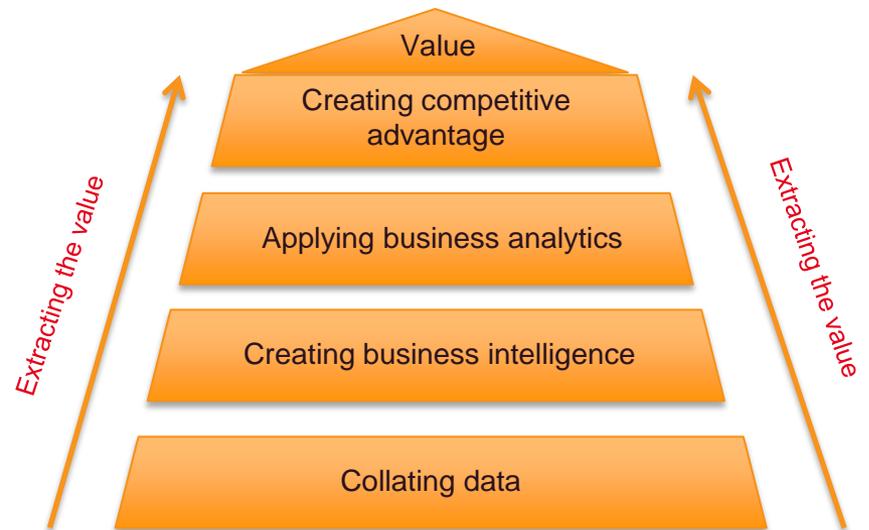
In essence what the organisation is doing is creating value from the data it is collated through business analytics to create competitive advantage, as shown in the value flow.

The R&D teams have real-time live scenarios that allow them to track products in-situ. This means product development is based on actual experiences that are gathered throughout the lifecycle of a product, and are highlighting what issues need resolving in order to improve the product.

Operations and production teams can track usage and lifespan of the product and its components, allowing efficiencies to be made within manufacturing. For those tracking assets in a workplace, the information can be used to manage pre-planned maintenance, so that it includes usage as well as time.

Marketing and sales meanwhile have a live channel

of communication which lets them understand how the product is actually used, rather than the reason it was sold. It also gives an insight into behaviours and preferences, all of which can help tailor the next generation of campaigns.



One area that really benefits is customer care and after-sales maintenance teams. Access to live data means a move from reactive to proactive support. By being able to track usage and durability, the teams can proactively contact customers before an item actually fails.

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IoT Analytics

Being able to have the data from your business assets in real-time has undeniable benefits. However there is a question over who 'owns' the data within the organisation.

Currently as much as 90% of all the data generated by mobile devices and connected appliances is never analysed.

The reasons for this non-analysis are complex and myriad, however some of the main issues are around:

- Lack of infrastructure for collating collected data and channelling to the relevant teams
- Lack of Board buy-in to value of data
- Lack of central cohesion around how data can be extracted and analysed.

The lack of adoption of Internet of Things into the core ways of doing business should not be a surprise, given the relative infancy. There are no leading lights who have transformed their total business to give the confidence around implementing an IoT analytics programme (although there are plenty who have an IoT element), who have overcome data privacy and

security issues and implemented in a timely and cost-effective way.

However IoT is here and businesses need to start considering how they will adapt to the new environment.

As already mentioned IoT Analytics is vastly different to web analytics. Web analytics are based on activity on pages, and monitoring clicks or length of time viewing can easily be monitored. This can happen on a huge scale and be translated into highly sophisticated graphs because of the single collection point.

With Internet of Things Analytics there is no single data collection point, no similarity in data and no constant source. Instead the objects are geographically dispersed and communicating intermittently, through highly connected networks.

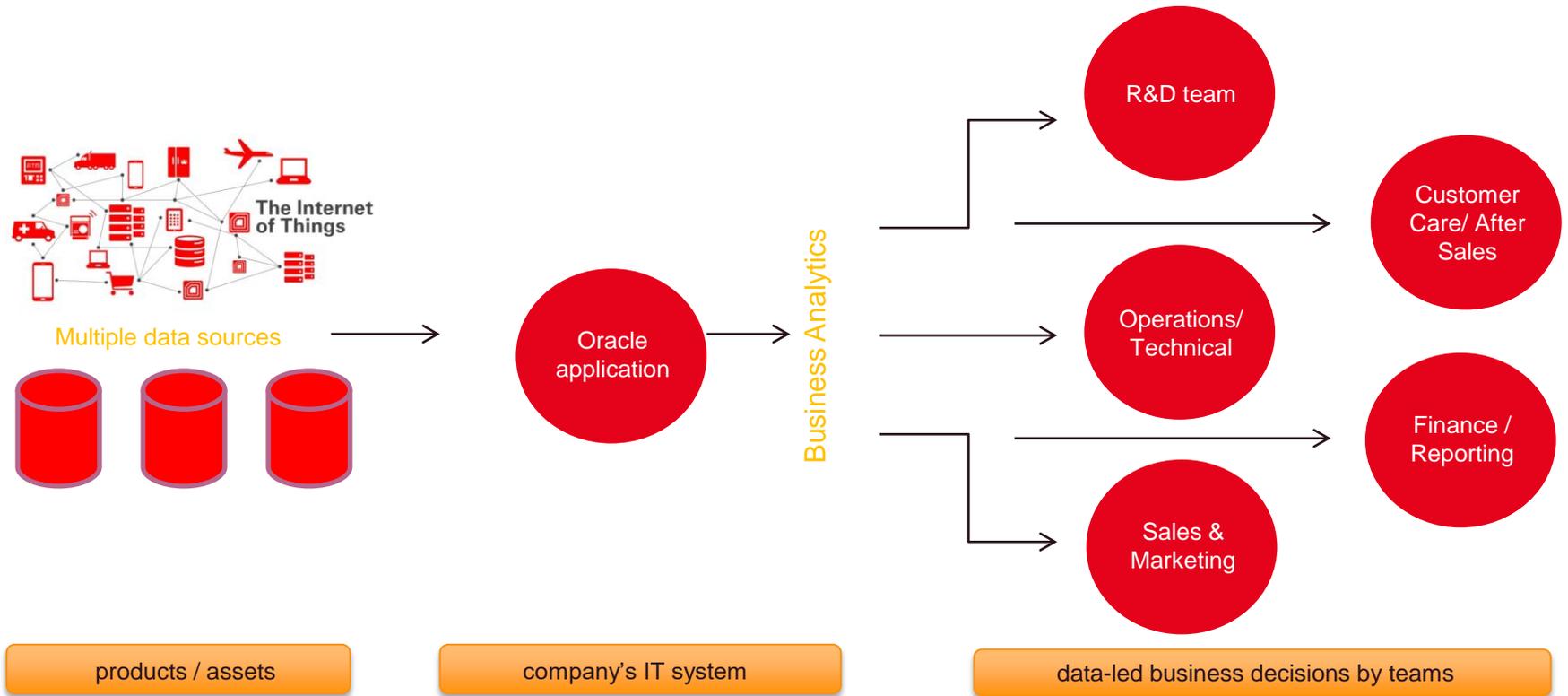
This means the organisation requires a way of collating the data in a meaningful way. One suggestion is to deploy edge analytics near the endpoints. This gives the flexibility required for dynamic interactions.

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So who owns IoT

Although IoT provides opportunities for the whole organisation, it needs to be owned by the IT function. Having central co-ordination and sponsorship means

that the relevant IT infrastructure can be set up to allow multiple sources of data to be captured and collated before the data is processed and then distributed to the relevant teams. The dataflow illustrates the process.



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So is Internet of Things Analytics for you?

The Internet of Things will change the way most companies do business. The degrees and timings will vary depending on the level of interconnections, appetite for competitive edge, budget to invest and state of existing IT infrastructure and systems.

Questions to consider:

- Have you already created an IoT strategy?
- Are your products connected devices?
- Are your company assets interconnected?
- Are you already using business analytics?
- Is the IT department a suitable sponsor for IoT?
- Would IoT give your organisation a competitive advantage?
- Are your competitors adopting an IoT strategy?
- Do your teams use data-led decision making?
- Could you be using your data more effectively?

Whatever your current business model, the Internet of Things is set to revolutionise the market place. Make sure you have an Internet of Things Analytics strategy.

How others are successfully using IoT

Energy suppliers: using IoT for predictive maintenance, centralised control systems, remote asset management and real-time safety inspections.

Rail companies: using IoT on remote asset monitoring to help with improving operations and rail repair sensing.

Transport companies: using IoT for driver assistance and engine performance optimisation.

Home appliance manufacturers: using IoT for product improvement, maintenance schedules and consumer insights.

Healthcare companies: using IoT for monitoring and tracking outbreaks of diseases, surgery and remote testing.

Telecoms: leading the advancement of IoT in the way the mobile devices are becoming a conduit for both shared and personal IoT.

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