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Cut through: How the Internet of Things is sharpening Australia's competitive edge.

A report sponsored by Microsoft.

Foreword

**Real insight,
real-time data,
real advantage.**

Every organisation has at its core a simple ambition: to thrive. In today's hyper-connected, international and fast-moving environment, it can prove a challenge.

But access to fresh reserves of timely and accurate data provides enterprise with better insights to inform decision-making and adjust operations on the fly. We are already witnessing the positive impact of big data and business analytics — the Internet of Things hugely magnifies the opportunity.

In the past, much of the data available to organisations has been collected, collated and analysed by employees using computers and communications networks. Ubiquitous connectivity now means that information can be also collected, collated and analysed by machines, by sensors — indeed by anything connected to the internet. It explodes the amount and timeliness of data that is available for analysis.

This is the promise of the Internet of Things.

Now imagine if you had an Internet of your things — so that sensors in your fleet of trucks could alert you to the need for new tyres ahead of a blowout; so that your shopfloor machines sent a message warning that they were running low on consumables; so that you could track in-store activity using trolley sensors and beacons then direct targeted offers to customers' smartphones while sending staff to checkouts even before a queue formed.

It would result in better asset management, the opportunity for preventive maintenance leading to less downtime, more and clearer business insights to ensure better decision-making, improved customer service, greater agility and the opportunity to experiment and respond rapidly to changing market conditions.

Microsoft commissioned industry analyst house Telsyte to explore the Internet of Things from a uniquely Australian perspective. The results are startling.

Two thirds of the organisations which have deployed and measured Internet of Things solutions report achieving 28 per cent cost reductions in their day-to-day operations. That alone confers huge competitive advantage, even before the benefits of improved agility can be assessed.

However, only 26 per cent of the 300-plus Australian organisations which were surveyed say they have deployed Internet of Things, and just four per cent claim to be mature users of the technology. Organisations that are not seriously considering how this new era of technology can benefit their business are missing out on a huge opportunity. Those which seize the opportunity can carve out a significant competitive advantage — and really thrive.

Lee Hickin,
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Internet of Things

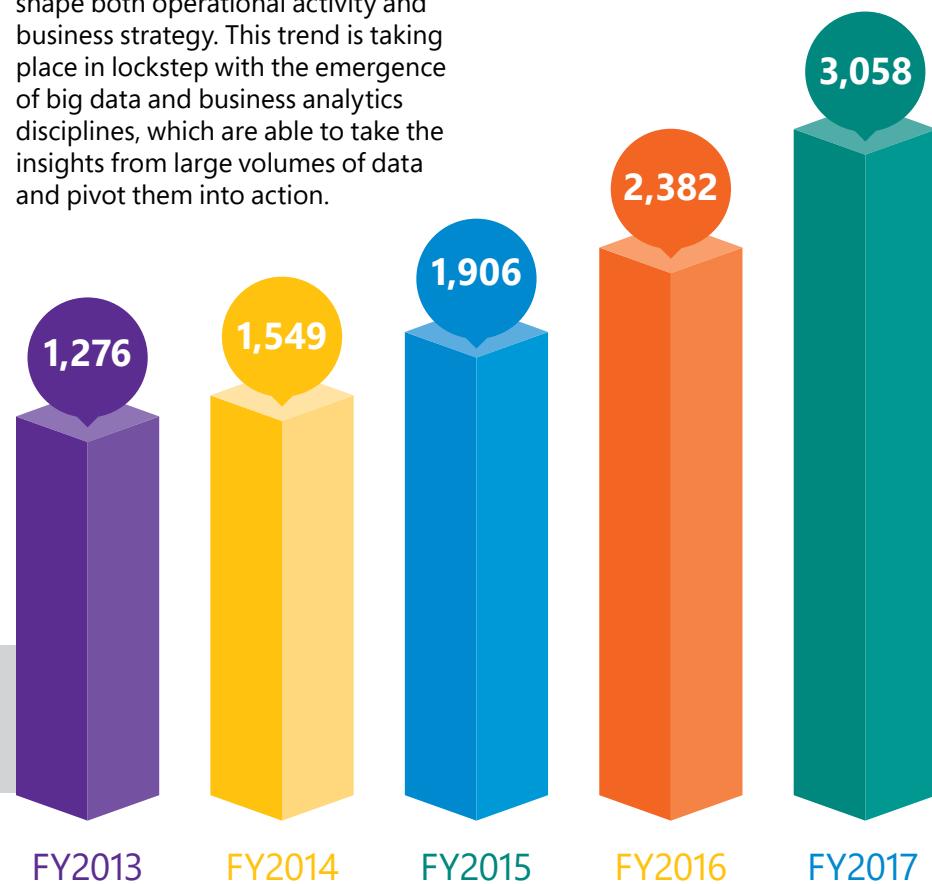
The Internet of Things (IoT) is the network of physical devices (such as machinery, cars, lighting, manufacturing equipment and sensors) that interact with each other and with business software systems. The IoT collects and collates data from those connected devices — data that can be used to improve customer service, increase revenue or reduce costs. Technologies like Supervisory Control and Data Acquisition (SCADA), mobile machine-to-machine (M2M) and other networked industrial control systems are also defined as part of the IoT in this report.

Early adopters reap rewards

Australian organisations have always been early adopters of new technology, especially where it confers a competitive advantage.

A cohort of Australian organisations is now pioneering the deployment of IoT solutions, collecting valuable real-time data that can be analysed and used to shape both operational activity and business strategy. This trend is taking place in lockstep with the emergence of big data and business analytics disciplines, which are able to take the insights from large volumes of data and pivot them into action.

The number of internet-connected devices able to collect and transmit data in real time is exploding across Australia. There are more than 1.5 million machine-to-machine (M2M) devices deployed already and that is expected to double to over three million by 2017.¹



Australian M2M mobile services market 2013-2017

(Thousand mobile M2M services in operation)

¹ Telsyte Australian M2M Market Study 2014

Two thirds of IT and business leaders have seen at least a five-fold increase in connected devices in their organisations over the past five years. The future trajectory is just as steep: 62 per cent² of IT decision-makers expect to have at least five times the number of connected devices in their organisations by 2020.

This, however, represents just the tip of the iceberg.

Microsoft-commissioned research has revealed that one in five Australian organisations is as yet unaware of the concept of IoT and its profound implications for business. A full 48 per cent are either unaware or have no plans to deploy the technology.³

Yet, among those organisations which have deployed and are measuring their IoT initiatives, 65 per cent report operational cost savings and 53 per cent have increased productivity and efficiency — reporting an average 28 per cent (cost savings) and 29 per cent (productivity and efficiency) improvement.

Besides better access to real-time data which can be used to improve and accelerate decision-making, IoT users report improved customer service and elevated revenues. Indeed, 38 per cent of organisations said revenues had risen after deploying IoT — by an average 33 per cent.⁴



2, 3, 4 Telsyte Microsoft Australia Internet of Things Decision Maker Study 2014

Clearly the early movers on IoT are reaping a significant competitive advantage, and respondents signalled that a slew of additional benefits would accrue from investment in IoT.

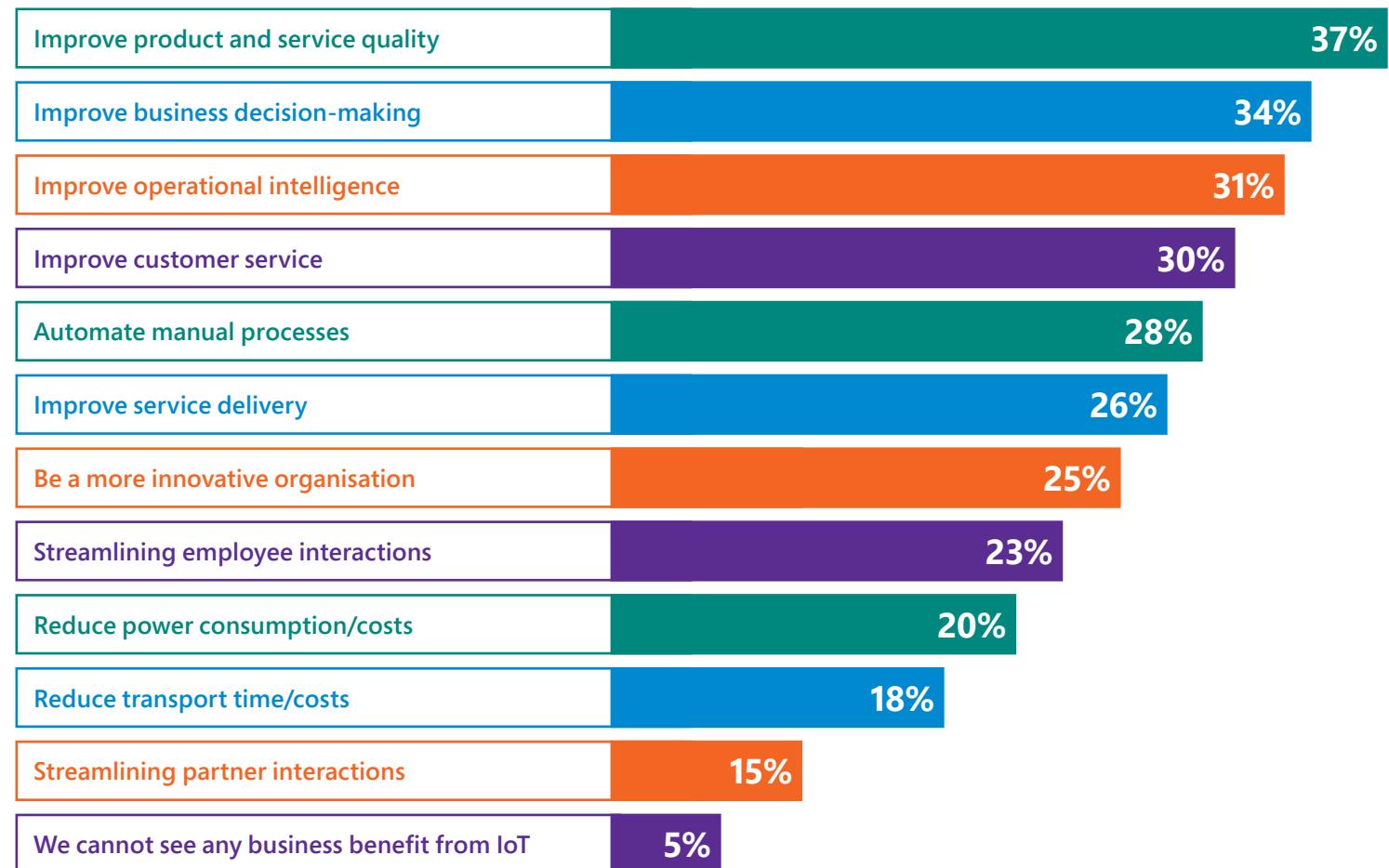
While the early adopters are reaping considerable benefit from their pioneering IoT approach, the next cohort — the fast followers — are mapping a course of action and identifying partners to work with on innovative IoT deployments.

Meanwhile, although fewer than one in 20 organisations said they could not foresee any business benefit from IoT, an alarmingly high 48 per cent still have no plans to implement the technology.

The risk is that the competitive edge being sharpened by the first waves of users will carve out a deep competitive chasm between the leaders and the laggards.

Q: What do you think are the three (3) main benefits for Australian organisations resulting from connected devices and IoT activities?

Telsyte Microsoft Australia Internet of Things Decision Maker Study 2014, n=306, multiple selection allowed





Revenues surge 70 per cent

Lido Stone Works, a custom manufacturer of stone products, wanted a more automated production environment. Lido turned to Breton, a well-known machinery manufacturer, to implement an intelligent system based on Microsoft technologies that connects Windows Embedded machines on the factory floor with back-end servers running Windows Server and Microsoft SQL Server.

The solution takes advantage of ASEM Ubiquity remote assistance software and Windows Azure to connect Lido machines and servers to a Breton control centre for real time diagnosis and resolution of manufacturing problems. As a result, Lido has increased revenue by 70 per cent and productivity by 30 per cent, while Breton has cut travel costs by approximately €400,000 (US\$524,000). Most importantly, the solution is helping Lido realise its potential for innovation.

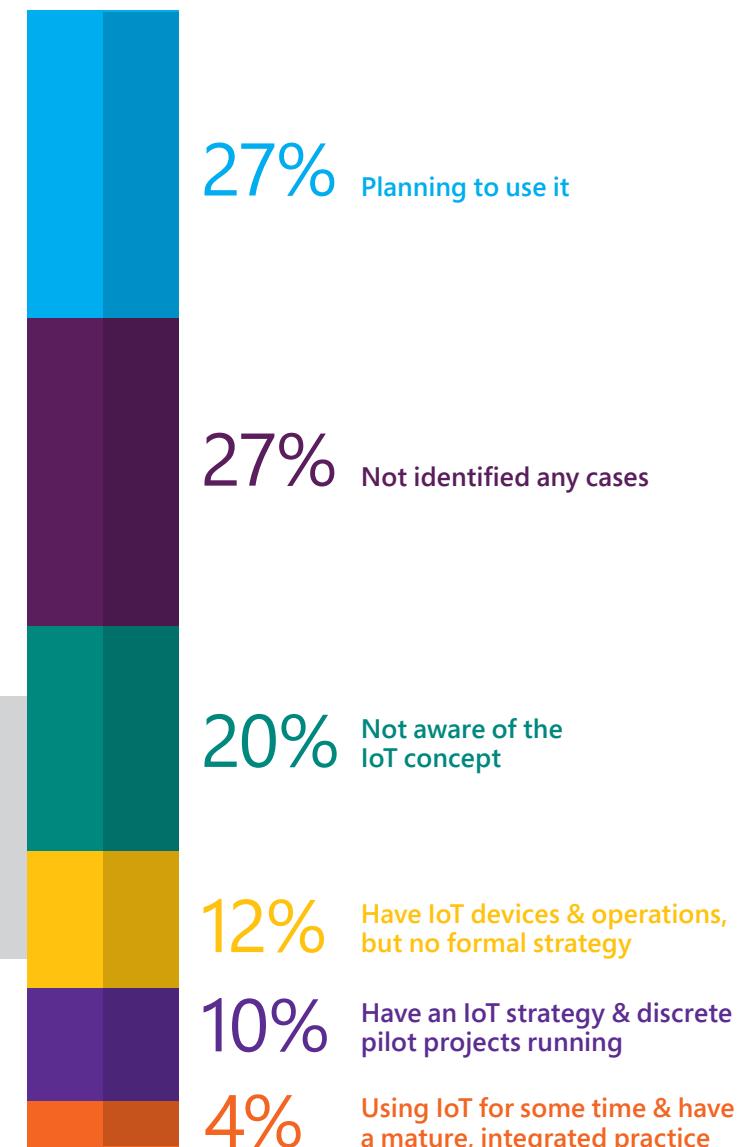
Slow adoption risks competitive chasm

Telsyte's study of more than 300 Australian enterprises clearly demonstrates that, while early adopters are reaping significant benefits — in terms of reduced costs, boosted revenues and productivity, and improved customer service — almost half of all Australian organisations have yet to recognise the immense opportunity that IoT represents.

At present just 26 per cent of Australian organisations use IoT and only four per cent consider themselves mature users.⁵

Q: How far along the Internet of Things journey is your organisation?

Source: Telsyte Microsoft Australia Internet of Things Decision Maker Study 2014, n=306



⁵ Telsyte Microsoft Australia Internet of Things Decision Maker Study 2014

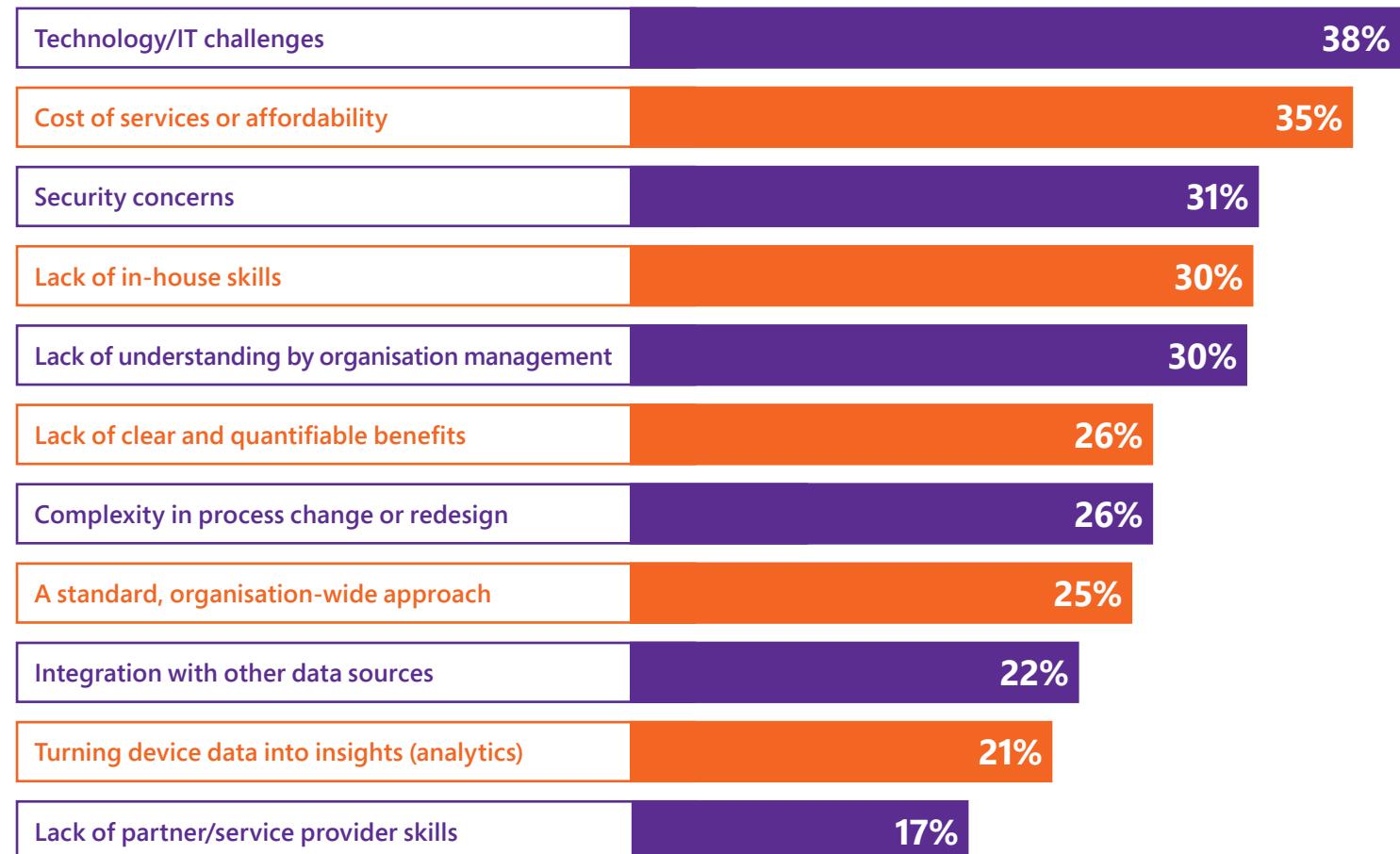
Those Australian organisations which are yet to take the plunge say they face a series of barriers: technology and IT challenges; cost of services; security concerns; and lack of in-house skills have been identified as the most pressing.

Despite this, a further 14 per cent of companies plan to deploy IoT by 2018. To overcome the barriers, many will take a leaf from the book of early adopters who have reported success in leveraging the experience and skills base of third parties when deploying IoT solutions.

More than half have IoT services delivered by a third party, often harnessing flexible cloud-based solutions. This approach helps overcome the IoT skills challenge that many early adopter organisations acknowledge, with only 29 per cent of survey respondents reporting having either worked on or managed IoT projects themselves.

Q: What do you think are the three (3) main challenges for Australian organisations resulting from connected devices and IoT activities?

Telsyte Microsoft Australia Internet of Things Decision Maker Study 2014



The growth of third-party IoT managed services could prompt a further increase in incidence of “shadow IT,” with business executives buying piecemeal services to tackle issues in isolation. However, the greatest advantage from IoT will arise from a more holistic approach — providing enterprise-wide transparency and insight.

At present, survey respondents report that IoT is an area still largely under the control of the IT department. However, it seems likely that as word of the cost and revenue impacts of IoT deployments percolate the C-suite, other executives will start to agitate for IoT solutions. IT had best be ready.

Q: What is your organisation's stage of adoption regarding the use of big data software and applications?

Source: Telsyte Australian Big Data & Analytics Market Study 2014; n = 324

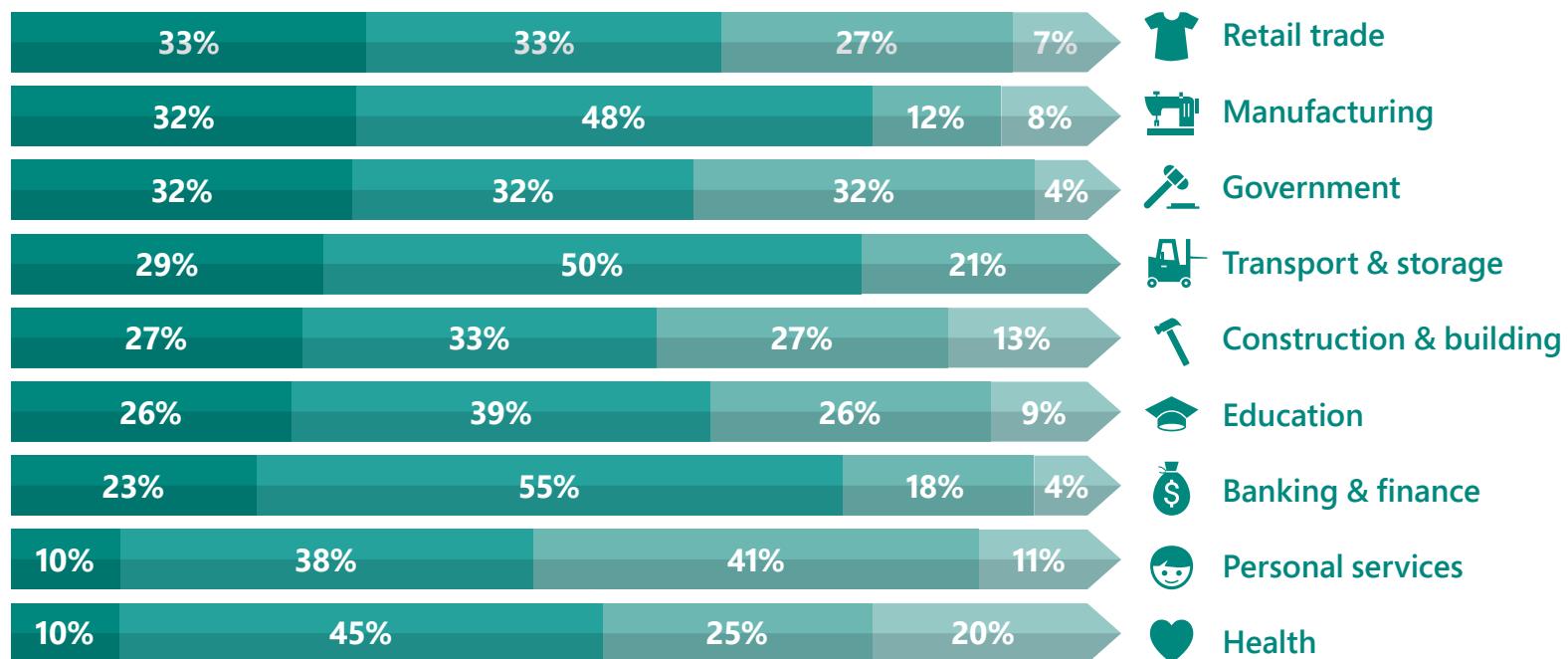
- Using big data
- Investigating big data
- Have not identified need
- Need, but not investigating

To ensure that organisations don't create a patchwork quilt of technology and exacerbate any data silo issues, IT should grasp the IoT nettle and work with experienced partners able to architect solutions that can integrate IoT devices with corporate information systems and big data and business analytics initiatives.

Telsyte research shows one third of Australian retail enterprises are already using big data to analyse sales and customer trends.⁶ The more intelligence retailers have about their customers, the more opportunities they have to increase revenue or customer satisfaction.

Retailers able to deploy IoT solutions — that, for example, successfully integrate data from a point-of-sale system that uses standards-based connectivity with data from proprietary location sensors — will have access to business insights orders of magnitude more valuable and timely than laggard rivals.

While retailers have made the greatest progress in terms of big data deployment, large swathes of the manufacturing, transport and storage, banking and finance and health sectors are committed to investigating big data — all sectors where intelligently designed IoT deployments will add to the wealth of data available.



⁶ Telsyte Australian Big Data & Analytics Study 2014



Consumers boost spending by 47 per cent

New Zealand-based VMob is harnessing IoT to help McDonald's transform its customer engagement in the Netherlands, Sweden and Japan, regions that represent about 12 per cent of the food service retailer's locations worldwide. With VMob — McDonald's expanded its existing mobile app in these markets, building on standard features such as product information, restaurant locator and mass offers for promotions and specials. It did this by combining the mobile app with contextual information and social engagement to personalise the customer experience dynamically.

When customers open the McDonald's app, they get individualised content based on their location, the time of day, the weather, and their own habits of purchasing and responding to promotions. For example, on a sunny summer afternoon, a customer who is walking near a store might get an offer for a free ice-cream with a burger purchase. Early on a cold, grey morning, the offer might be for coffee or for one of the customer's favourite breakfast items. If the customer is moving quickly, the offer may point to drive-through locations. As a result of deploying the VMob platform, McDonald's in the Netherlands has seen a 700 per cent increase in offer redemptions, and customers using the app are returning to stores twice as often and spending 47 per cent more.



Fast followers reduce risk and gain opportunity

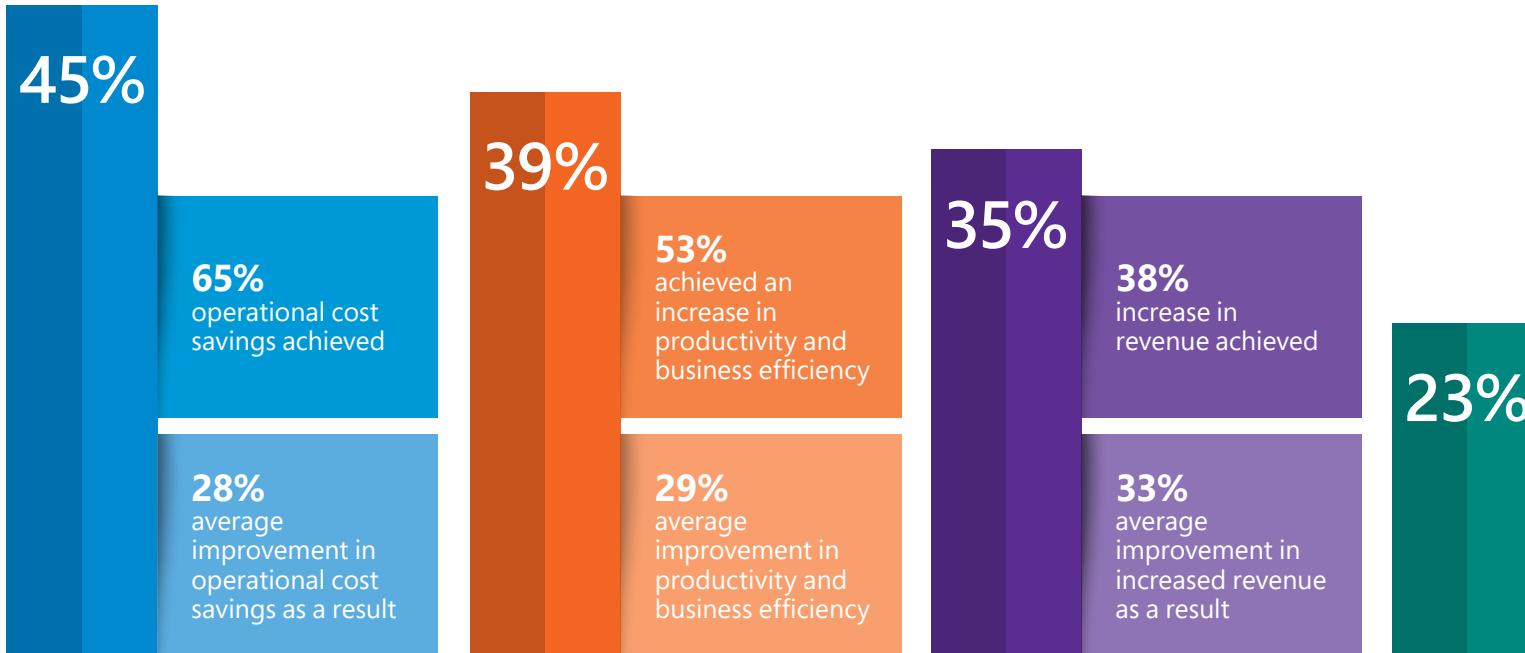
Asked to articulate the benefits of IoT deployments, those organisations which have deployed and measured such solutions report results which cannot be ignored.

Two thirds report achieving 28 per cent cost reductions in their day-to-day operations, giving them a sharp competitive edge over IoT laggards. In addition, 53 per cent report productivity improvements and 38 per cent revenue boosts.

So, even before the benefits of increased agility are accounted for, IoT investment has demonstrated returns.

Q: What are the top drivers for IoT projects in your organisation?

Source: Telsyte Microsoft Australia Internet of Things Decision Maker Study 2014, n=306 (multiple response allowed).
and n=40 Base: those currently using IoT activities and measuring the return on investment (ROI)



While enterprises which have deployed IoT solutions acknowledge that there are technical, skills and broader organisational hurdles to overcome, the benefits achieved have been well worth the effort. In any case, organisations have not had to clear the hurdles on their own.

More than half of the early adopters have used a managed service or cloud for IoT, with a further ten per cent adopting a hybrid solution. The fast followers have learned from that approach, with 55 per cent planning to leverage third-party expertise through a managed service offering, a further 11 per cent intending to use a cloud service, and seven per cent anticipating a hybrid approach.

Cost cutting

On average, two thirds of Australian organisations investing in IoT activities experienced a 28 per cent reduction in operational costs.

Regular process improvement programs

Half experienced improved productivity or business efficiency from their IoT deployments. On average, organisations achieved 29 per cent productivity benefit.

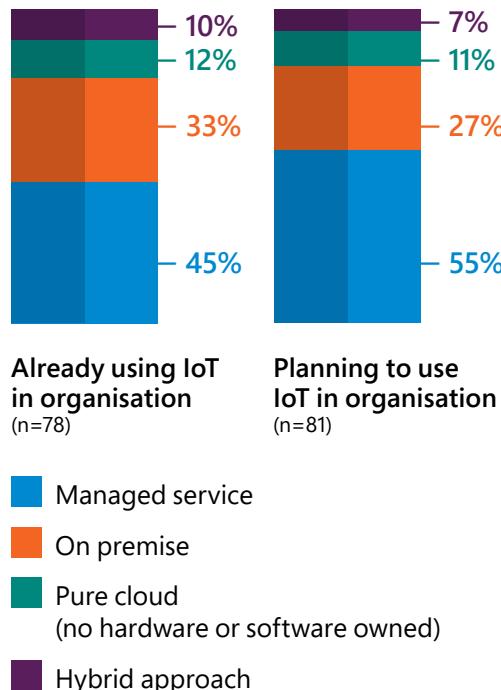
Competitors in our industry

Nearly 40 per cent experienced increased revenue. Those experiencing revenue growth on average experienced a one-third increase in revenue from IoT.

Product refresh cycles

Industry partners have been selected for their experience and skills in IoT, demonstrated security profiles, ability to host data locally allowing enterprises to satisfy data sovereignty concerns, and track record in being able to scale cost-effectively.

Fast followers planning to deploy IoT solutions six to 24 months after that first early adopter cohort can leverage this same approach, reducing the risk but increasing the speed at which they are able to deploy and reap benefits from IoT.



Costs cut while global expansion accelerates

ThyssenKrupp Elevator wanted to gain a competitive edge by focusing on what matters most to its customers in buildings the world over: reliability. Drawing on the potential of the IoT, ThyssenKrupp is connecting its elevators to the cloud, gathering data from sensors and systems, and transforming that data into valuable business intelligence. The result is vastly improved operations, allowing ThyssenKrupp to offer something its competitors do not: predictive and preemptive maintenance.

ThyssenKrupp teamed up with CGI to develop a solution that securely connects ThyssenKrupp's thousands of sensors and systems in its elevators — that monitor everything from motor temperature to shaft alignment, cab speed and door functioning — to the cloud with Microsoft Azure IoT services. ThyssenKrupp can capture the data, transmit it into the cloud and combine it into a single dashboard that serves up two basic types of feedback: alarms, which indicate immediate issues; and events, which are stored and used for management. The solution provides technicians with instant diagnostic capabilities and rich, real-time data visualisation.



Telsyte recommendations



Start small then scale

The data explosion generated by IoT devices is creating an opportunity for Australia's business leaders to cut costs and improve business insight. Telsyte recommends overcoming the inertia associated with rolling out unfamiliar technologies by starting small and growing IoT deployments as benefits — such as boosted productivity and revenues, and reduced costs — start to be realised.



Climb on the cloud

To overcome complexity, skills and cost barriers, Telsyte recommends exploring proven IoT cloud services or managed solutions, which can be procured on a pay-per-use basis and grown as requirements increase, reducing risk but accelerating deployments.



Partner and scale

While IoT pioneers have often had to go it alone, the fast followers are working with experienced vendor partners to reduce risk, leverage skills and ultimately adopt tried and tested vertical solutions. As benefits grow with IoT scale, Telsyte recommends investigating vendors that can handle the largest workloads and scale to meet future requirements.



Keep it close

Most organisations (77 per cent) in Australia have some restrictions on where data is located. Telsyte recommends engaging with IoT solution providers that have an on-shore cloud service or with local managed-service providers that have experience in dealing with data-location restrictions.



Prepare for real time data

The Internet of Things will generate real-time data — not just large volumes of data — across a range of business processes. Real-time data is about immediacy, and brings with it the potential for fundamental disruption. When possible, Telsyte recommends processes be modelled around the availability of real-time data to build long-term competitive advantage.

About this report

This report was commissioned by Microsoft and independently produced by Telsyte. The report offers advice on how business and IT leaders can best prepare and take advantage of real-time data generated by connected devices. The research contained in this report will help empower IT and business leaders to develop a business case to invest in Internet of Things (IoT) initiatives. The report provides comparative productivity and return on investment metrics as experienced by Australian organisations already investing in IoT. The report also includes recommended steps toward utilising the IoT for business benefit.

Respondent profile

	Count	%
Total	306	100
By employee count		
20-49	35	12
50-199	95	31
200-499	43	14
500-1999	68	22
2000+	65	21
By HQ location		
NSW	121	40
VIC	98	32
QLD	32	10
SA	21	7
WA	17	5
TAS	3	1
ACT	14	5
By industry		
Agriculture, forestry and fishing	4	1
Mining	10	3
Manufacturing	26	8
Electricity, gas, water and waste services	2	1

Telsyte research respondent profile

The primary research contained in this report is sourced from an online survey of 306 senior business decision-makers (including C-level), general and operations managers and senior IT professionals in Australian organisations with 20 to 2000+ staff across a representative sample of vertical industries. The survey topics covered a range of business trends, including how connected devices and the IoT can transform the respondent's organisation. Respondents identified their key business challenges, technology use and intentions, views on real-time analytics and decision-making processes

	Count	%
Construction	18	6
Transport and storage	7	2
Government	28	9
Retail and wholesale trade	37	12
Accommodation and food services	18	6
IT, media and telecommunications	40	13
Financial and insurance services	17	6
Professional, scientific and engineering	34	11
Health, education and training	30	10
Arts and recreation	6	2
Other services (including not for profit)	29	9
By position		
IT (director, manager, professional, etc)	99	32
C-level (CEO, COO, CMO, CFO, CIO, etc)	107	35
Other management (general, senior, operations, retail manager, etc)	100	33
By key Microsoft industry segments		
Retail, hospitality and services	55	18
Construction, mining and heavy industry	30	10
Manufacturing, transport and storage	33	11



About Microsoft

Founded in 1975, Microsoft (Nasdaq "MSFT") is the worldwide leader in software, services, devices and solutions that help people and businesses realise their full potential.

For more information about Microsoft, visit www.microsoft.com/en-au/server-cloud/internet-of-things.aspx



About Telsyte

Telsyte delivers strategic insights and advisory services to businesses that are producing, or are impacted by, disruptive technologies. Telsyte publishes studies into emerging consumer and business markets and provides custom research and advisory services. Telsyte is a wholly owned, independent business unit of UXC Limited.

For more information about Telsyte, please visit www.telsyte.com.au

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