

Understanding the digital capability of New Zealand businesses

A DIGITAL INDEX BENCHMARK





Foreword

Tēnā koutou katoa,

Our small island nation has often punched above its weight when it comes to its uptake of new technologies. From EFTPOS to online banking, Kiwis have been among the first in the world to widely embrace and enjoy the benefits of digital technologies designed to make our lives easier.



And like many other countries, in 2020 Aotearoa New Zealand witnessed a marked acceleration in the adoption of digital technologies by its business community. Many of our predominantly small businesses were quick to adapt when the COVID-19 pandemic forced them to find new ways of working, making use of digital technologies that helped them to stay connected to their staff, their suppliers and their customers while continuing to deliver goods and services.

This acceleration of uptake was a surprisingly positive outcome of what was and continues to be a deeply troubling global development. But why should we care about the digital capability of NZ businesses?

Firstly, because the size of the prize is considerable. The New Zealand Institute of Economic Research (NZIER) estimates that a 20% increase in the uptake of cloud computing could increase New Zealand's GDP by between \$3.5 billion and \$6.2 billion¹. Research completed for Google suggests that if fully leveraged, digital transformation could unlock up to \$46.6 billion of annual economic value in New Zealand by 2030². For individual businesses, digitalisation can improve productivity, growth, competitiveness and resilience³ in the face of challenges like COVID-19. Digital technologies also make compliance easier, and present important opportunities for improving our environmental sustainability and reducing carbon emissions.

Secondly, we should care because the global pace of change is not relenting. Customer expectations and behaviours are changing, and the ongoing shifts towards greater digitalisation of our societies are here to stay. There is a serious risk that while other countries have continued to be pushed towards greater digitalisation in the face of ongoing COVID-related restrictions, the progress made by NZ businesses may have stagnated due to our relative absence of disruptions so far – leaving us less competitive and 'out of touch', when compared with our overseas counterparts. We cannot afford to be complacent.

The OECD warns us that the digital transformation of SMEs should be a top priority for governments because "many SMEs are lagging behind the digital transition" and because "the SME digital gap slows productivity growth and widens inequalities among people, firms and locations⁴". The NZIER recommends that "increasing adoption by mitigating/reducing barriers requires a combination of industry-led and government-led approaches⁵." It really is summed up by this beautiful proverb, mā whero, mā pango, ka oti te mahi – with many hands the work will be done.

The Government has a vision for New Zealand to have the most digitally engaged small business sector in the world. We want to support more small business owners to digitally transform their operating models, not only through the

1 NZIER, March 2020. Economic potential of cloud-based business tools. NZIER report to Xero. Available at: <https://nzier.org.nz/publication/economic-potential-of-cloud-based-business-tools>

2 AlphaBeta, April 2021. Unlocking New Zealand's digital potential: The economic opportunities of digital transformation and Google's contribution. Available at: <https://alphabeta.com/our-research/unlocking-new-zealand-digital-potential/>

3 The COVID-19 lockdowns of 2020 demonstrated that small businesses which used five or more digital apps to manage or operate their business experienced a one-third smaller fall in revenue and 40 percent fewer job losses than other small businesses during the COVID-19 crisis. Xero Small Business Insights Report, September 2020

4 Available at: <https://www.oecd.org/going-digital/sme/>

5 NZIER, March 2020. Economic potential of cloud-based business tools. NZIER report to Xero.

adoption of digital hardware and software, but through process changes, new skills and capabilities, access to capital and having deeper insight into their business through data.

This is critical to New Zealand's long-term resilience and economic growth, and at the Ministry of Business, Innovation and Employment (MBIE), supporting small businesses to lift their digital capabilities is one of our biggest priorities.

In 2021 MBIE partnered with the private sector to deliver Digital Boost – an ambitious government-funded programme focused on lifting the skills and capabilities of Kiwi small business owners. Digital Boost was designed in partnership with industry experts in the private sector and small businesses to ensure it meets the needs of small business owners.

The Digital Boost Skills Training and Support initiative at digitalboost.co.nz offers small business owners free online tutorials, workshops, expert Q&A sessions, helpdesk support and more on digitalising their business. Its focus is on building knowledge, skills, confidence and trust in digital business tools, and helping small business owners realise the benefits of working digitally and using digital tools.

As at September 2021, over 36,000 were participating in the Digital Boost skills training, and over the next 22 months there will be continued growth with a goal of an additional 60,000 small business owners and/or their employees participating by June 2023.

In June 2021 we launched the Digital Boost Alliance Aotearoa – a collaborative effort between the government and private sector to help improve digital skills, technology adoption and digital commerce for the benefit of Kiwi small businesses, employees, whanau and communities.

The Digital Boost Alliance members work together to leverage their collective reach and influence, with each member committing to providing a specific offer or service to accelerate Aotearoa's digital adoption. I would like to thank BNZ, a member of the Digital Boost Alliance Aotearoa, for its contribution of new and valuable insights into businesses' digital behaviours for this report.

For us to be at the top of our game, we need to be informed by insights into how the digital enablement of NZ businesses is progressing and what needs to be done to further enhance it. That is why I am excited to present this in-depth and rich analysis from MBIE's Better for Business team.

Noho ora mai,

Suzanne Stew

Deputy Chief Executive – Te Whakatairanga Service Delivery,
Ministry of Business, Innovation and Employment

Contents

Background	6	Do I want it? Business attitudes towards becoming more digital	43
<i>Understanding NZ business digital capability</i>	6	<i>The benefits of further digitalisation</i>	43
About	7	<i>Attitudes towards digital</i>	45
<i>This report</i>	7	What's stopping me? Barriers to making greater use of digital tools	47
<i>Better for Business</i>	7	What will help me? Lifting businesses' digital capability	51
<i>The research</i>	7	<i>What would help businesses make greater use of digital tools?</i>	51
<i>Digital enablement trends</i>	8	<i>Choice considerations</i>	54
<i>New Zealand businesses – understanding the context</i>	8	<i>Awareness and adoption of new technologies</i>	55
Executive summary	11	Appendix 1: Index analysis by business size and industry	54
<i>Key findings</i>	11	<i>Index dimensions by business size</i>	56
<i>Recommendations</i>	12	<i>Analysis by industry</i>	59
The NZ Business Digital Index	15	Appendix 2: Comment themes	68
<i>Establishing a Digital Index</i>	15	Appendix 3: Methodology	72
<i>An index-based segmentation of NZ businesses</i>	17	<i>Survey details</i>	72
Key findings: Explored	19	<i>Index components and calculation</i>	72
<i>Businesses are making limited use of digital tools currently, but rate highly on their ability to do more in future</i>	19	<i>Research and Digital Index limitations</i>	73
<i>The prospect of a 'digital divide' among NZ businesses</i>	23	<i>BNZ digital indicators</i>	74
<i>Digital capability is associated with business growth aspirations: but being digital isn't only about growth</i>	25		
<i>Awareness and understanding are key barriers to adoption</i>	27		
Am I using it? Current digital usage and behaviours	31		
<i>How businesses currently engage with government services</i>	37		
<i>Information sources</i>	38		
<i>Skills and confidence</i>	40		





Background

UNDERSTANDING NZ BUSINESS DIGITAL CAPABILITY

During the COVID-19 lockdown and the subsequent alert-level restrictions⁶ in early-mid 2020, a range of anecdotal and industry feedback suggested that many New Zealand businesses had ‘pivoted’ so they could remain operating. In so doing, many had to embrace new or different technologies to communicate, sell goods and/or promote their business.

Globally, McKinsey reported a five year acceleration in digital enablement in only eight weeks due to COVID-19⁷. Locally, what looks like a sustained increase in online shopping⁸ among the NZ public is indicative of the shifts that have occurred in society and the need for businesses to adapt.

Over the past few years, Better for Business (B4B) has observed growing uptake of business-related technologies such as accounting software⁹. We have observed a relationship between digitalisation and business growth. And for some time now we have been interested in exploring the potential connections between digital capability and other factors such as productivity, resilience and wellbeing.

In its March 2020 report *Technological change and the future of work*¹⁰, the Productivity Commission recommended that “Government should monitor relevant indicators of technology adoption and labour market change in New Zealand and internationally”.

So in late 2020, with significant interest from the public and private sector to both understand and support digital capability – and awareness that relatively little was known about the full current state of the digital capabilities of NZ businesses – B4B included a range of questions about digital capability in our research with businesses in September-October 2020.

There were two main focus areas for the digital research:

1. The digital state of NZ businesses – a range of metrics illustrating the varying degrees of both interest and usage of digital technologies in NZ businesses; and
2. The exploratory development of a Digital Index ‘score’ for NZ businesses as a benchmark to track the changing interest and usage of digital technologies by NZ businesses.

This report provides a summary of key findings in both of these areas.

The research is complemented by some high-level analysis conducted by BNZ (a member of the Digital Boost Alliance Aotearoa), examining recent trends in the uptake of different types of digital tools.

6 A timeline of key events is provided on the *Unite against COVID-19* website. Available at: <https://covid19.govt.nz/alert-levels-and-updates/history-of-the-covid-19-alert-system/>.

7 McKinsey, 2020. *The COVID-19 recovery will be digital: A plan for the first 90 days*. Available at: <https://www.mckinsey.com/business-functions/mckinsey-digital/our-insights/the-covid-19-recovery-will-be-digital-a-plan-for-the-first-90-days>.

8 NZPost’s *ECommerce Spotlight July 2021* shows a 36% increase in online spending in Q2 2021, compared with the same period in 2019. Available at: <https://ecommercespotlight.co.nz/july-2021-analysis-our-way-record-year-2021>. Internet NZ has observed an increase in the proportion of New Zealanders seeing online shopping as a “benefit of being online”. Available at: <https://internetnz.nz/new-zealands-internet-insights/new-zealands-internet-insights-2020/>.

9 65% of businesses said they used accounting software in 2019 – up from 44% in 2016. From the Better for Business Research Monitor.
Note that this includes both cloud-based and desktop versions of software.

10 Productivity Commission, 2020. *Technological change and the future of work*. Available at: https://www.productivity.govt.nz/assets/Documents/0634858491/Final-report_Technological-change-and-the-future-of-work.pdf.



About

THIS REPORT

This report expands on two brief, published introductions to the digital capability of New Zealand businesses^{11 12}.

It provides an overview of NZ businesses' current digital adoption and capability and potential future adaptability. It introduces the New Zealand Business Digital Index, which captures these attributes in a way that will allow monitoring of progress over time.

The report commentary deliberately places emphasis on smaller businesses, which make up the majority (97%) of the NZ business population. A more detailed view of Digital Index components by business size and industry can be found in Appendix 1. Examples of comments from businesses about their barriers and potential enablers to digitalisation are provided in Appendix 2.

The report provides a business-level perspective of how NZ businesses are currently thinking and behaving in relation to digitalisation. It can be considered alongside a macro view of New Zealand's conditions for digitalisation as compared to other countries, as detailed in the Portulans Institute's *Network Readiness Index*. In this index, New Zealand ranks 15th globally on a specific 'Businesses' dimension, which measures "how businesses use ICT and participate in the network economy"¹³.

Similarly, the *OECD Going Digital Toolkit* "helps countries assess their state of digital development and formulate policies in response"¹⁴. It ranks OECD countries on a number of different aspects of digital development. (A limitation of this resource from a New Zealand perspective is that it lacks information on businesses with less than 10 employees i.e. it excludes 94% of NZ businesses).

BETTER FOR BUSINESS

Better for Business (B4B) works with a collective of agencies to make it easier and more seamless for businesses to deal with government.

B4B has a kaitiaki role – meaning guardianship – which involves understanding and supporting the diverse needs of New Zealand businesses. We seek to 'lighten the load' on businesses; including identifying opportunities to help reduce the cumulative impact of compliance – particularly on small business.

A key focus area for B4B currently is supporting small businesses to realise the benefits of digitalising their business, and working with other agencies and key digital influencers in the private sector to enable the delivery of digital skills training and support to small businesses as part of the Digital Boost™ programme.

The insights generated from this digital research will continue to help inform and shape this activity.

THE RESEARCH

A survey was conducted by Research New Zealand on behalf of B4B in September and October 2020. 2,280 New Zealand businesses and business-like entities such as trusts, clubs, societies, and charitable organisations – of all sizes and from all industries – were interviewed using both online and phone-based interviewing to ensure less digital businesses were included.

Answers are weighted to be representative of all New Zealand businesses, by industry category and business size (number of staff).

11 Better for Business, 2020. *NZ Business Digital Landscape – December 2020*. Available at: <https://www.betterforbusiness.govt.nz/dmsdocument/12863-nz-business-digital-landscape-december-2020>.

12 Better for Business, 2020. *Business Health & Digital Enablement Research - Key Findings, December 2020*. Available at: <https://www.betterforbusiness.govt.nz/dmsdocument/13784-business-health-and-digital-enablement-research-key-findings-december-2020>.

13 Portulans Institute, 2020. *The Network Readiness Index 2020*. Available at: <https://networkreadinessindex.org/wp-content/uploads/2020/10/NRI-2020-Final-Report-October2020.pdf>.

14 Available at: <https://goingdigital.oecd.org/>.

DIGITAL ENABLEMENT TRENDS

A limitation of this research is that it is focused on a single point in time. It does not tell us whether the current state of digital enablement looks markedly different than it did a few years ago or the degree to which COVID-19 has impacted uptake of digital tools.

To help fill this gap, BNZ have contributed selected findings from their own analysis of spending among the bank’s business customers. The analysis, based on anonymised customer data, has produced three indicators of business uptake of digital tools and the report reveals how these indicators have changed over the past three years.

Details of BNZ’s analysis methodology can be found in Appendix 3.

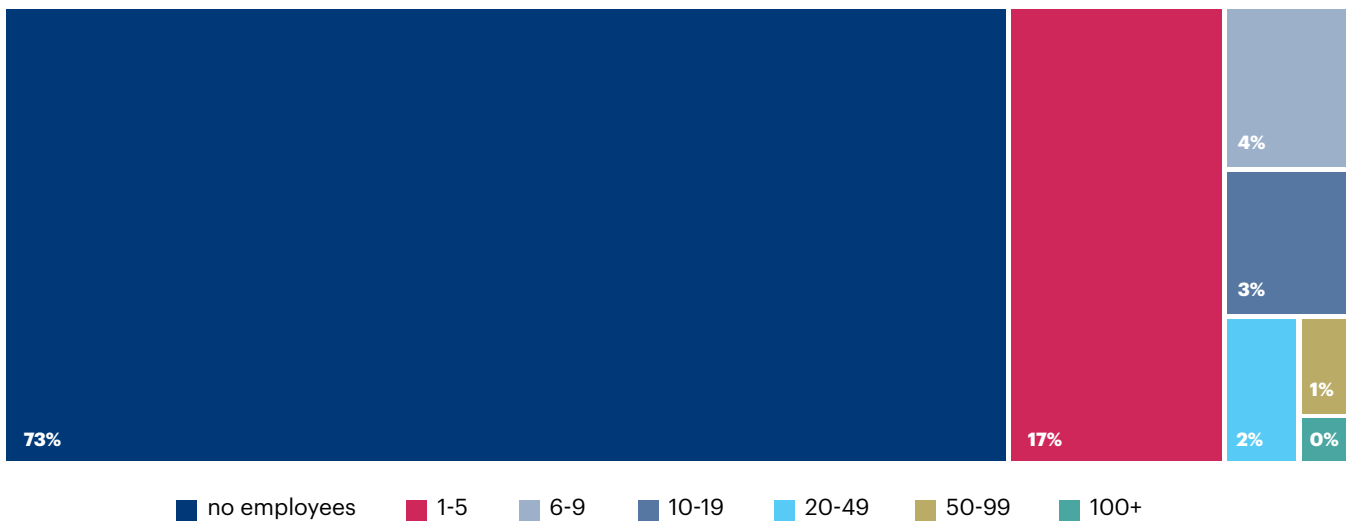
NEW ZEALAND BUSINESSES – UNDERSTANDING THE CONTEXT

There were 557,685 ‘economically significant’ business enterprises in New Zealand as at February 2020¹⁵.

73% of these have no employees (many are sole traders) and 90%, in total, have fewer than six employees. The New Zealand business landscape, in other words, is mostly comprised of very small businesses. This has important implications from a digitalisation¹⁶ perspective: smaller businesses are typically not as well-resourced as larger businesses and therefore can be subject to significant time and cost pressures.

Business size is also related to business maturity: the smaller the businesses, for example, the less likely they are to have a business plan. A quarter of New Zealand business owners are not seeking growth and less than half describe themselves as ‘business savvy’¹⁷.

Figure 1: Make-up of New Zealand business enterprises by size¹⁸



15 Based on Stats NZ *Business Demography Statistics*, February 2020. . Available at: <https://www.stats.govt.nz/information-releases/new-zealand-business-demography-statistics-at-february-2020>. Economically significant enterprises are mostly those with GST turnover greater than \$30,000 per year. If we include businesses that do not meet this significance threshold, it is estimated that there are more than a million businesses or business-like entities in operation.

16 Digitalisation is defined as improving business processes through greater use of digital tools and adopting digital business practices.

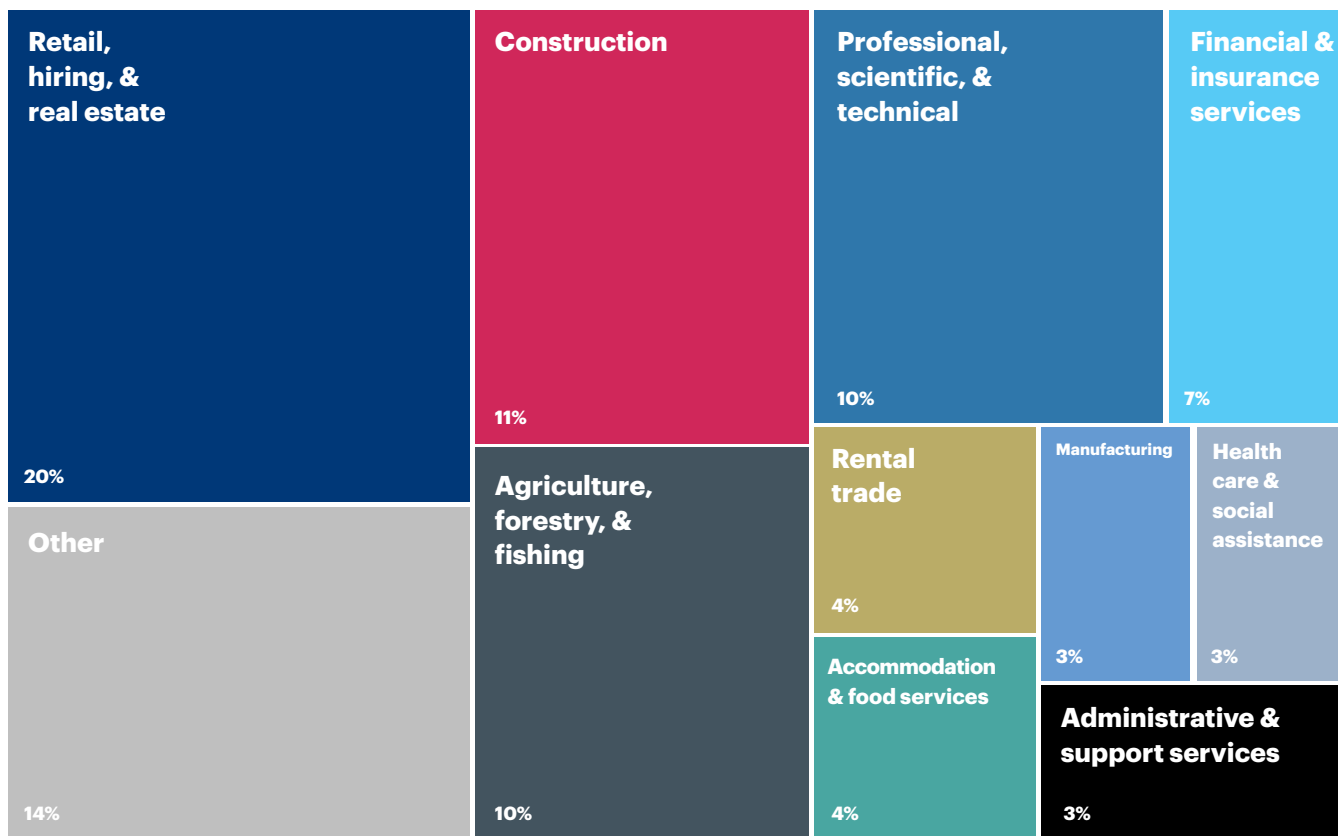
17 Better for Business research, 2016.

18 Based on Stats NZ *Business Demography Statistics*, February 2020.

Figure 2 shows that New Zealand businesses are spread across a wide range of industry sectors. This diversity in work types and work environments also has a significant bearing on the perceptions of, and behaviours regarding digitalisation of business activity. Past B4B research has

also revealed considerable diversity in businesses' needs, operating practices, preferences and perceptions. This diversity has significant implications for the design and implementation of business support initiatives; i.e. a one-size-fits-all approach is unlikely to work.

Figure 2: Top 10 industry sectors of New Zealand businesses¹⁹



If you have any questions about any of the topics covered in this report, contact the Better for Business team at: betterforbusiness@mbie.govt.nz.

¹⁹ Based on Stats NZ *Business Demography Statistics*, February 2020. Available at: <https://www.stats.govt.nz/information-releases/new-zealand-business-demography-statistics-at-february-2020>.





Executive summary

KEY FINDINGS

New Zealand businesses are making limited use of digital tools currently, but have a reasonably strong aptitude to do more in future

The baseline Digital Index score for New Zealand businesses as at September-October 2020 is **51/100**.

Current use of digital tools by businesses is varied: from 14% of businesses that use no digital tools whatsoever to 25% using eight or more different types of tools. But the overall average is low: scores for the two index dimensions that measure current use of digital tools are 34 and 38 out of 100 (see page 18).

Businesses are using externally-focused, sales and marketing-related digital tools to an even lesser degree than internally-focused, productivity-boosting digital tools.

- 43% have their own website (and 51% have an online presence overall)
- 49% use cloud accounting software.

Higher scores were achieved on the index dimensions focused on business 'aptitude' to become more digitally enabled (scores of between 56 and 86 out of 100). This means that confidence levels are generally high – especially when it comes to using digital offerings such as online banking and digital government services – and overall attitudes towards digital are generally positive. Some key barriers are preventing uptake however (see below).

Analysis by BNZ suggests that uptake of digital technologies has been improving at a reasonable rate. In the past three years they have observed:

- A ~50% increase in the proportion of businesses spending money on social media (albeit from a low base)
- A ~40% increase in uptake of cloud payroll services (also from a relatively low base)
- A ~30% increase in uptake of cloud accounting (from a higher initial base). The rate of increase is now slowing.

More businesses agree than disagree that they would benefit from greater digital adoption. But there is more work to be done to convince many businesses

- 45% of business owners/managers agree that they would benefit from making greater use of digital tools or 'being more online'
- Only 22% disagree that they would benefit from either of those things
- 33% are neutral or have mixed feelings about the benefits to their business.

Motivation is linked to a desire to grow the business: many businesses that really want to grow have already started to invest in digital. It is also linked to the extent to which they are already using digital tools currently: those who are making greater use now are typically the same businesses who see the benefits of making even greater use in future. If this trend continues, a 'digital divide' could easily emerge among New Zealand businesses.

A range of different factors are preventing businesses from becoming more digitally enabled

Responding businesses were presented with a list of eight potential barriers to greater digital adoption. Each one was found to apply to at least 20% (i.e. a significant minority) of businesses.

- Information and security concerns (32%) top the list of barriers. Financial pressures (26%) and a perceived lack of skills (26%) also feature prominently.
- Awareness is another key barrier: not all businesses understand what digital is, what it can offer or what is available. And the perceived relevance of digital is still a significant barrier for later-adopting businesses.

There are many different ways of encouraging uptake that will resonate

The future outlook for digital enablement looks positive, as long as businesses receive the appropriate support and incentives. Although barriers exist and the benefits of being more digital are not universally recognised, results indicate that the large majority of NZ businesses will be receptive to the right kind of encouragement.

Cost reductions, training provision and recommendations from industry bodies top the list of items that businesses believe would help them make greater use of digital tools. A range of channels are already being used to hear about digital tools and their benefits – with word of mouth having a very strong role to play.

RECOMMENDATIONS

Based on the findings of this research, the following tactical recommendations are aimed at all parties currently involved or interested in trying to lift the digital capability of NZ businesses²⁰.

1. Define or redefine what “being digital” means

- Comments from business owners and managers participating in the research suggest that terms like ‘digital’ and ‘digitalisation’ are not readily understood by all businesses – and they are also open to varying interpretations at the most basic level. (McKinsey has also discovered diverse perspectives among those who are already embracing digital technologies²¹.)
- An important first step when communicating with a business about these terms for the first time is to ensure they have a basic understanding of what the terms mean – and giving them a sense of the wide range of services and applications ‘digital’ covers.
- Perceptions can be formed and barriers quickly put up based on narrow interpretations of ‘digital’ (e.g. “it’s only about having a website or social media presence”). Changing these perceptions will require a deliberate reframing of the conversation.
- There is an opportunity to dispel some common misconceptions at the same time – for example the perception that digital tools are only for people whose work is office or desk-based.

2. Build an understanding of what is possible

- The issue of perceived relevance is a barrier to digitalisation, and awareness of new technologies is low.
- Once basic definitions have been established, there is a need to build understanding of the various digital technologies that might be relevant to businesses and provide a clear articulation of their benefits.
 - For example, efficiency and productivity-enhancing benefits are likely to appeal to the small business owners who are time poor and struggling to retain a healthy work-life balance²².
 - To understand the relevance of digital in their specific context, businesses will respond best to examples of business owners who are like them and face the same issues as them, and who have enjoyed clear benefits. The challenge will be to portray a wide range of different technologies at play in such a diverse range of business scenarios.

3. Recognise the importance of targeting and tailoring communication

- New Zealand has a relatively large population of businesses: there is one entity for every five people in the labour force. This large population is diverse in terms of its drivers, barriers and attitudes regarding digital technologies and in an information-rich environment, business owners and managers are unlikely to respond to generic information that does not speak to their personal context.
- Some businesses are already advanced on their digitalisation journey, while others appear to be far away from adopting digital technologies. The ‘adoption stage’ lens used in this report is one of many approaches that can be used to build an understanding of what might work for different groups of businesses. For example, early adopters are more likely to be seeking growth while later adopters would like their lives to be made easier
- There is considerable diversity of opinion and behaviour within each industry – but industry can be an important first step towards understanding needs: in some industries (e.g. agriculture), a smaller range of more specialist digital tools are relevant and therefore more specialist advice might be beneficial – while in others, a wider range of more generic business tools will appeal.

20 This list does not address wider issues which are being targeted by existing strategies and initiatives, for example: internet connectivity, digital inclusion in society, the digital capability of the workforce and the national response to cybersecurity threats.

21 McKinsey, 2015. *What ‘digital’ really means*. Available at: <https://www.mckinsey.com/industries/technology-media-and-telecommunications/our-insights/what-digital-really-means>.

22 This is supported by preliminary findings from a survey of new registrants to the Digital Boost programme, which revealed that the registrants were far more likely to indicate they were time poor, compared with the overall population of businesses surveyed for the 2020 digital research.

4. Provide multiple levels of support

- In addition to tailored communication, it is also important to recognise that businesses will require tailored support. Businesses with different levels of ability or maturity will require different levels of training and advice.
- Research findings suggest that most support initiatives offered to businesses will attract many early adopters as well as some later adopters – and both groups will clearly have different needs. Either group could quickly become disinterested if the support is not pitched at the right level for them (e.g. too broad and generic vs. too advanced or detailed).

5. Industry voices, intermediaries and cloud accounting/payroll providers can help to reach later adopters. Peer networks could be valuable for earlier adopters

- The strategy for reaching later-adopting businesses should consider how industry associations and intermediaries (business advisors, accountants, etc.) can play a part in helping businesses to improve their digital capability – for example through recommendation of tried and tested products/services and demonstration of their industry-specific relevance and benefits.
- These entities act as trusted advisors who filter the most relevant information for specific industries and types of businesses and explain it to them in terms they can relate to. While the research shows that later-adopting businesses will generally be less receptive to encouragement than other groups, industry bodies and intermediaries are relatively well positioned to gain their attention.
- Cloud accounting is an example of how software can improve internal processes and efficiency within businesses without necessarily negating the need for a business advisor. Many accountants, tax agents and bookkeepers have embraced the technology and have formed partnerships with the various providers, while at the same time enhancing the service provided to their customers.
- Some later adopters are already using services like cloud accounting which are starting to become part of the mainstream. Providers of these services also have an opportunity to convey the benefits of digitalisation.

- To further support earlier-adopting groups of businesses – for whom recommendations from peers are an important information source – there is an opportunity to make use of existing business networks and channels. Many businesses are not connected to traditional business networks so there is potentially an opportunity to create new, online networks or forums for those are not currently connected in this way.

6. Help businesses develop cybersecurity skills and ensure the information security protections of digital tools are well communicated

- Information security concerns are a major barrier to digital adoption, both in New Zealand and overseas. There is an opportunity to increase business trust in digital while also raising their capability to reduce risk.
- Support initiatives should provide a strong focus on helping businesses develop their own cybersecurity skills and knowing what to look for from an information security perspective when selecting and using digital tools.
- An essential digital skills framework, developed by the UK government, “defines the digital skills adults need to safely benefit from, participate in and contribute to the digital world” – and it includes a section on cybersecurity skills²³. Lloyds Bank has adopted the framework in its measurement of small business digital capability since 2019²⁴. In New Zealand, the Digital Inclusion Outcomes Framework takes a similar approach to the UK model and aims to help drive evidence-based decision-making for digital inclusion initiatives that focus on “enabling non-users and sporadic users of the internet to become regular users”²⁵. BNZ has surveyed New Zealand individuals on their digital capability, with cybersecurity (or ‘Online Safety’) skills scoring the lowest²⁶.
- Digital technology providers have an opportunity to support the development of cybersecurity skills among their customers and they would also benefit from ensuring their information security protocols are not only transparent but deliberately, prominently and regularly communicated to existing and potential customers.

23 Department for Education, 2019. *Essential digital skills framework*. Available at: <https://www.gov.uk/government/publications/essential-digital-skills-framework/essential-digital-skills-framework>.

24 Lloyds Bank, 2019. *UK Business Digital Index 2019*. Available at: https://www.lloydsbank.com/assets/resource-centre/pdf/business_digital_index_2019.pdf.

25 The Department of Internal Affairs, 2019. *Digital Inclusion Outcomes Framework*. Available at: <https://www.digital.govt.nz/dmsdocument/167-digital-inclusion-outcomes-framework/html>.

26 BNZ, 2021. *Digital skills for life in Aotearoa*. Available at: https://blog.bnz.co.nz/wp-content/uploads/2021/04/BNZ_Digital-Skills-Report-2021.pdf#page=18.

7. Financial and training incentives will resonate with motivated businesses

- Business investment in digital tools is often a function of scale, as well as legitimate business need/ applicability. But earlier investment in digital tools could potentially help to accelerate business maturity and allow businesses to reach their growth and productivity goals at a faster rate. Cost reductions/ financial support and the provision of training both have especially strong appeal for those most interested in lifting their digital capability.
- A variety of solutions are suggested by businesses on the subject of financial support – including the provision of discounts, loans, grants and tax deductibility for digital investment and free advice for small businesses “rather than having to pay an IT provider”.
- Lack of skills and confidence are also major barriers to adoption. Business owners acknowledge a need for both training and change support for their staff. Some businesses believe they will need training from specialists in their particular industry or field.
- We should also consider the fact that digital marketing functionality does not automatically endow a business owner or manager with marketing skills. For many businesses, access to marketing expertise would be a welcome addition to the suite of training tools made available.

8. Positive customer experiences will drive recommendation and growth of uptake

- Recommendations from business peers are the primary source of information for businesses considering investment in digital technologies.
- Because this is the case, early-adopting customers of new technologies can be an incredibly powerful resource in terms of their potential influence on later adopters – as long as their experiences are positive and their support needs are met. A strong emphasis needs to be placed by digital technology providers on gathering feedback from customers and continuously improving services in response.
- This logic may also apply to the realm of digital training and support initiatives. Getting things right should result in high volumes of word-of-mouth referrals and increased reach.

9. Address the ‘overlap’ challenge with digital strategies and a focus on integration

- Business owners can be overwhelmed by the sheer volume of digital tools available and some are also concerned about how those tools overlap and/or integrate – especially if they also have to align with the digital behaviours of their customers or stakeholders.
- There is an opportunity to provide businesses with:
 - Support with developing a digital strategy
 - Advice on the pros and cons of choosing different combinations of digital tools
 - Help in understanding what integration between different technologies is available and how it can be harnessed.
- The expectation of integration is also an important consideration for anyone developing new digital services for businesses – including government agencies that are digitalising their compliance-related transactions with businesses.



The NZ Business Digital Index

ESTABLISHING A DIGITAL INDEX

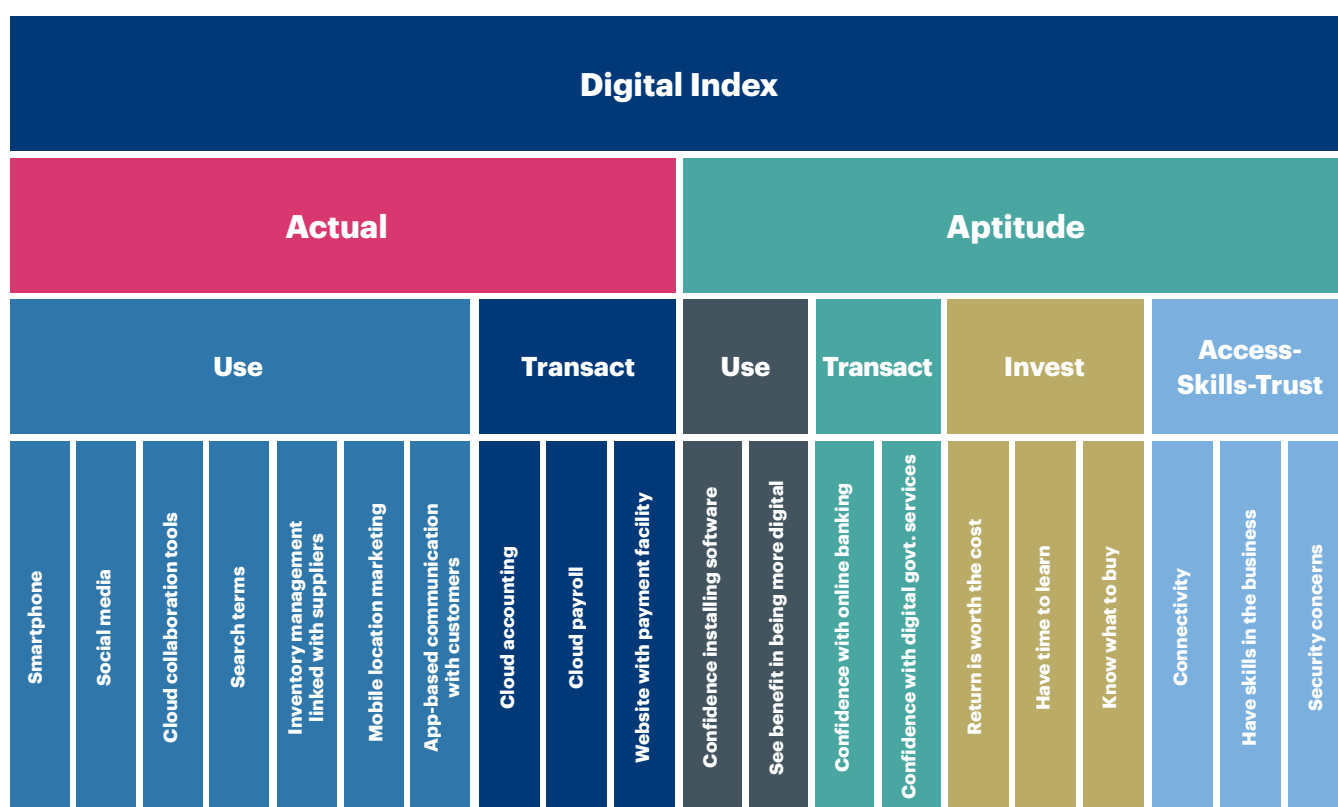
B4B's New Zealand Business Digital Index was inspired by the measurement approaches used by the OECD²⁷ and by Lloyds Bank UK²⁸. These frameworks view digital as a multi-faceted construct by capturing businesses' digital involvement in terms of access, use, investment, transactions and skills. By having these different dimensions, we are able to look at the index as a whole, and or at an individual component level.

At the component level, we get a better picture of how digital strengths and weaknesses vary across businesses. In understanding these strengths and weaknesses, both public and private organisations are better informed about where they should allocate resources when aiming to improve digital capabilities.

This report presents the first edition of the New Zealand Business Digital Index. One of its key aims is to allow for longitudinal measurement of businesses' digital capability, while also informing public and private organisations to target funding, support initiatives and policy. It may evolve and be subject to revisions over time given the rapid pace of change occurring in this arena.

To construct a baseline Digital Index score of all NZ businesses – where 100 is the most digital and zero least digital – businesses' responses to 20 critical questions were analysed. Figure 3 below shows how those 20 questions form part of a framework of dimensions, with 'actual' use – across 10 key types of digital tools – and 'aptitude' or potential for future use – derived from 10 attitudinal statements – providing a similar contribution to the overall score.

Figure 3: Basic overview of the Digital Index components



27 OECD (2019), *Measuring the Digital Transformation – A Roadmap for the Future*. Available at: <https://doi.org/10.1787/9789264311992-en>.

28 Lloyds Bank's *Business Digital Index Report 2020* is available at: <https://www.lloydsbank.com/assets/resource-centre/pdf/businessdigitalindexreport2020.pdf>.

The dimensions shown in Figure 3 are partly aligned with the policy dimensions of the OECD's *Going Digital Integrated Policy Framework*²⁹:

Table 1: Digital Index dimensions

Use	The OECD framework notes that “harnessing the power and potential of digital technologies depends on how they are used. Effective use enables individuals to participate in society, firms to boost productivity, and governments to go digital and adopt a user-driven approach”. This requires “awareness of the opportunities [that digital technologies] bring”. B4B’s index dimension includes a number of indicators of current use of key tools along with perceptions of the benefits of further digitalisation.
Transact	B4B’s index measures businesses’ use of, and confidence with, key transactional tools – as a separate dimension from <i>Use</i> .
Invest	This is a subset of the OECD’s <i>Use</i> dimension. “Digital technology diffusion crucially depends on firms’ investment in ICT as well as public investment in infrastructure and equipment”. B4B’s index dimension covers factors linked to a business’s propensity to invest in digital enablement.
Access	The OECD framework states that “access to high-quality communication networks and services at competitive prices is fundamental to digital transformation”. In B4B’s Digital Index, businesses are asked about the extent to which internet connectivity is a barrier to the making greater use of digital tools.
Skills	According to the OECD, “technology diffusion and effective use crucially depend on investment in skills. The success of firms in the digital era not only depends on workers with good literacy, numeracy, problem solving, and generic ICT skills used at work, but also increasingly requires [specialists]”. B4B’s digital index dimension gauges the extent to which lack of skills is regarded as a barrier to adoption.
Trust	“Concerns about digital security and privacy can severely hamper individuals’ propensity to carry out online activities. For businesses as well, trust is a key factor affecting the adoption and use of digital tools” (OECD, 2020). The B4B index measures the extent to which information security concerns are preventing digital adoption.

Further details on the index methodology can be found in Appendix 3.

It should be noted that due to different business needs and application of digital technologies, a higher score on the ‘actual use’ dimensions may not necessarily mean ‘better’. For example, a retail business may have a variety of online, point of sale and inventory management systems and have

a high index score – whereas a dairy farm might have less need for this range of technology, so may naturally score lower, despite having very specific technologies employed in their operation. Recognising this limitation of the initial version, it is hoped that the multi-dimensional index can still provide a useful way of measuring progress over time.

²⁹ OECD (2020), *Going Digital integrated policy framework*, OECD Digital Economy Papers, No. 292, OECD Publishing, Paris, <https://doi.org/10.1787/dc930adc-en>.

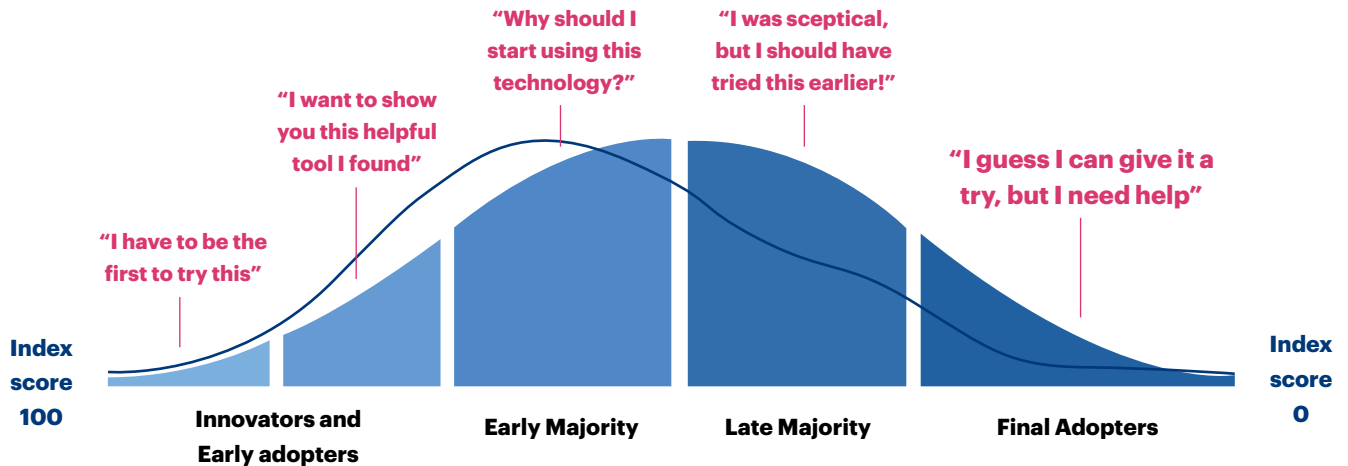
AN INDEX-BASED SEGMENTATION OF NZ BUSINESSES

The distribution of Digital Index scores across NZ businesses approximately follows the shape of the technology adoption lifecycle³⁰, as shown in Figure 4 (although it is slightly more skewed towards earlier adoption, i.e. higher index scores).

The figure shows two things:

1. The real distribution of NZ businesses by how they score on the Digital Index (the black curve)
2. How different businesses adopt technology according to the technology adoption lifecycle concept (in blue). Innovators adopt first, Final Adopters last.

Figure 4: Index-based grouping – based on the technology adoption lifecycle



Because of the index distribution proximity to the technology adoption lifecycle, for analysis purposes the population of NZ businesses has been divided into the four groups shown here i.e.:

- The 16% of businesses with the highest index scores are 'Innovators and Early Adopters' – this equates to around 90,000 businesses
- The next 34% of businesses (approximately 190,000 businesses) are the 'Early Majority'
- Followed by the next 34% of businesses, labelled as 'Late Majority'
- And the 16% of businesses with the lowest index scores being 'Final Adopters'.

Grouping businesses based on their position on the adoption curve reveals a number of interesting differences and may provide a useful lens for helping government agencies and their partners understand how to tailor their approach to supporting businesses at different stages of their digital capability journey.

This grouping is used throughout the report. Table 2 illustrates how the groups vary across a number of attributes.

30 A summary of the Diffusion of innovations theory is available at: https://en.wikipedia.org/wiki/Diffusion_of_innovations.

Table 2: The adoption groups at a glance

	Innovators and Early Adopters	Early Majority	Late Majority	Final Adopters
Index score range	68-100	53-67	36-52	0-35
Number of businesses	90,000	190,000	190,000	90,000
Current use				
Use any digital tools	98%	97%	72%	16%
Online communication tools (e.g. Zoom, Microsoft Teams)	88%	70%	36%	4%
Cloud accounting services	85%	64%	41%	5%
Social media	94%	56%	19%	3%
Website or third party sales platform	92%	62%	27%	6%
Search engine optimisation	73%	33%	10%	2%
Future use				
See benefits of being more digital	68%	50%	31%	23%
Choice considerations	Will invest time and money for revenue and efficiency gain	Willing to invest, mostly seek efficiency	Must be low cost, simple to learn, add efficiency	Must be low cost, simple to learn, add efficiency
Key characteristics				
Sole traders	35%	45%	61%	66%
Office or home-based	65%	55%	40%	27%
Stand-out industries	Arts & Recreation Services Property/real estate	Financial & Insurance Services Education & Training	Agriculture, Forestry & Fishing	Construction Transport
Attitudes/behaviours				
Confident installing new software	84%	72%	50%	24%
Know which digital tools to buy	66%	48%	31%	14%
Top sources of advice on digital	1. Recommendations from business peers 2. Internet search	1. Recommendations from business peers 2. Internet search	1. Recommendations from business peers 2. Recommendations from friends	1. Recommendations from friends 2. Business advisors



Key findings: Explored

BUSINESSES ARE MAKING LIMITED USE OF DIGITAL TOOLS CURRENTLY, BUT RATE HIGHLY ON THEIR ABILITY TO DO MORE IN FUTURE

The baseline Digital Index score for all New Zealand businesses as at September-October 2020 is **51/100**: a result which suggests there is considerable room for further growth in digital capability.

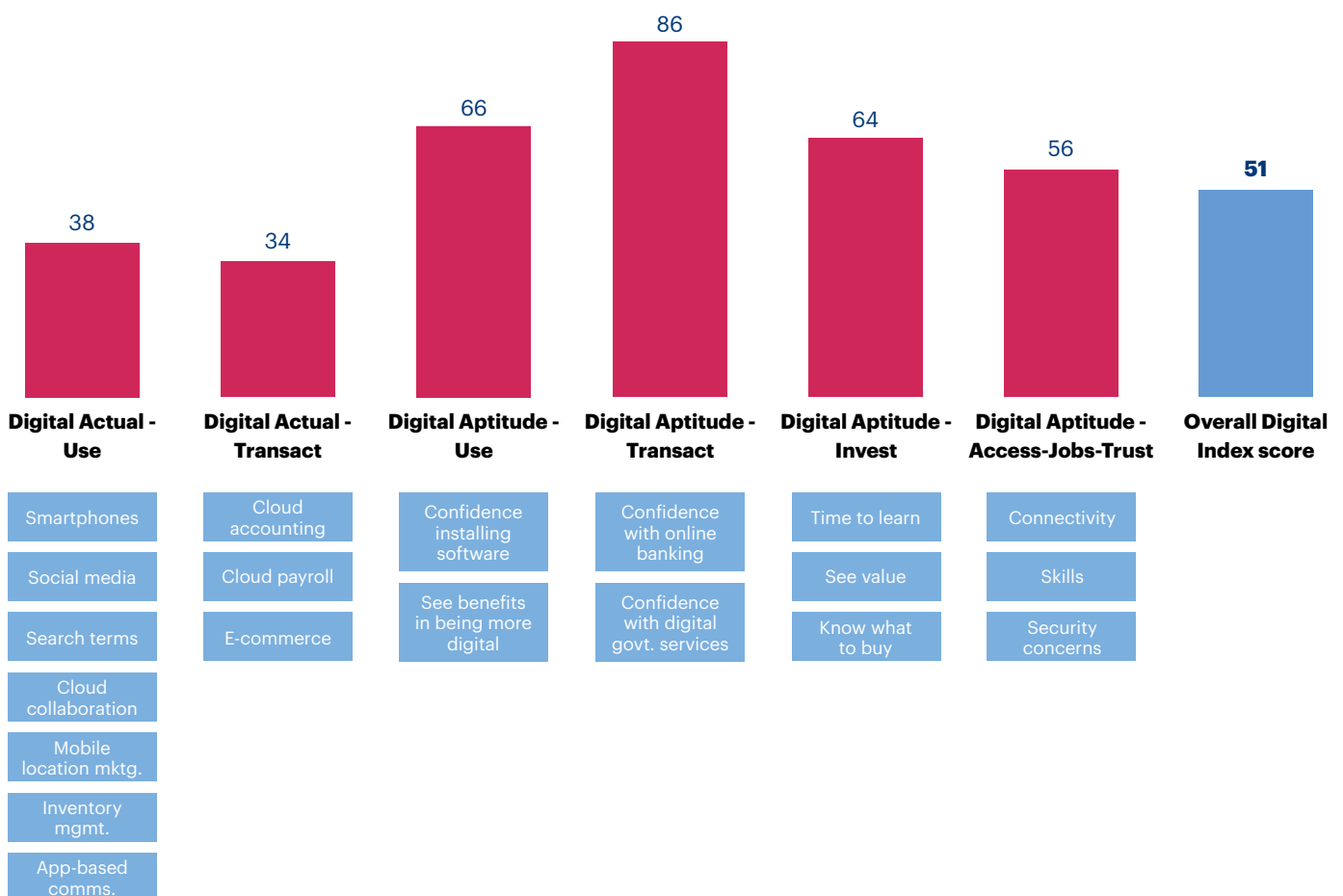
Relatively low scores were recorded for the 'actual' use dimensions, with a score of only 34/100 for *Digital Actual - Transact* and 38/100 for *Digital Actual - Use* dimensions (Figure 5). This is reflected in the fact that:

- Only 51% of NZ businesses have an online presence (i.e. their own website, social media account or the use of a third party sales platform such as TradeMe or Alibaba).
- Only 39% of employers are currently using cloud-based payroll solutions.
- 14% of NZ businesses state they are using no digital tools whatsoever.

The outlook is brighter for the dimensions relating to businesses' likely future use, or 'aptitude' for digitalisation. The *Digital Aptitude - Transact* dimension for example, with a score of 86/100, shows that businesses are generally confident using online banking and digital government services – a result which we may not have imagined five years ago. Cloud accounting software looks like it will be the next 'mainstream' service to add to that list, with half of all businesses saying they already use it.

Most business owners/managers are comfortable with technology-related tasks such as installing new software on a computer, and more businesses agree than disagree with the statement 'My business would benefit from making greater use of digital tools'; but with a score of just 66, the *Digital Aptitude - Use* dimension is still an important area to focus on in the drive to lift NZ businesses' digital capability.

Figure 5: Digital Index scores of NZ businesses by index dimension

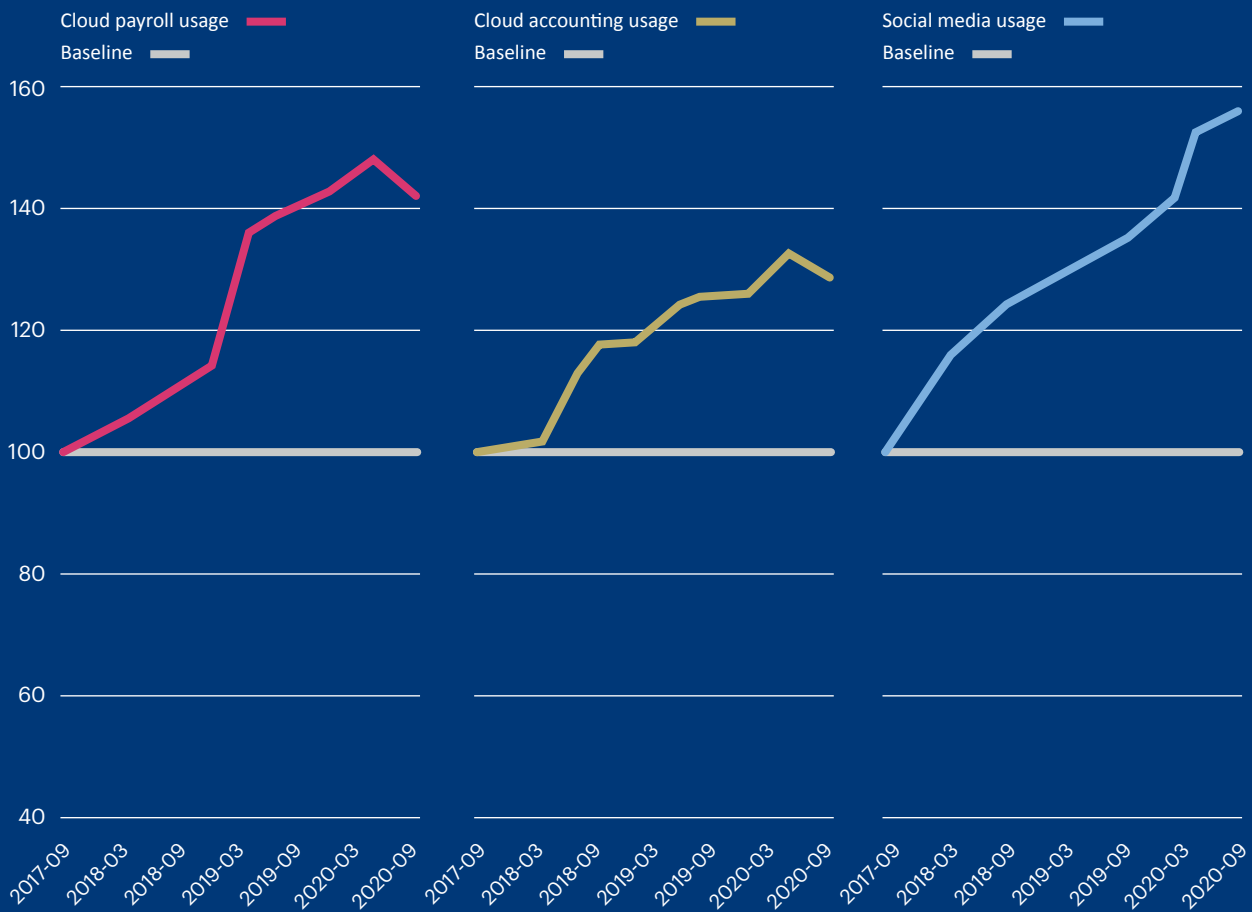


Spend data confirms an upward trend in digital capability

While the research helps us understand the current state of businesses' digital capability, analysis by BNZ confirms that things have been improving in recent years. BNZ's analysis looked at the proportion of their business customers that had spent money in each of the categories shown below in the previous 12 months. For each category, the proportion of businesses spending money with selected providers in the year ending 30 September 2017 was assigned an index value of 100 (so an increase from 10% to 11%, or 50% to 55% since that time would correspond to an index increase of 10 points. Refer to Appendix 3 for a more detailed explanation of the methodology).

- Cloud accounting, which is now becoming well established among NZ businesses, has enjoyed increased uptake in the last three years – although the rate of this increase now appears to be slowing.
- Cloud payroll services, starting from a lower base, have seen a more pronounced increase in uptake – but again, this rise now appears to be slowing.
- The proportion of businesses spending on social media – also starting from a relatively low base – shows a different trend, with uptake accelerating at the time COVID restrictions came into force in the quarter ending June 2020.

In summary, **more businesses are now doing each of these things compared to three years ago.**



Source: BNZ

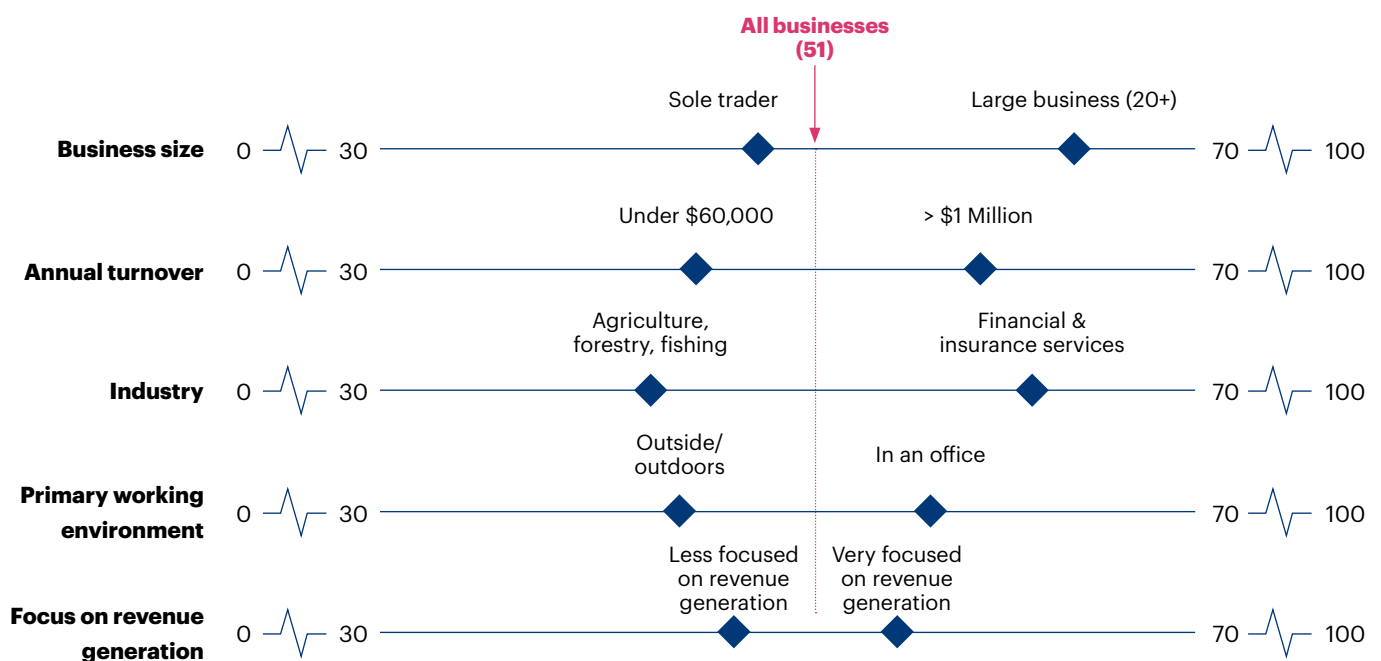
Investing in digital is often a function of scale

As we might expect, digital capability varies by size of business (number of employees). It is important to remember that the vast majority of NZ businesses are very small. And the smaller the business, the lower their Digital Index score on average.

There is also a correlation between Digital Index scores and a business's annual turnover (which is, itself, correlated with business size). Illustrating this point, 31% of businesses with an annual turnover of less than \$60,000 use a cloud accounting service, compared with 73% of businesses with a turnover of more than \$1 million.

Within every industry, a range of digital capabilities can be found. But when we compare index scores across industries, some clear differences emerge. Industries that are comprised of larger businesses, in which work tends to be more desk-based and where customer bases are larger, have the highest Digital Index scores; while industries such as agriculture, forestry and fishing and construction – comprised of mostly smaller businesses and where work is not desk-based – have the lowest Digital Index scores. Within most industries, adoption of key digital tools such as cloud accounting software and social media increases with business size (Appendix 1).

Figure 6: How the average Digital Index score varies by different business attributes



Although smaller businesses are less digitally capable on average, the two figures below remind us that a range of digital capabilities can be found in each business size category.

Figure 7: Adoption group membership by size

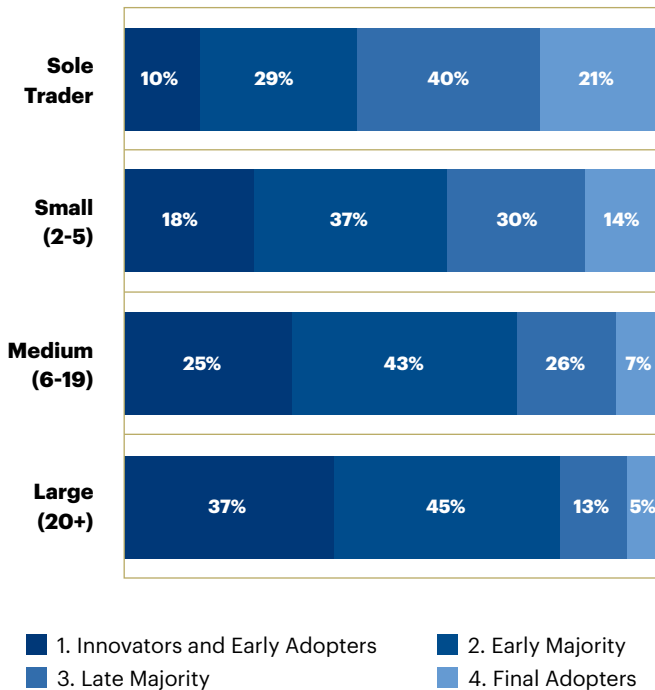


Figure 8: Index distribution by size

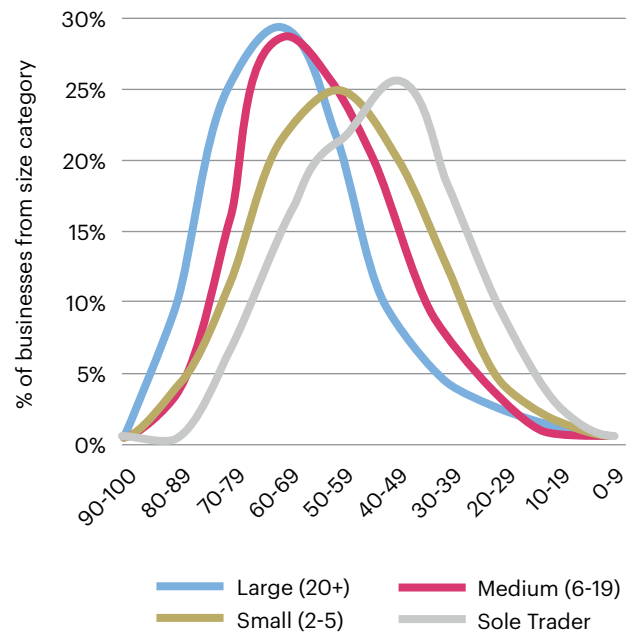


Table 3 highlights some of the key traits of businesses which are overrepresented at the higher and lower ends of scoring on each index dimension.

Table 3: Characteristics of high and low-scoring businesses on each dimension

	Lower-scoring businesses	Higher-scoring businesses
Digital Actual-Use	Working outside Agriculture, forestry, fishing	Focused on increasing revenue Receive recommendations from peers Finance, insurance, property/real estate
Digital Actual-Transact	Low annual turnover Less complex businesses Admin and support services	Employers High annual turnover Accommodation, hospitality, retail
Digital Aptitude-Use	Older person Unlikely to be using government digital services Agriculture, forestry, fishing	Larger Finance, insurance
Digital Aptitude-Transact	Rely on accountants/advisors Low annual turnover	Can be found everywhere
Digital Aptitude-Invest	Working in an active environment Construction	Finance, insurance, professional/scientific/technical
Digital Aptitude-Access-Skills-Trust	Larger businesses Accommodation, hospitality	Sole traders Working from home Professional/scientific/technical

THE PROSPECT OF A 'DIGITAL DIVIDE' AMONG NZ BUSINESSES

'Digital divides', which result from uneven adoption of digital technologies, have been identified in many domains and in many countries – including recent studies of the New Zealand public³¹. There is also a danger that a digital divide could open up in the New Zealand business landscape.

This is because the **businesses that are already embracing digital technologies are also typically the ones who see the benefits of making greater use of them in future** – while the businesses that are using digital technologies the least typically have less desire to do more.

In fact, current use of digital tools is the best predictor of desire to do more. There is a suggestion here that most businesses who have thought about digitalisation are already doing it – or have at least started their journey. It may also suggest that when you actually start to use digital tools it can open your eyes to the possibilities of greater digitalisation – or at least give you the confidence to take on your next digitalisation challenge.

In its report *Technological change and the future of work*, the Productivity Commission identifies “a dynamic business environment” as one of many economic or social conditions that can support technology adoption. “A dynamic business environment supports technology adoption by providing opportunities for new firms to enter and better-performing ones to expand. National productivity growth occurs particularly through such ‘reallocation’ – the growth of higher-performing firms, entry of new firms and the exit of poorly performing ones³².”

The report concludes that “reallocation is sluggish and innovation is weak in New Zealand”. It is not surprising, therefore, that B4B’s research has revealed a relatively large group of later adopters who have yet to adapt to technological change. Research findings suggest that encouraging this group to adopt digital technologies may require significant effort. However, there is an opportunity to at least raise the group’s awareness of these technologies and their benefits. And there is an opportunity to support businesses who may face genuine barriers to change due to factors which are beyond their control (for example internet connectivity – identified as a barrier to adoption by one in four businesses).

In summary: some later-adopting businesses haven’t reached digital enablement yet, but probably will. Others will need more support or persuasion.

Encouraging and supporting digital enablement will be more difficult for later-adopting groups of businesses. At a minimum, there is an opportunity to raise awareness among those who look less likely to adopt. And most businesses are open to learning more about digital

At the same time, it is important to continue to support businesses that have a desire to grow and are already making use of digital tools for this reason.

One of the aims of this report, therefore, is to highlight which kinds of businesses are adapting successfully to technological change and which ones are at risk of being left behind, and why – by describing the businesses at different stages of their journey and highlighting some of the major barriers to further digital enablement.

The barriers identified by businesses cover a mix of practical issues (e.g. internet connectivity or financial pressures) and attitudinal factors (e.g. the perception that digital tools are not relevant to my business). They can also be divided into the categories of:

- *Can't*: usually expressed by people who are not against the idea of digitalisation – these issues have a chance of being overcome through the appropriate support, training or product/service design
- *Won't*: overcoming these barriers will require a significant change in attitudes, with communication and education being the primary focus.

See page 44 for a more detailed exploration of these barriers. Most of the barriers listed in Figure 9 affect at least 20% of businesses each.

31 BNZ, 2021. *Digital skills for life in Aotearoa*. Available at: https://blog.bnz.co.nz/wp-content/uploads/2021/04/BNZ_Digital-Skills-Report-2021.pdf.

32 New Zealand Productivity Commission, 2020. *Technological change and the future of work: Final report*. Available at: www.productivity.govt.nz.

Figure 9: Summary of main barriers to digital adoption



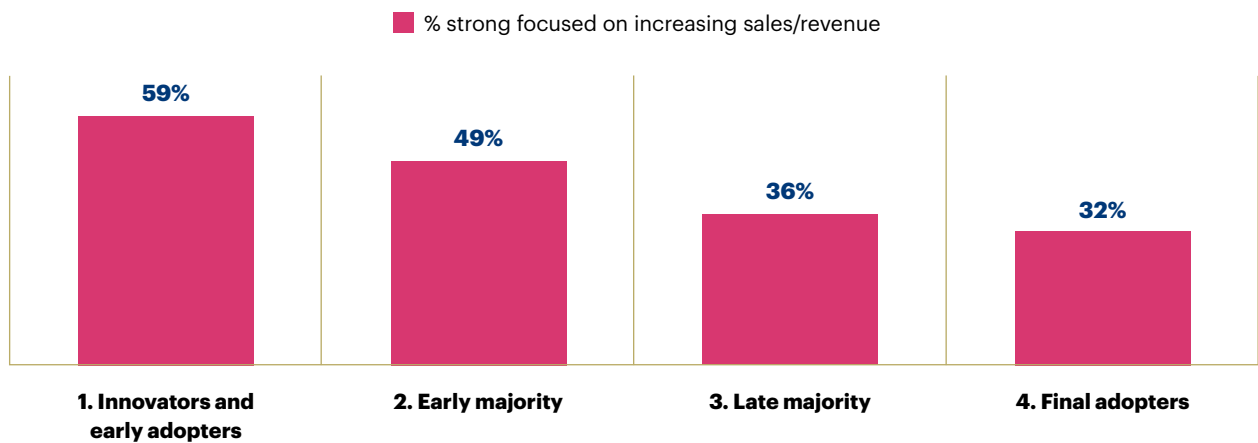
DIGITAL CAPABILITY IS ASSOCIATED WITH BUSINESS GROWTH ASPIRATIONS: BUT BEING DIGITAL ISN'T ONLY ABOUT GROWTH

Past B4B research has shown us that not all businesses want to grow³³. Some have no desire to grow – and take on the additional complexity it can bring – while others are not ready to grow.

Lloyds Bank in the UK has observed in its research that “digitalisation is associated with expanding a business”³⁴. A similar association is evident among New Zealand

businesses. Previous B4B research has shown a strong relationship between digitalisation and growth aspirations and in this latest research we see that businesses in the *Innovators and Early Adopters* group, for example, are far more likely to be highly focused on growing their sales or revenue than those in the *Final Adopters* group (Figure 10). This pattern holds true after controlling for other factors such as business size and turnover.

Figure 10: Current focus on increasing revenue – by index segment



The correlation between digital maturity and growth aspiration is especially evident when it comes to current use of digital tools. Revenue-seekers are already making greater use of digital tools than their peers – particularly tools which are externally focused, such as websites, third-party sales platforms and search engine optimisation. But there is certainly room for them to do more:

35% of the businesses that are strongly focused on increasing revenue do not have an online presence

So in general terms, businesses that seek growth – in this case, in the form of increasing revenue – are already embracing digital technologies and experiencing the benefits. While those who do not seek growth, are not.

Although they are less digitally enabled currently, those who are less growth-orientated score relatively highly on their aptitude for making greater use of digital tools in future: they are generally confident using digital services and do not see their own skills as a barrier to greater enablement.

33 24% of businesses did not agree with the statement ‘I want to grow the business so it is bigger than it is now’. *Better for Business Research Monitor*, June 2019

34 Lloyds Bank, 2020. *Business Digital Index Report 2020*. Available at: <https://www.lloydsbank.com/assets/resource-centre/pdf/businessdigitalindexreport2020.pdf>.

The cost-saving³⁵ and efficiency benefits of digital could appeal to non-growth seeking or less mature businesses

Too strong an association between digitalisation and short-term growth could be harmful; it is important that the efficiency and productivity benefits of digitalisation are also understood. As the New Zealand Small Business Strategy notes, “digital technologies offer exciting opportunities to address the productivity problem in New Zealand but it is critical that the small business sector does not get left behind”³⁶.

Many businesses are yet to fully embrace digital technologies because they are *too busy* focusing on their core business. Sole traders and owners of small businesses are typically responsible for most activities in the business – including promoting and marketing, managing finances and administration, and meeting compliance requirements – all in addition to the core activity that generates their revenue. A 2016 B4B survey found that 40% of sole traders and small business owners were not happy with their work-life balance³⁷.

Among these business owners are people who are not against the idea of digitalisation, but do not have the ‘bandwidth’ to consider it in their current situation – let alone the time required to research digital tools, implement them or learn how to use them.

“I am doing everything alone; there are not enough hours in the day.”

The timing of this research is significant in this regard. Everyday pressures on businesses, which can prevent them from pausing to invest the time, money and effort into becoming more digital, were exacerbated by COVID restrictions, for many. And some were literally in ‘survival mode’.

Smaller business are more concerned about time and cost pressures – and often this is preventing their digital adoption, rather than encouraging uptake of time-saving and cost-saving technologies

Other businesses are yet to embrace digital technologies because they *prefer* to focus on their core business. Typically they are sole traders or micro businesses, and are less happy and/or confident spending time on ‘business’ activities such as finance and compliance – which they often outsource – or future planning and R&D. Digitalisation can be seen as just another of those ‘business’ activities which is therefore not a priority.

Both groups would benefit from understanding more about the time-saving and productivity benefits of digital technologies. Intermediaries such as accountants are likely to be an effective channel for reaching the latter group.

Relative to early adopters, later adopters tend to place more emphasis on ease of learning and business cost reduction as a priority for choosing digital tools – and less emphasis on revenue gains (see page 53). Meanwhile, most users of revenue-enhancing, externally focused tools are *already* making use of productivity-boosting, internally focused tools.

Based on these patterns, Figure 11 illustrates a basic, conceptual digitalisation journey for later-adopting businesses. In this model, as businesses become more digitally mature, their priorities for choosing digital tools change. Reducing costs in the business to enable greater investment, improving processes and reducing time and effort spent on tasks can be important early steps in the digitalisation journey³⁸.

As they mature, businesses therefore have more capacity and confidence to work towards their business goals – be it increased revenue and growth, improved resilience or simply a better work-life balance. In this way, digitalisation acts as a catalyst for business maturity.

35 In this instance, ‘cost-saving’ refers to the ability of digital tools to reduce the costs associated with operating the business – rather than the affordability of digital tools.

36 Small Business Council, 2019. *The New Zealand Small Business Strategy*. Available at: <https://www.mbie.govt.nz/dmsdocument/7449-the-new-zealand-small-business-strategy>.

37 Better for Business research, 2016.

38 It is recommended that this journey concept is tested in future research with later-adopting businesses.

Figure 11: Steps on the digitalisation journey for later adopting businesses



AWARENESS AND UNDERSTANDING ARE KEY BARRIERS TO ADOPTION

Not all businesses understand what 'digital' is – or what it can offer

The assumption that digitalisation is only associated with increasing revenue or growth is one example of how the term appears to lack a clear and consistent understanding among NZ businesses. Terms like 'digital tools' and 'digitalisation' are open to a range of interpretations – many of which are narrow – and this has a significant bearing on businesses' reactions when asked to consider their future investment in this area³⁹.

Examples of common interpretations⁴⁰ include:

- It is only for communication: ***"The farming business has few uses for digital tools, as interactions with clients and agents are limited."***
- It can't help me with my core activity so it doesn't seem relevant: ***"We can't operate online because we're a beauty salon."***

The perception that digital tools are not relevant is one of the main barriers to businesses' potential uptake of such products and services. The first step towards increasing awareness is to define what 'digital' means.

This will pave the way for deeper exploration of the many different digital tools available to businesses and how they could benefit their specific situation.

"If I could be convinced there would be something in it for us. If I could be convinced that there is a gain I would use [digital tools]."

39 In the survey questionnaire, respondents were given a number of prompts and details about what "digital tools" entails – including lists of types of digital tools, and this statement: "This includes [the] use of computers, handheld devices, internal systems and software, as well as [other tools] that help [businesses] deal with and interact with customers and suppliers".

40 The examples listed here are especially common in industries where work is not desk-based.

**LIKELIHOOD OF MAKING GREATER USE OF
DIGITAL TOOLS IN THE BUSINESS:**

**“Let’s survive this year
then I might think about it –
although this is unlikely.”**



OTHER BARRIERS ARE RELATED TO CURRENT ADOPTION LEVELS

Information and security concerns top the list of barriers to adoption

Late Majority businesses are especially concerned about information security and fraud. In fact, this is the number one barrier for businesses overall, with 32% of businesses agreeing that this concern stops them from making greater use of digital tools. And this sentiment is not limited to New Zealand businesses: the OECD notes that the “increased reliance on digital solutions has added new urgency to concerns around privacy and digital security”⁴¹, while Lloyds Bank in the UK found in 2019 that “small businesses are more concerned than ever about their digital footprint”⁴².

The confidence paradox

Many *Final Adopters* still question the relevance of digital tools for their business. They are also most likely to be held back by their own lack of confidence: 43% say they are “not confident with technology”, compared with an average of 23% for all business owners/managers.

New Zealand leads the OECD in terms of the proportion of adults who are ‘proficient at problem-solving in technology-rich environments’⁴³. But with only 44% of adults meeting the definition of proficiency, confidence can still present a barrier within businesses and it can also hold businesses back from digitalisation when their stakeholders or customers are not confident using technology (or *willing* to adopt digital tools). However, B4B’s digital research found that 80% of the business owners/managers who say they lack confidence with technology in general are comfortable using online banking, and many are also comfortable using the digital services offered by government agencies. This suggests that with sufficient familiarisation, functionality and ease of use, the barrier of confidence can be overcome; and that many late adopters will make use of basic digital services that are relevant to them – eventually.

Skills

27% of businesses currently report that a lack of skills is something that holds them back from using digital tools more; and it ranks in the top three barriers for each adoption group. While the confidence required to start using basic digital tools affects later adopters, the question of whether businesses have the required skills to get the most out of more advanced offerings is something that early adopters are starting to think about. It is likely that significant upskilling will be required for New Zealand to achieve the full potential of growth and productivity benefits that advanced digital enablement can bring.

Affordability matters

Innovators and Early Adopters identify far fewer barriers to digital adoption than later-adopting groups. But their highest-ranked barrier (mentioned by 23% of the group) is ‘we can’t afford it now’. And they are also most likely to identify ‘lower costs’ as something that would help them make greater use of digital tools (79%).

A number of different aspects of affordability emerge when businesses discuss this issue:

- The tendency for digital services to use subscription models means that ongoing costs can become significant as businesses adopt more different tools. This pressure also means businesses are conscious about overlap between different digital offerings, and are looking for greater integration between them.
- The costs associated with process change, embedding new systems and upskilling staff also present concerns.
- The pressures created by COVID and the resulting restrictions mean that digitalisation – along with other types of investment – has been demoted as a business priority.

41 OECD (2020), *Digital Transformation in the Age of COVID-19: Building Resilience and Bridging Divides*, Digital Economy Outlook 2020 Supplement, OECD, Paris, www.oecd.org/digital/digital-economy-outlook-covid.pdf.

42 Lloyds Bank. *UK Business Digital Index 2019*. Available at: https://www.lloydsbank.com/assets/resource-centre/pdf/business_digital_index_2019.pdf.

43 OECD Going Digital Toolkit. Available at: <https://goingdigital.oecd.org/>.

**WHAT WOULD HELP MY BUSINESS
MAKE GREATER USE OF DIGITAL TOOLS?**

“Better connectivity in rural and semi-rural areas. Funding for staff training. A better tax regime for writing off technology investments, including R&D and software development.”

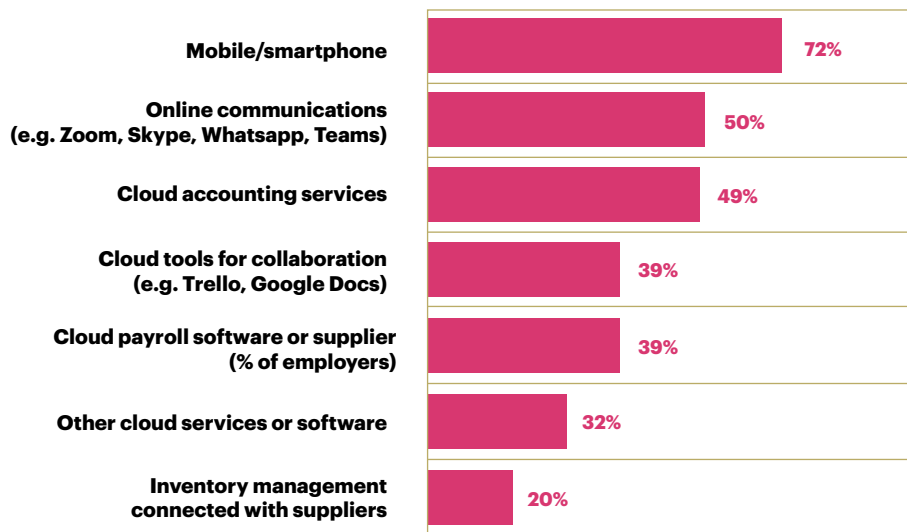


Am I using it? Current digital usage and behaviours

NZ business are currently making limited use of productivity-boosting digital tools

Figure 12 shows how many NZ businesses are currently using tools that have an ‘internal’ focus, i.e. tools that support administration, communication and productivity⁴⁴.

Figure 12: Use of digital tools for ‘internal’ purposes



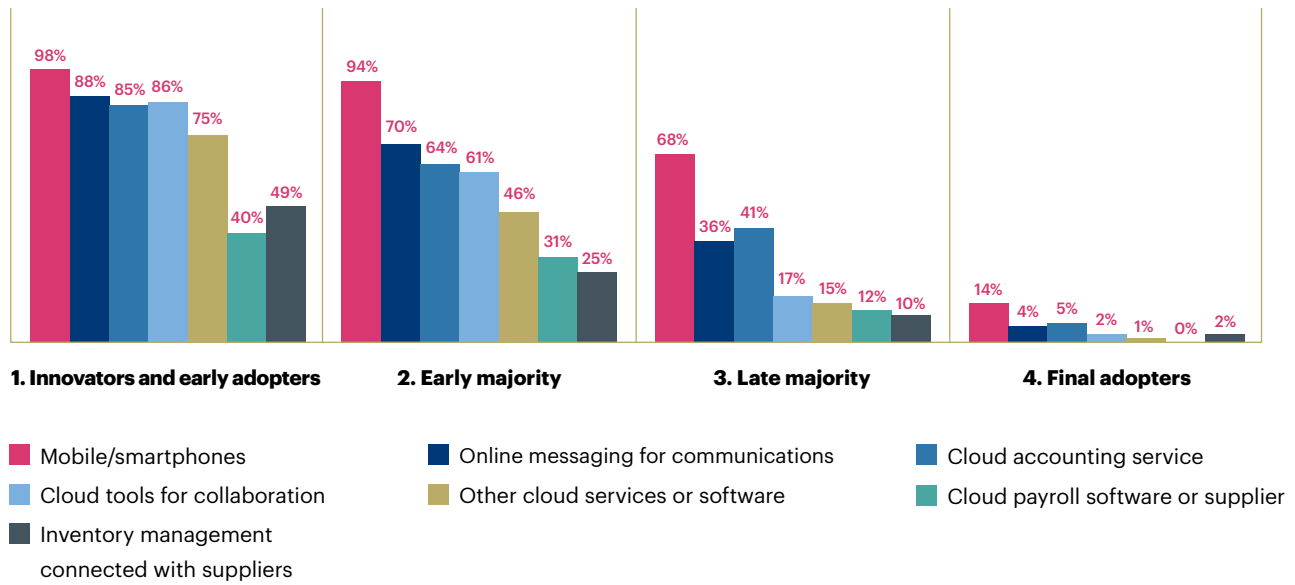
Cloud accounting software, which in theory has almost universal relevance to different types of businesses, is currently being used by half of all NZ businesses. Industry sector does not appear to have a strong bearing on uptake of cloud accounting, but we do see significant variation in uptake by:

- Business size: the larger the business – especially in terms of annual turnover, and also in terms of the number of employees – the more likely they are to use the software
- The extent to which the business is focused on revenue generation: the greater the focus, the higher the uptake.

The large majority of businesses in the *Innovators and Early Adopters* group are already making use of cloud tools for the purposes of communication, accounting and collaboration; and many businesses in this group are also making use of other tools. Efficiency-boosting cloud accounting and payroll services are already starting to be used by the Late Majority (Figure 13).

⁴⁴ It is expected that the actual proportions of businesses making use of these tools are slightly higher than those reported here – particularly the use of smartphones. Survey routing meant that businesses were first asked if they used digital tools “for internal purposes” and were only asked if they used these specific tools if they had answered “yes” to that initial question.

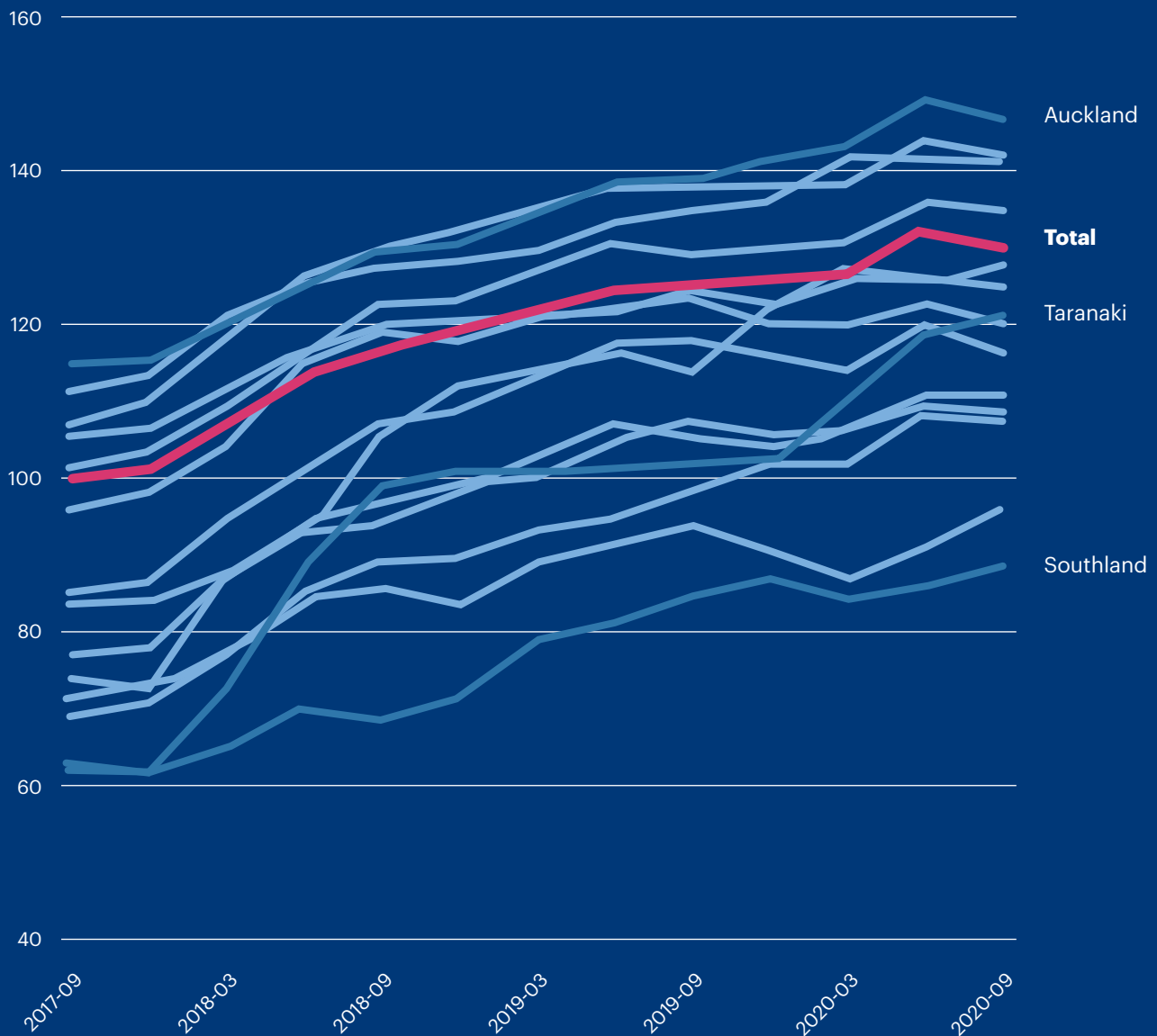
Figure 13: Use of digital tools for internal purposes – by adoption group



Uptake of cloud accounting has been increasing, but at a slowing rate

The proportion of BNZ's business customers showing evidence of spending on cloud accounting in the 12 months to September 2017 forms a benchmark for comparison across regions and over time. That result is assigned an index score of 100 (see Appendix 3 for

more details on the methodology). Quarterly results are based on the proportion of businesses that have made purchases with cloud accounting providers in the preceding 12 months.



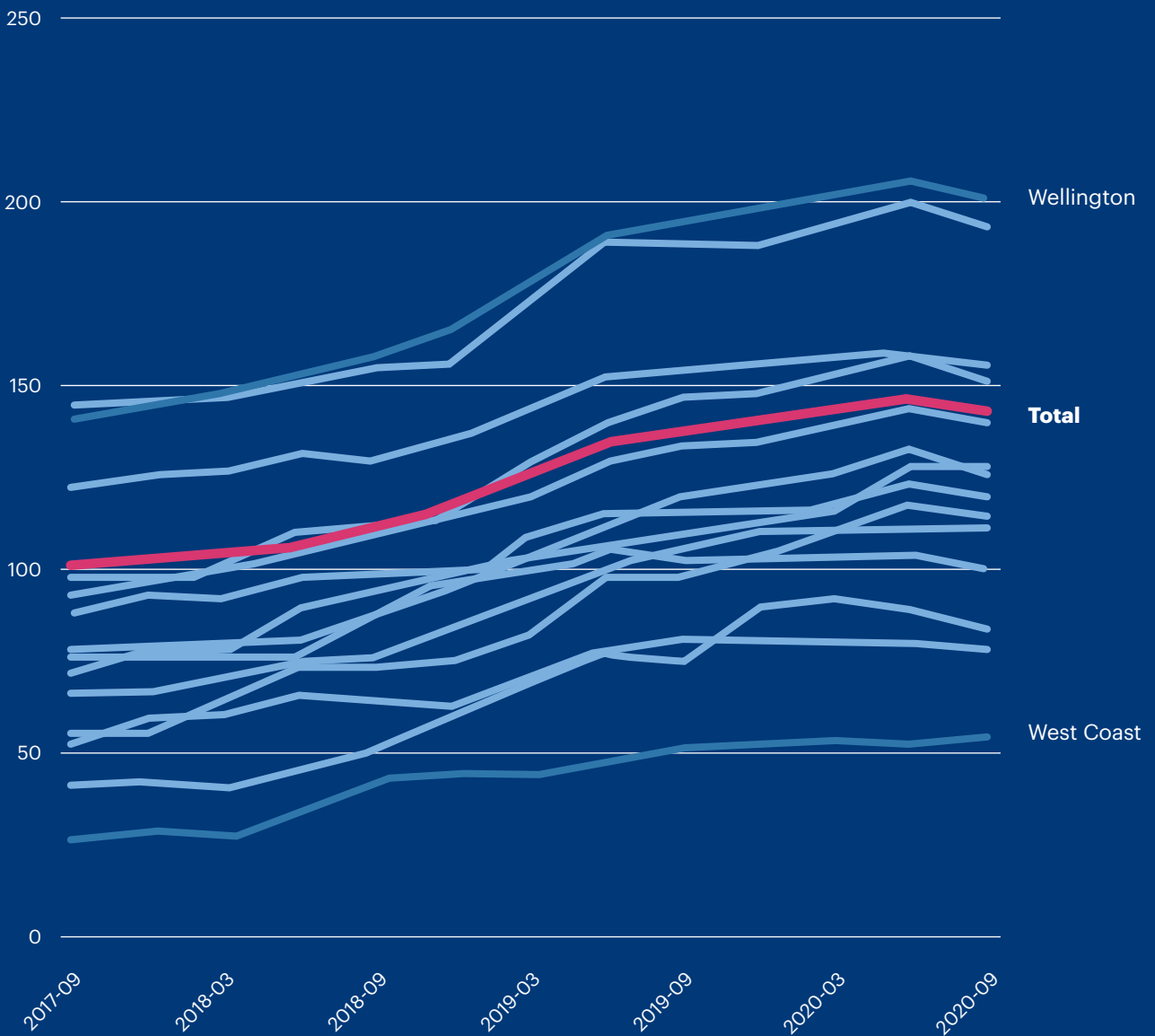
These results suggests that **businesses' use of cloud accounting software has been increasing**. The latest index score for NZ overall is 130.

Most regions have followed a similar pattern over the past three years, with the exception of Taranaki which has seen a greater-than-average increase in usage. Auckland, Canterbury and Hawkes Bay show the highest uptake, with Gisborne and Southland lowest.

Source: BNZ

Uptake of cloud payroll services has also increased

The September 2017 result for the proportion of BNZ business customers showing evidence of spending with cloud payroll software providers was also assigned a benchmark index score of 100.



Results suggests that **cloud payroll software usage by businesses has also been increasing** – although the rate of increase has slowed since 2019. The latest index score for NZ overall is 143.

The Wellington and Bay of Plenty regions have consistently shown the highest rates of uptake. Their latest index scores were 201 and 194 respectively – compared to scores of 53 for West Coast, 79 for Southland and 85 for Taranaki, the three lowest-scoring regions.

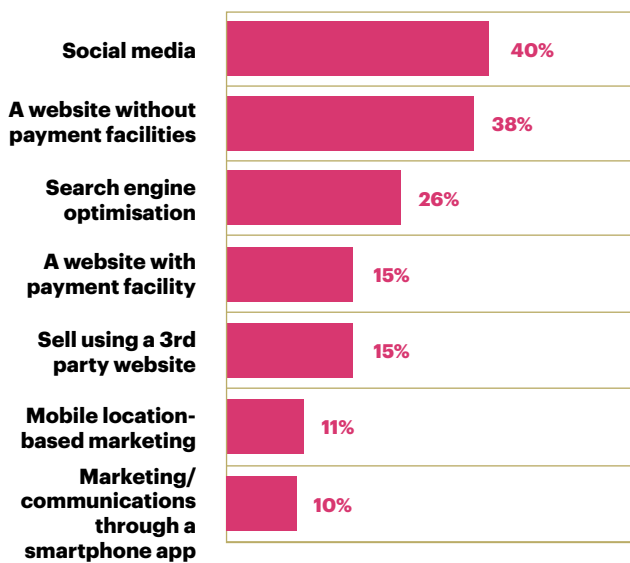
Source: BNZ

Externally-focused, sales and marketing-related digital tools are being used even less than internally-focused, productivity-boosting tools

Figure 14 shows how many NZ businesses are currently using tools that have an ‘external’ focus, i.e. tools that support sales, marketing and engagement with customers or suppliers.

Only 45% of NZ businesses have an online presence, in the form of a website (with or without payment facility) or third party sales platform. This increases to 51% if social media is included – which means that for 6% of businesses, their only online presence is on social media.

Figure 14: Use of digital tools for ‘external’ purposes



Sole traders are at least 20% less likely to use each of the digital tool types shown here than small businesses with 2-5 employees (Appendix 1), and only 42% have an online presence (including social media) – compared with 57% of small businesses with 2-5 employees.

Usage across each tool type increases with size:

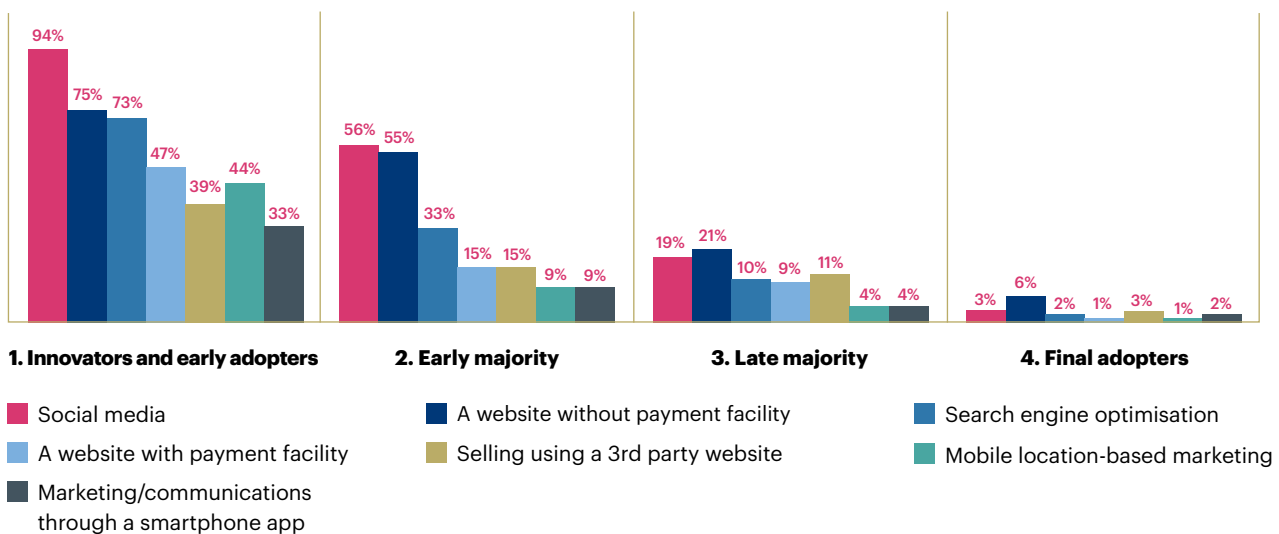
- 69% of large businesses have a social media presence, compared with 34% of sole traders
- 46% of large businesses use search engine optimisation, compared with 18% of sole traders.

There are also obvious differences by industry (Appendix 1) – although there are many early adopters within each sector.

Survey results suggest that around seven in ten retail businesses have some form of online presence; which aligns with retail industry estimates⁴⁵. As we might expect, this is much lower for businesses in the agriculture, forestry and fishing sector (22%). And at 30%, the construction industry also has a limited online presence.

All *Innovators and Early Adopters* have an online presence (including social media) – compared with 71% of the *Early Majority* group, 31% of *Late Majority* businesses and just 7% of *Final Adopters*.

Figure 15: Use of digital tools for ‘external’ purposes – by adoption group

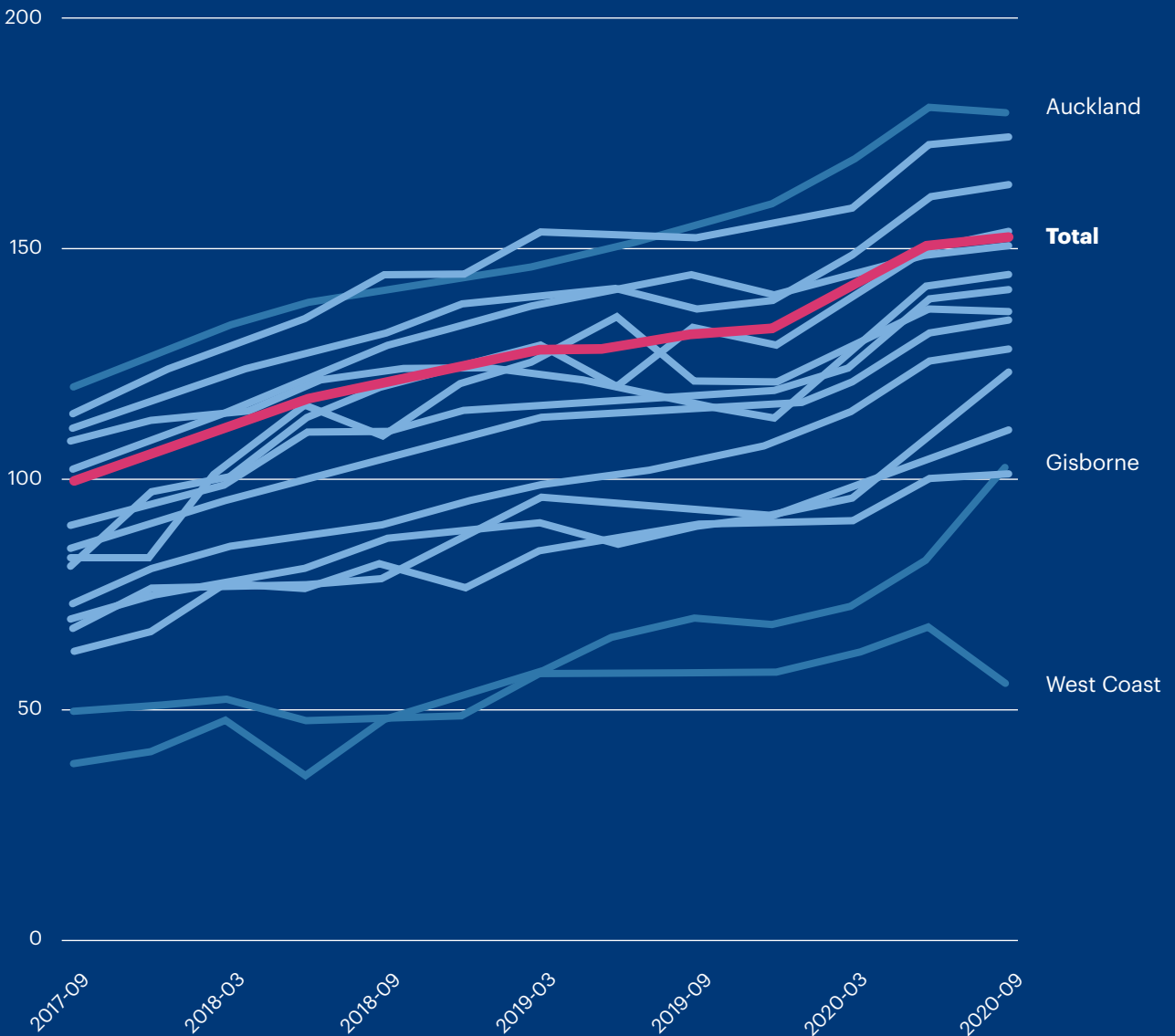


45 Stuff, 2021. *Online shopping here to stay, forcing business to rethink their strategy*. Available at: <https://www.stuff.co.nz/business/125083826/online-shopping-here-to-stay-forcing-business-to-rethink-their-strategy>.

Business use of social media appears to be increasing

The proportion of BNZ's business customers showing evidence of spending on social media in the 12 months to September 2017 was assigned a benchmark score of 100. Analysis is based on spending with native platform providers (i.e. it does not include use of social media management tools).

Because it is possible to use social media platforms without paying for them, this analysis is necessarily focused on businesses that are making the most use of these technologies.



These results suggests that **social media usage by businesses has been increasing**. The latest index score for NZ overall is 152.

The increase is evident across most regions, with some showing a marked upturn at the time of the COVID-19 lockdown – like Gisborne, for example. At a national level, there was an 11% lift in uptake between March and June 2020.

Source: BNZ

HOW BUSINESSES CURRENTLY ENGAGE WITH GOVERNMENT SERVICES

Digital government services part of mainstream

Over the course of the past decade, NZ businesses have been able to carry out an increasing number of transactions and interactions with government agencies through online or digital services. The intent of this digital transformation is to enable businesses to spend less time and effort dealing with compliance-related activities, while having improved visibility and access to information that can help them to understand what is required of them.

Encouragingly, more than half (59%) of businesses now prefer to deal with government agencies through online systems where possible. And this is reflected in the fact that a total of 61% of businesses tell us they now file their GST return either using Inland Revenue’s digital services (47%), or directly through their accounting software (14%). Very few businesses file their return using a paper form (2%), even though this is still an option.

While uptake of government digital services is correlated with Digital Index scores, a perhaps surprisingly high proportion of the *Final Adopters* group are already making use of these services.

Figure 16: Preference for dealing with government agencies

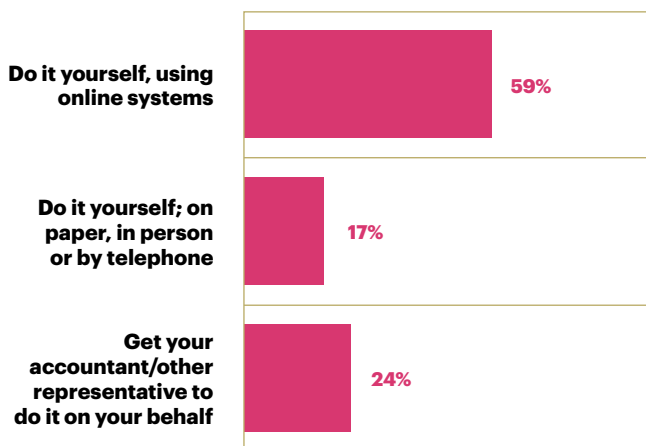


Figure 17: Actual method of filing GST returns

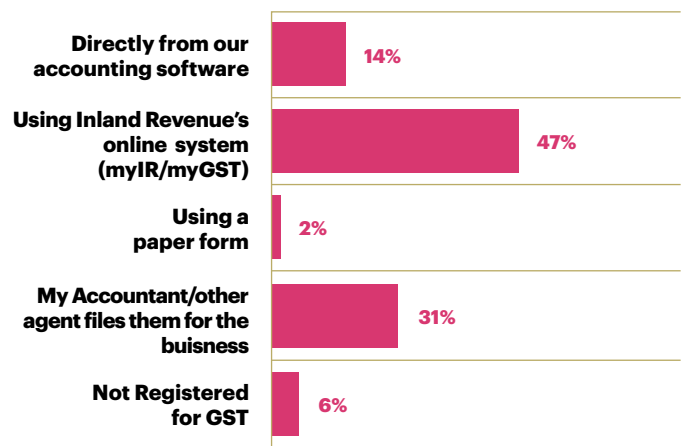
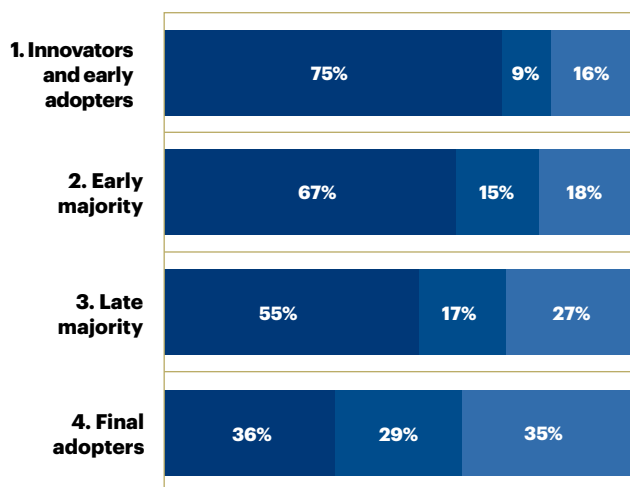
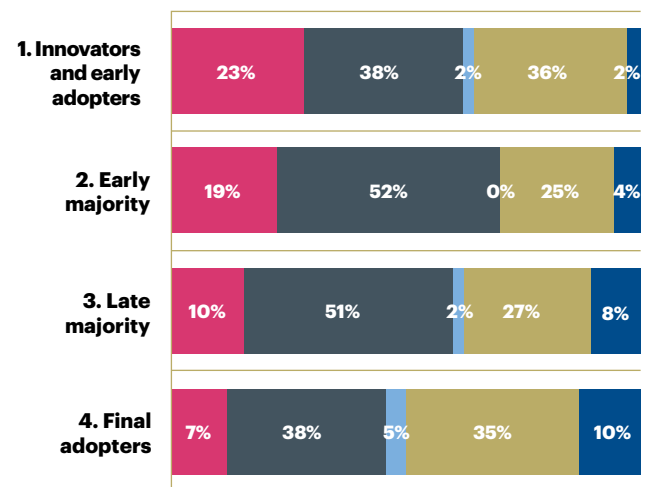


Figure 18: Preference for dealing with government agencies – by adoption group



- Do it yourself, using online systems
- Do it yourself; on paper, in person or by telephone
- Get your accountant/other representative to do it on your behalf

Figure 19: Actual method of filing GST returns – by adoption group



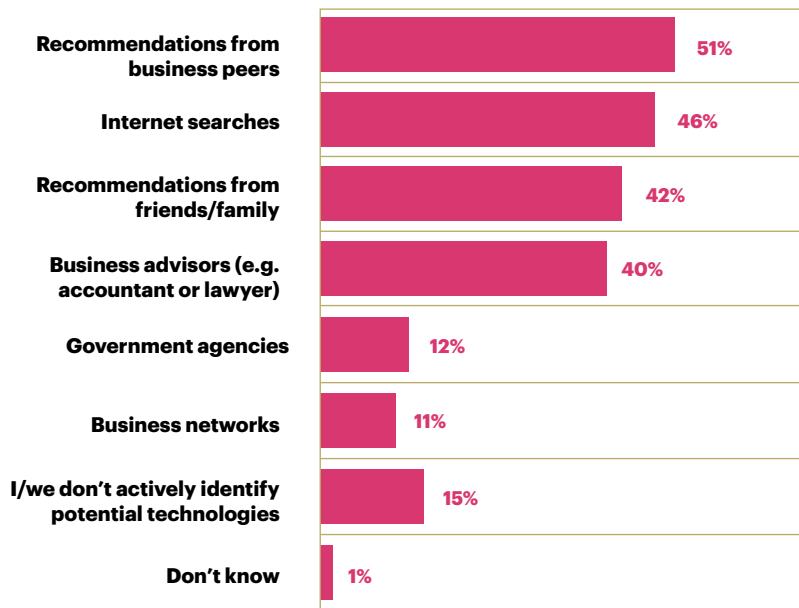
- Directly from our accounting software
- Using Inland Revenue's online system (myIR/myGST)
- Using a paper form
- My accountant/other agent files them for the business
- Not registered for GST

INFORMATION SOURCES

A range of channels are already being used to acquire information and advice about digital technologies. Many businesses are relying on recommendations

Respondents were asked how their business ‘currently gets advice or identifies new digital tools’ (Figure 20). Only 15% of businesses said they do not receive or actively seek information, and 63% identified more than one information source.

Figure 20: Current sources of advice/ways of identifying new tools



Recommendations from business peers are currently an important source of advice. Because of this reliance on other businesses when making purchase decisions, there is clearly a lot to be gained by ensuring early adopters of digital tools have positive experiences.

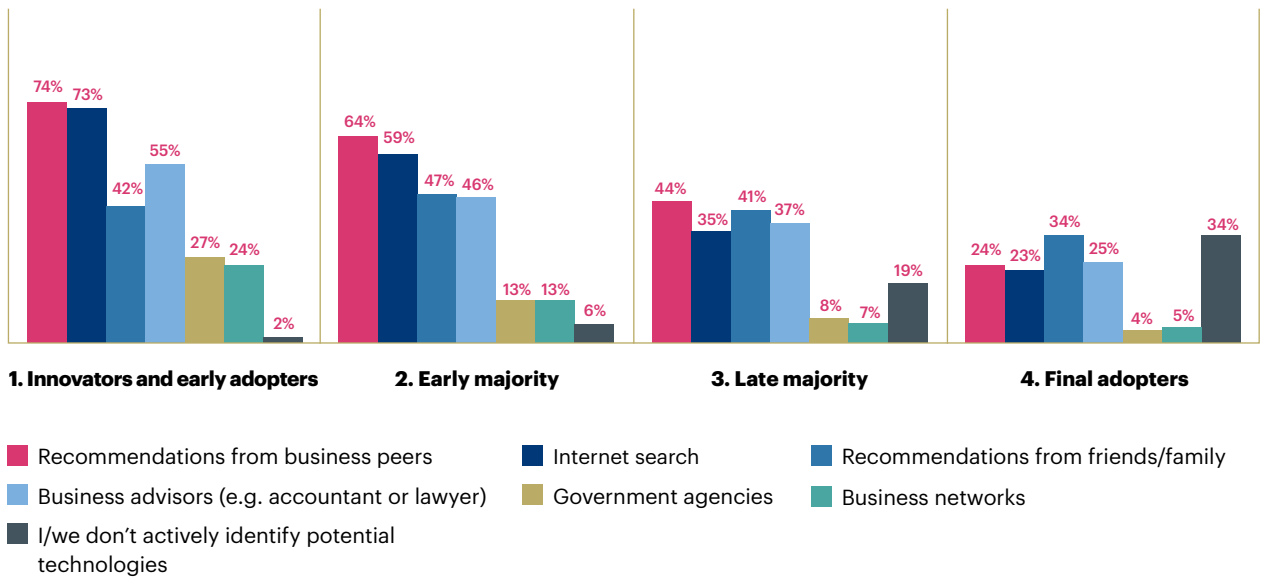
As Figure 21 illustrates, early-adopting businesses are far more likely to be receiving recommendations from their business peers or seeking information themselves on the internet, when compared to late-adopting businesses.

Those who self-seek information also show much greater awareness of which tools might be relevant for their business, whereas those who rely on recommendations from friends and family show the lowest levels of knowledge.

The two information sources which show greatest differentiation between adoption groups are government agencies and business networks. *Innovators and early adopters* are far more likely to use these sources than later-adopting groups. A similar pattern can be seen in the varying use of government digital services across the adoption groups (Figure 22).

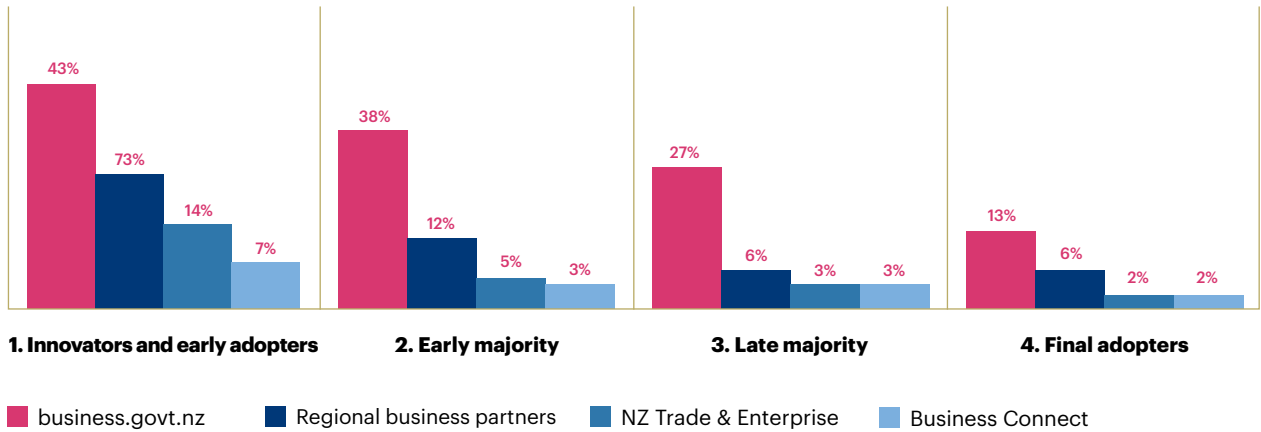
Business advisors and intermediaries (e.g. accountants, bookkeepers, lawyers, and consultants) may be a useful channel for reaching later-adopting groups – even if they are not being used for digital advice currently. Past B4B research has shown that around half of intermediaries have a customer base of more than 100 businesses.

Figure 21: Current sources of advice/ways of identifying new tools – by adoption group



When considering the use of existing government services as a channel for communicating with businesses, it should be noted that there is already a bias among current users towards those who are more digitally enabled.

Figure 22: % of businesses using or intending to use government services – by adoption group

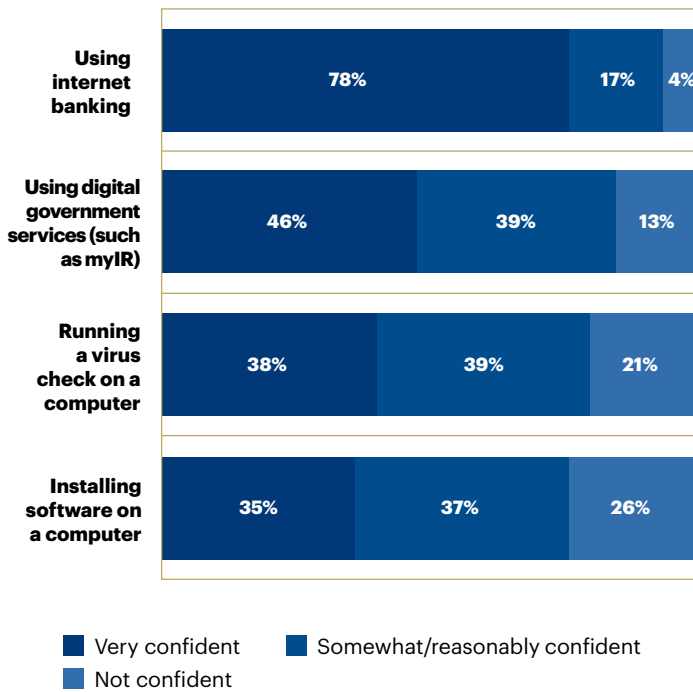


SKILLS AND CONFIDENCE

Confidence with technology is clearly a significant barrier for later-adopting groups of businesses. But 80% of those who say they lack confidence with technology are comfortable using online banking

Responding business owners/managers were asked to rate their confidence in undertaking a number of common tasks associated with using computers and digital tools (Figure 23). Results show that they are generally confident using online banking and digital government services, but more variation is apparent when it comes to other tasks like running a virus check or installing new software on a computer.

Figure 23: Confidence in completing activities



Respondents also rated their agreement with a statement about their confidence with technology in general (Figure 24). Confidence levels vary among NZ businesses, with 23% agreeing and 57% disagreeing with the statement 'I'm not confident with technology'. The next section of the report explores lack of skills as a barrier to digital adoption.

Figure 24: Confidence with technology overall

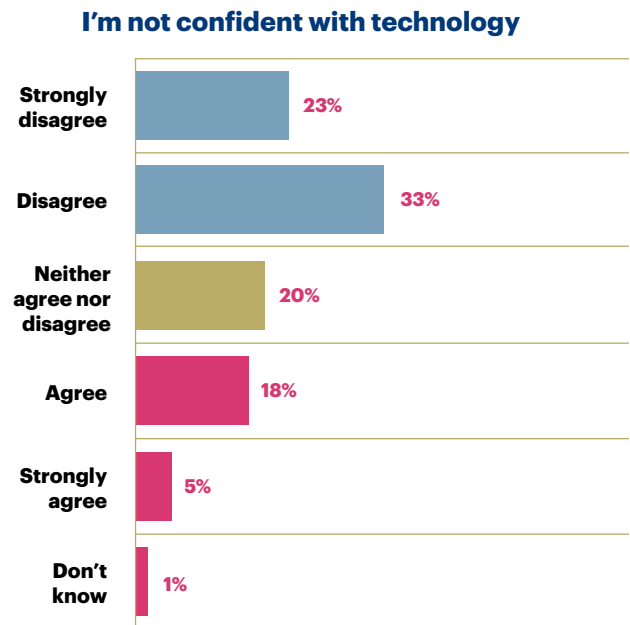
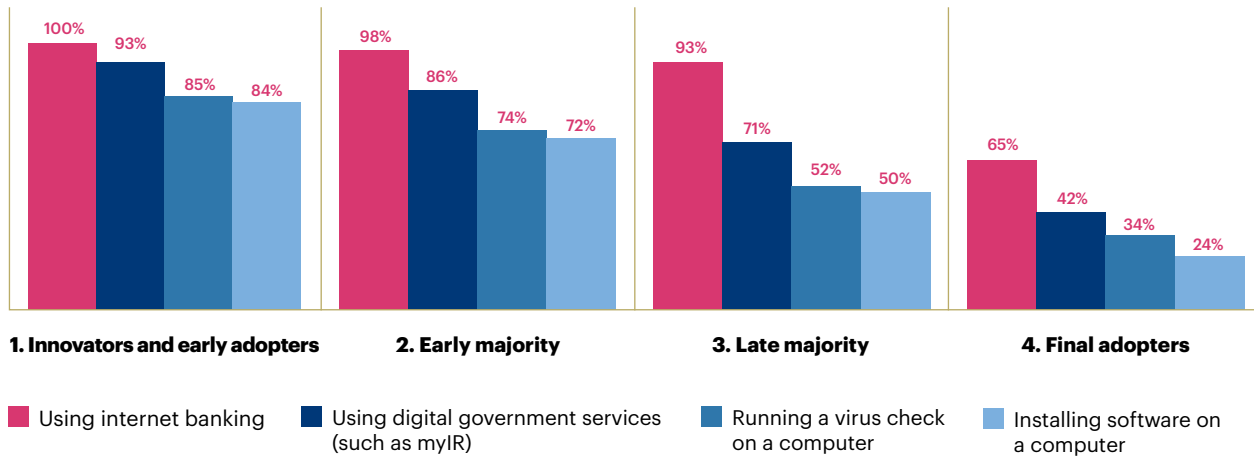


Figure 25 shows a clear relationship between digital adoption and confidence with technology. Although 43% of *Final Adopters* say they are not confident with technology generally, 65% are confident using online banking services.

Figure 25: % of businesses that are 'very' or 'reasonably' confident with different activities



“Small businesses have little slack to research the suitability of software to meet their needs.”



Do I want it? Business attitudes towards becoming more digital

THE BENEFITS OF FURTHER DIGITALISATION

In 2020, less than half of businesses believed they would benefit from greater digital adoption

More businesses agree than disagree that their business would benefit from greater digital adoption. But the following results demonstrate there is more work to be done to convince many businesses of the benefits:

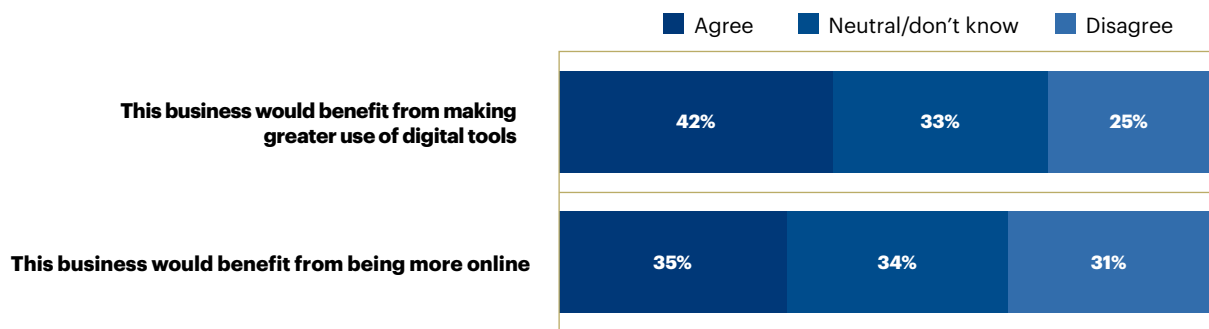
- 42% of businesses agree and 25% disagree that they would benefit from **making greater use of digital tools**
- 35% of businesses agree and 31% disagree that they would benefit from **being more online**

- 45% of businesses agree with at least one of these sentiments
- Only 22% disagree with both.

A relatively large proportion of neutral responses to these questions appears to stem from:

- Many businesses having not yet researched the subject or given it a lot of thought
- Others feeling like they are already doing enough digitally.

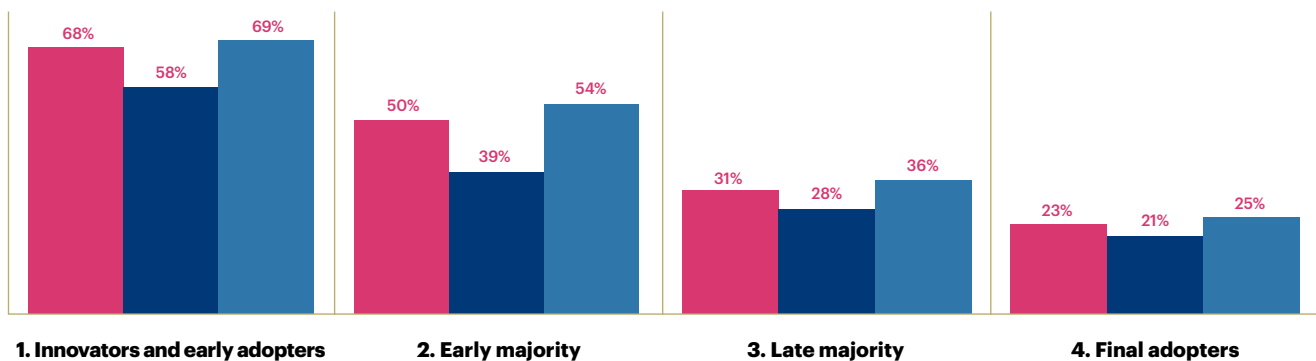
Figure 26: Agreement that the business would benefit from being more digital



Later-adopting groups will need more convincing that their business could benefit from greater digital enablement (Figure 27). One third of *Late Majority* and *Final Adopter* businesses are neutral about whether they would benefit from being more digitally enabled and 35-40% of each group disagree that this is the case.

The more motivated 25% of the *Final Adopters* group are generally more focused on increasing revenue and more optimistic than their peers. Two-thirds are held back by a lack of skills and therefore they would be especially receptive to in-person training.

Figure 27: Agreement that the business would benefit from being more digital – by adoption group



■ % agree: Business would benefit from making greater use of digital tools ■ % agree: Business would benefit from being more online ■ % agreeing with either statement

Motivation is strongly related to current levels of digital activity and a desire to increase revenue

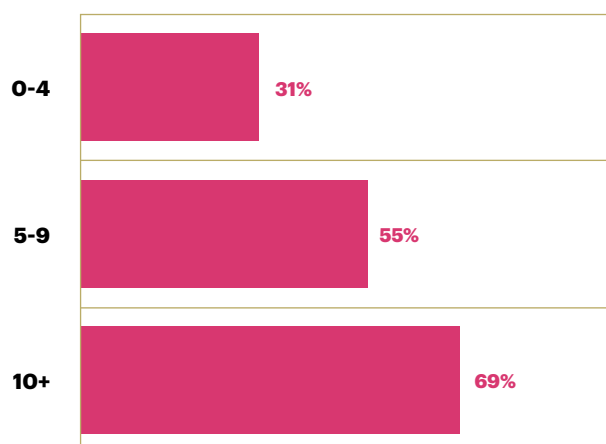
Figure 28 shows some of the characteristics that are most related to a business's perception of the benefits of digitalisation. It reveals that:

- In general, the more businesses are already doing digitally, the more motivated they are to do more.
- This is especially true of the use of 'externally' focused tools such as social media.

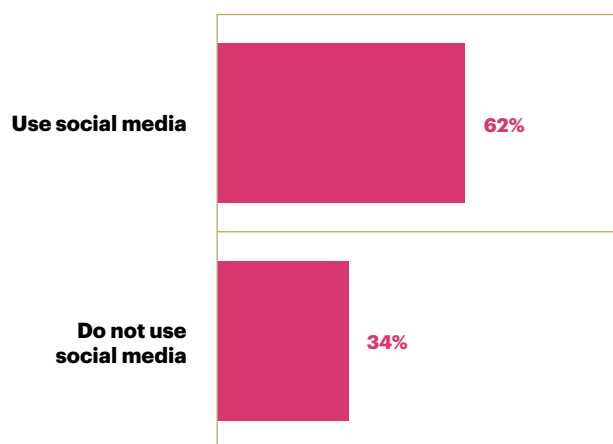
- But clearly some businesses are already at full capacity, i.e. doing all they can to be digitally enabled. This is apparent when we see that only 59% of businesses with a score of 75 or greater on the *Actual-Use* Digital Index dimension see benefits in doing more.
- 29% of businesses at the other end of the scale (i.e. with low scores on the *Actual-Use* dimension) see benefits in doing more. These businesses are likely to need the most support in the next stage of their digitalisation journey.
- A current focus on increasing revenue is also correlated with a greater desire to be more digital.

Figure 28: % of all businesses agreeing that they would benefit from being more online or making greater use of digital tools

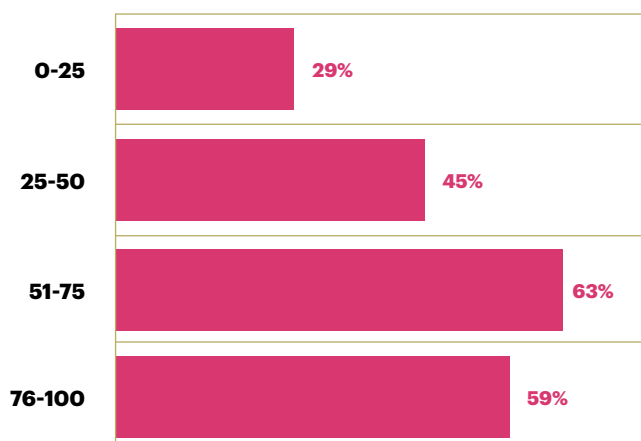
By count of the types of digital tools currently used



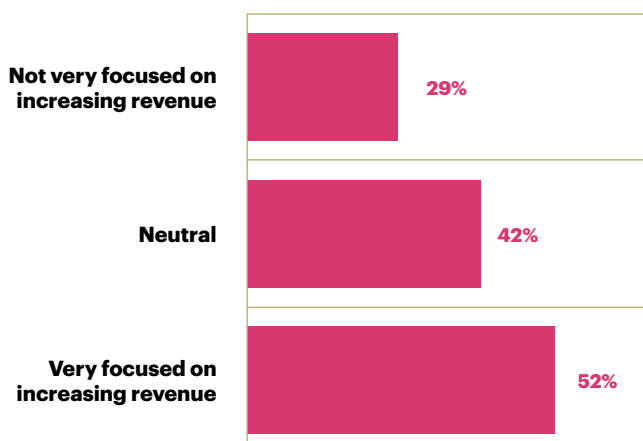
By current use of social media



By score on the 'actual use' digital index dimension



By degree of focus on increasing revenue



Perceptions of the benefits of further digitalisation are also related to:

- **Business size:** 41% of sole traders believe they would benefit, compared with 60% of large businesses.
- **Age:** Older business owners (aged 70+) are much less likely to see benefits.
- **Industry:** Retail businesses are most likely, and agriculture/forestry/fishing businesses least likely
- **Location:** Auckland-based businesses have higher motivation levels than other regions on average.

ATTITUDES TOWARDS DIGITAL

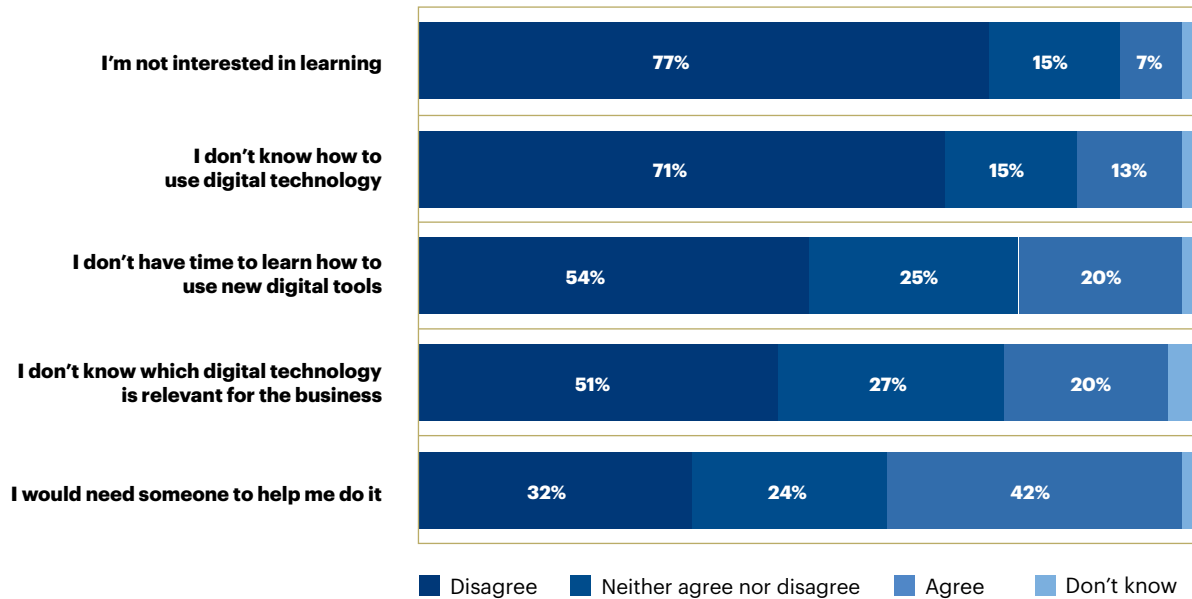
Most businesses show an openness to at least understanding more about digital technologies

When asked about their views regarding the use of digital tools in their business, very few businesses agreed with the statement 'I'm not interested in learning' (Figure 29).

There were low levels of agreement with most of these other negatively-geared statements, which suggests few businesses feel strongly that:

- They lack time to learn about digital technology
- They lack an understanding of how to use digital technologies.

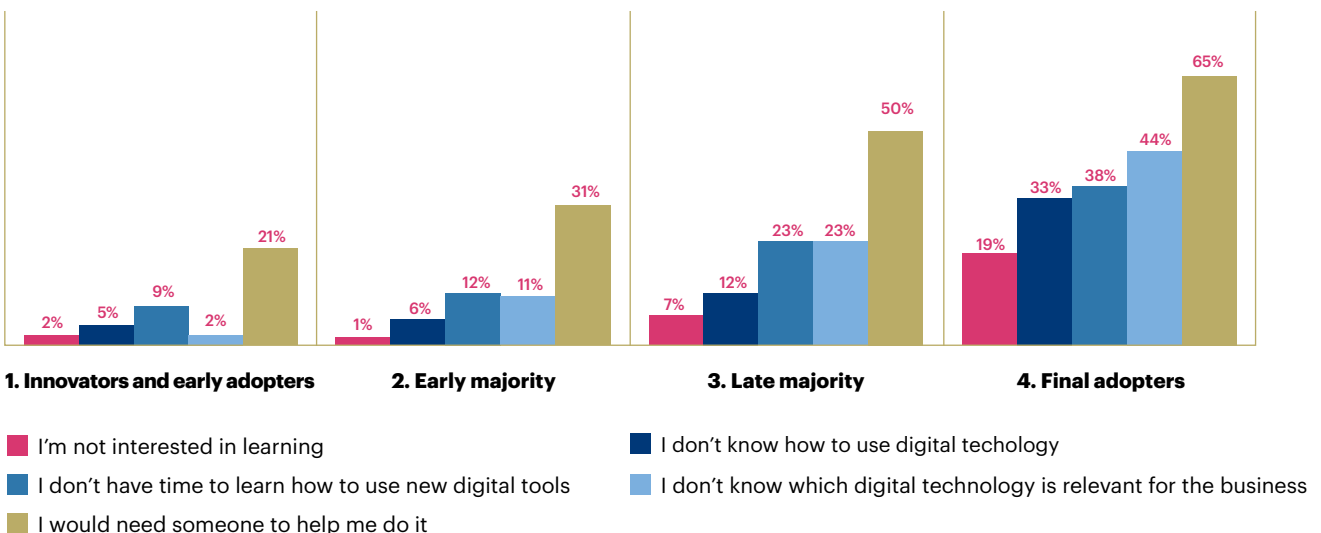
Figure 29: General attitudes towards the use of digital tools in the business



There are obvious correlations between these attitudes and the degree to which businesses are currently digitally enabled (Figure 30).

Only 19% of *Final Adopters* agree with the statement 'I'm not interested in learning'. But they are most likely to agree that they 'would need someone to help me do it' (65%). This reinforces other results suggesting that later adopters are the businesses that will need most support to lift their digital capability.

Figure 30: % agreeing with attitude statements – by adoption group



“Digital tools are the key to world markets so extremely important. To have the ability to find the best tools to use I might need professional help rather going through a trial and error process.”





What's stopping me? Barriers to making greater use of digital tools

A range of different factors are preventing different businesses from becoming more digitally enabled. Earlier adopters identify far fewer barriers than later adopters

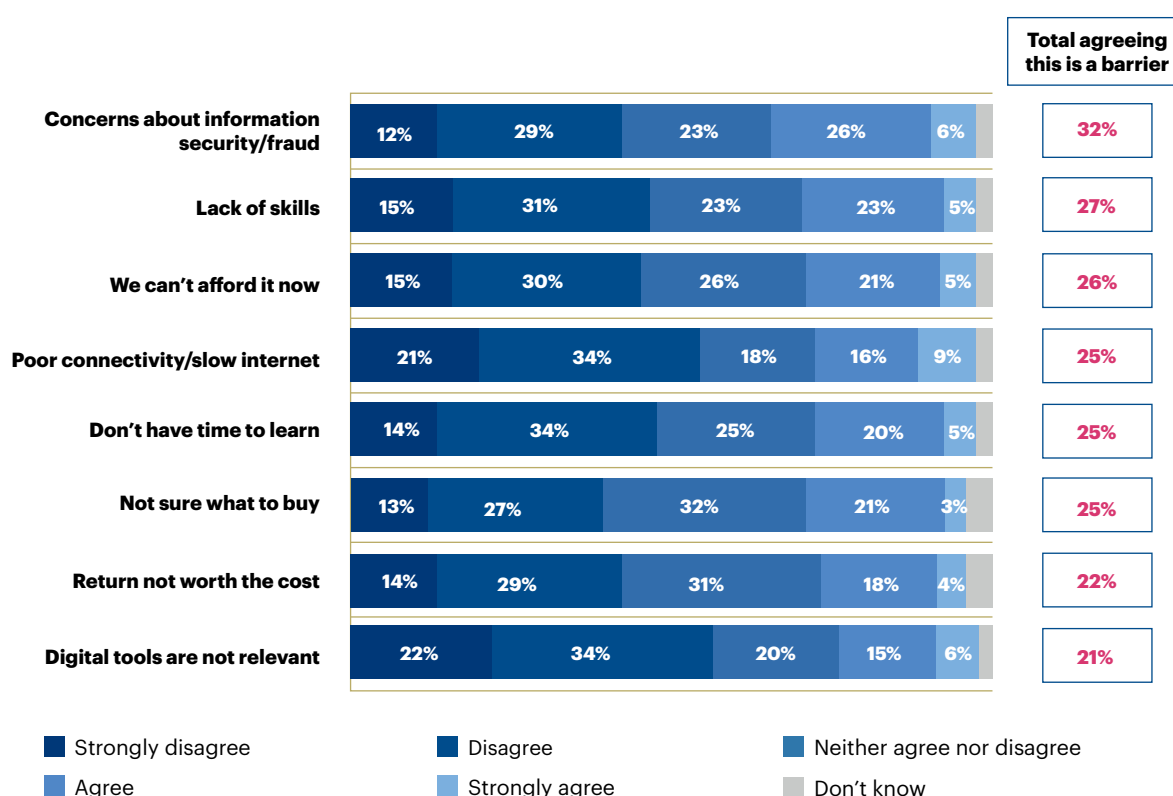
Responding business owners and managers were asked about the degree to which each of the factors shown in Figure 31 from making greater use of digital tools. There is not a great deal of variation across the listed barriers in terms of the degree to which they are preventing more digital adoption – although concerns about information security and fraud clearly top the list. As the OECD observes, the increased reliance on digital solutions which followed COVID-19 “has added new urgency to concerns around privacy and digital security”⁴⁶.

The other barriers shown here each affect a significant minority of businesses. They can be grouped under the following four elements of the Digital Inclusion Outcomes Framework⁴⁷ – which supports understanding and measurement of digital inclusion in New Zealand – and also under the Digital Index dimensions of *Invest* and *Access-Skills-Trust*.

- Motivation: awareness and perceived value/relevance (these fall under the Digital Index dimension of ‘Invest’)
- Access: affordability, internet connectivity and accessibility
- Skills
- Trust: confidence and understanding.

On average, businesses identified two of these barriers as being applicable to their current situation. This increases from an average of one identified barrier for *Innovators & Early Adopters* to three for *Final Adopters*.

Figure 31: Barriers to making greater use of digital tools in the business



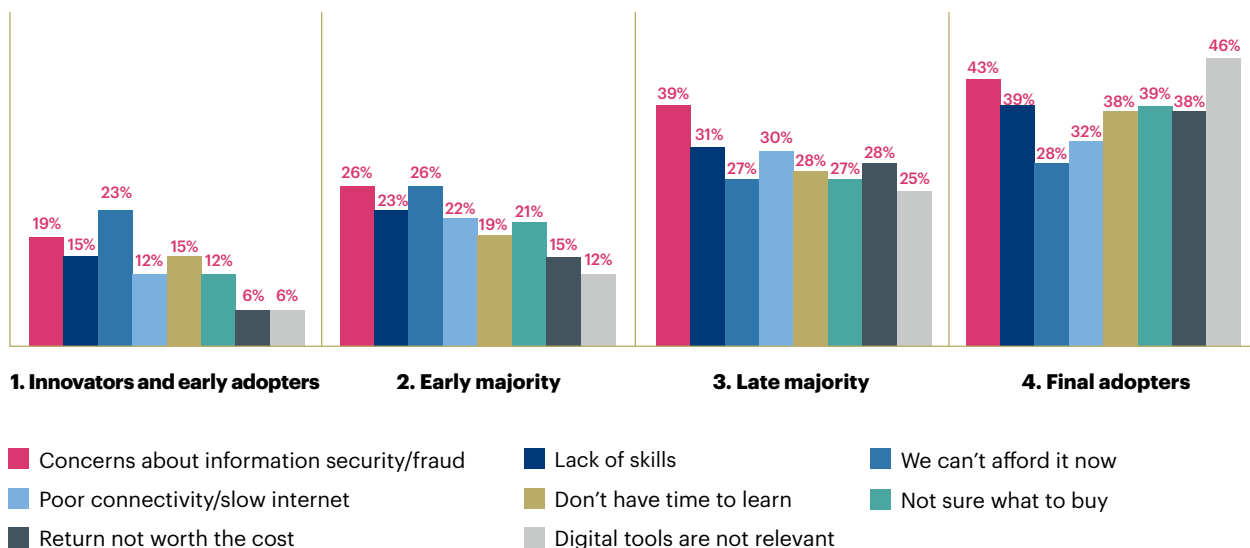
46 OECD (2020), *Digital Transformation in the Age of COVID-19: Building Resilience and Bridging Divides*, Digital Economy Outlook 2020 Supplement, OECD, Paris, www.oecd.org/digital/digital-economy-outlook-covid.pdf.

47 The Department of Internal Affairs, 2019. *Digital Inclusion Outcomes Framework*. Available at: <https://www.digital.govt.nz/dmsdocument/167-digital-inclusion-outcomes-framework/html>.

Some barriers are more pertinent to businesses that have a desire to be more digital; i.e. those who are likely to have given the subject some consideration. For example, the sentiment ‘we can’t afford it now’ is a relatively strong barrier for *Innovators and Early Adopters* (Figure 32).

Late Majority businesses are especially concerned about information security and fraud, while many *Final Adopters* still question the relevance of digital tools for their business.

Figure 32: Businesses agreeing that each barrier stops them from making greater use of digital tools – by adoption group



Responding businesses were invited to describe any other factors that might prevent them from making greater use of digital tools. The main themes of those comments are listed below. Some are new themes, not displayed above; others are expansions or variations on those themes. See Appendix 2 for further examples of comments under each theme.

The largest theme by far relates to the perceived **relevance of making greater use of digital tools**. For some, this is because they believe they are already doing all they can.

We're already doing enough/all we can

“We are a motel. The only online thing we have is booking via our website and some social media marketing. We simply don't see what we could gain from any further digital tools. No money to invest in them anyway.”

No need to change – our current approach works

Other businesses are happy with the success they are currently achieving without the use of digital tools.

“We are a production-based business with contracts and clientele already established. Additional use of digital is not very relevant to our core business.”

You can't do my kind of work 'online'

This is the largest sub-theme under the theme of ‘relevance’. In many cases, these comments will stem from a genuine absence of available tools that can support the main focus of their enterprise – particularly in niche industries. In some other cases, responses of this nature may arise from a limited appreciation of what the possibilities of digital are and the various offerings available. Others may be related to a narrow interpretation of what “digital” means; for example focusing too much on the potential for digital to support the business's core activity, and perhaps overlooking the administration or marketing support that digital enablement can bring.

“Most of my business is best done face to face, in person.”

We cannot assume that businesses understand what “digital” means. Scepticism is often the initial response to the term and its relevance to businesses

Costs, financial pressures and affordability

A variety of issues become apparent when exploring the theme of cost pressures and affordability. This includes the tendency for digital services to use subscription models; concerns about the training investment associated with digital enablement; and current pressures on the business meaning that digital enablement is competing with – and often losing out to – other, more pressing concerns.

“Many tools are becoming subscription-based, not a one-off purchase. This is difficult or impossible for small businesses. Governments should financially support and pursue the adoption of free and open source software especially in the education sector.”

“Purely the revenue stream - my business took a huge hit of savings this year so I don’t have enough money to be able to take my work online, though I am exploring what I can afford to do.”

Lack of digital capability or desire among clients, suppliers or other stakeholders

The fact that adoption of digital tools and services is uneven among small businesses and among the population as a whole can create challenges for businesses wishing to increase their digital capability – for example when many of their clients or stakeholders are later adopters of technology or are disadvantaged in terms of their access.

“We deal with a lot of people who are not fully up with digital technology who lack the capability to do things online.”

Too many tools to choose from. Insufficient integration between products. Challenges aligning with other parties such as clients or suppliers

“We already use quite a number of digital tools (including self-developed workflow software). Integration and fit with other more critical digital tools are important for tools that are less critical in nature.”

Integration between different digital tools and ensuring alignment with stakeholders’ digital usage is emerging as a concern which is holding some businesses back. This is an important consideration for anyone developing digital services for businesses – including government

Awareness/knowledge

Comments illustrate a clear need for support in helping businesses understand which tools could help them and what kind of benefits they could expect.

“Unsure of what’s out there that would be helpful to our administration and online services.”

Time and other competing pressures

Becoming more digitally enabled can require a significant time investment on the part of small business owners and managers. This often presents a significant barrier at the very start of the digitalisation journey, but it can prevent progress at later stages as well.

“We already use digital tools quite comprehensively. But as a small business my limited time availability is a factor. We should/could make better use of some of our existing tools before we add to our tool kit, but once again it is a trade-off between spending time on say digital marketing tools and servicing existing clients.”

Other themes

Remaining comments covered some of the other themes displayed in Figure 31 such as information security concerns and a lack of skills, along with other issues such as the pace of change among digital tools and preferences for non-digital contact methods.

“I am a financial adviser. It is best to see people face-to-face, if they are new clients. It is fine for existing clients to do business online.”

“Security. If the NZX and NIWA can get caught, what hope have the rest of us got?”





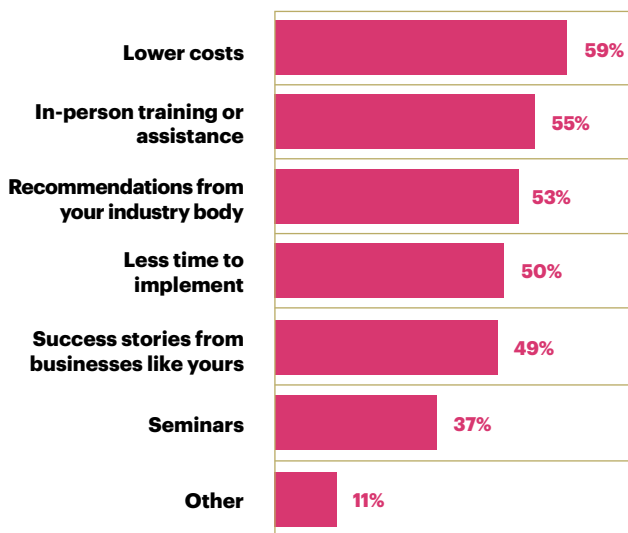
What will help me? Lifting businesses' digital capability

WHAT WOULD HELP BUSINESSES MAKE GREATER USE OF DIGITAL TOOLS?

There are many different ways of encouraging digital uptake that will resonate

Figure 33 shows the proportion of businesses agreeing that different types of support would help their business make greater use of digital tools. Most of the options shown here are considered useful by at least half of responding businesses.

Figure 33: Appetite for different types of support



Although *Final Adopters* are far less likely to agree that each of the options below would be helpful than businesses in the early-adopting groups, it is promising that more than a third of this group have indicated they may respond to these types of support – and on average, *Final Adopters* identified two different types of support as being beneficial.

Across all groups, lower costs are universally the most popular type of support, and seminars the least popular.

Recommendations from industry bodies are likely to resonate with many businesses, and results suggest that success stories from other businesses may resonate with the later-adopting groups.

66% of the business owners/managers who did not agree that their businesses would benefit from greater digital enablement went on to identify at least one option that would help them to do so.

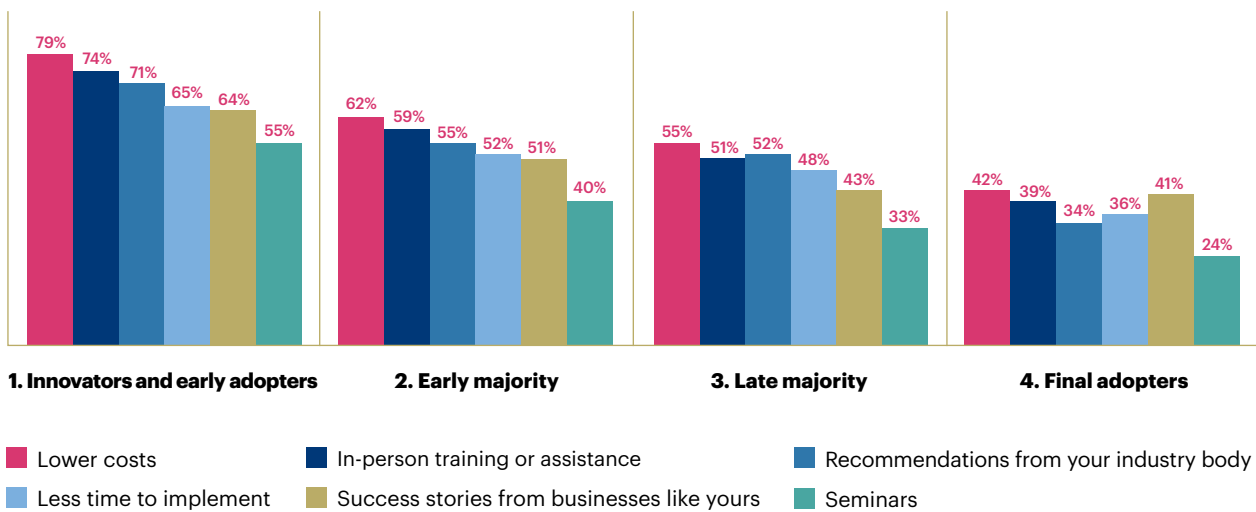
Desires for lower costs and in-person training are both especially strongly correlated with motivation to becoming more digitally enabled – which suggests that offering these types of support are very likely to appeal to those most interested in doing more.

A greater interest in digitalisation generally translates in a higher enthusiasm for each of the factors that may support further digitalisation (Figure 34).

Any initiatives designed to support businesses' digital enablement are therefore likely to attract customers from the early-adopting groups as well as the later-adopting groups – and therefore different levels of assistance are likely to be required.

Industry bodies, as a trusted voice for many businesses, have a critical role to play in supporting those businesses to improve their digital capability – for example through recommendation of tried and tested products/services and demonstration of their industry-specific relevance and benefits

Figure 34: Appetite for different types of support – by adoption group



Responding businesses were invited to describe any other factors that might make their business make greater use of digital tools. The main themes of these comments are listed below. See Appendix 2 for further examples of comments under each theme.

Cost reductions and financial support

These comments reiterate the finding that costs are a key concern for many businesses. They also include a number of different suggestions for how this concern might be addressed.

“Easy access to capital, i.e. government-backed low interest loans.”

“Many tools are becoming subscription based, not a one-off purchase. This is difficult or impossible for small businesses. Governments should financially support and pursue the adoption of free and open source software, especially in the education sector.”

Training to support the use and implementation of digital tools

Unsurprisingly, given that lack of skills is highlighted as a major barrier to digital adoption, training emerges as another key theme of respondent suggestions. Within this theme there is a change management lens, and also a recognition that some industry specialisation is going to be required in the delivery of training.

“Staff training will help because not everyone is an expert in that stuff so a little bit of training will help a lot.”

Overcoming confidence issues linked with age

In addition to the provision of training, efforts to drive greater uptake of digital tools will need to acknowledge that many NZ business owners were trained in their field before the widespread use of computers – along with a widely-held perception among that group that digital tools can only be understood by young people.

“I’m old school, so everything is done manually. I use my skills from the past to keep me going, it just frustrates me when on a computer.”

Access to marketing expertise

Digital tools can offer a range of marketing functionality – but some businesses acknowledge that they may not have the required skills to make the most of that functionality.

Digital tools can make marketing much easier and more effective – but not all small businesses are confident in their marketing ability

“Having someone to support and do the marketing and advertising for me. As a one man band it’s very difficult to apportion the time. Financially it’s difficult at this stage to be in a place to pay someone.”

Improving awareness and knowledge of what’s available

“More awareness of available tools.”

Demonstrate the true benefits for my business

Related to a lack of awareness and knowledge of what is available is an awareness of what is *possible*. How is this product going to help my individual business with its specific needs? The return on investment also needs to be clearly communicated.

“Able to see them in action and the results they achieve, and that they are at a cost proportionate to the results they achieve.”

Overcoming the question of relevance, and other perceptions of “digital”

Related to the need to increase awareness and knowledge is the challenge of overcoming narrow perceptions of what digital means, who it is for and what it can offer.

“Our work is manual. It doesn’t occur at desks in offices.”

“To be fair I’m over technology full stop, computers won’t paint your house or sand or prep. Too many people talking about working, not enough actually working (manual labour that is!).”

“Relevance – persuasion.”

A range of preconceptions exist around what “digital” means – many of which are narrow. Care needs to be taken when communicating about digital enablement. And changing these perceptions will require a deliberate reframing of the conversation

Improved connectivity

For some businesses, current internet provision is not meeting their needs or expectations and they feel this would need to be addressed before they can make greater use of digital tools.

“Digital connectivity. I live on a State Highway and there is no fibre connection at my gate - appalling in this day and age.”

Better integration between different tools and systems

“More mature tools, i.e. a lot of tools only have a single purpose of fulfilling a basic function and the ability to integrate and transfer data in and out of the apps, e.g. you cannot get out the data you want from Xero easily and import it into Power BI.”

Overcoming the barrier of limited time

With lack of time being a major barrier to businesses investigating, implementing, learning and enhancing their use of digital tools, communication about and delivery of support for businesses will need to address this concern directly.

“Time. I am doing everything alone, there are not enough hours in the day.”

Understanding business’s current context – especially the impacts of COVID-19

“Perhaps, an opportunity to join or partake in creative courses to give me fresh ideas, as I continue to pick up a lot of the day to day activity that is required to keep the business running more leanly at this pertinent time of not knowing what will happen next. Another closure? For how long? How much money can the business afford to spend on new digital approaches, versus not spending to keep on hand for potential survival mode if that is what comes next.”

For some, COVID-19 has exacerbated issues such as a lack of time to learn new things and ongoing pressure to keep working ‘in the business’ rather than ‘on the business’. For those businesses, COVID-19 has therefore prevented, rather than encouraged, greater digital adoption

CHOICE CONSIDERATIONS

When asked to choose the one factor that would be most important to their business when choosing digital tools – from the options shown in Figure 35 – businesses were three times more likely to mention sales/revenue generation than cost reduction or ease of learning. Time saving is considered most important by a quarter of businesses.

Businesses that are experiencing optimism and hope are more likely to favour revenue generation – while less optimistic and hopeful businesses are more likely to select time saving as their preferred option.

Figure 35: What’s most important in choosing digital tools

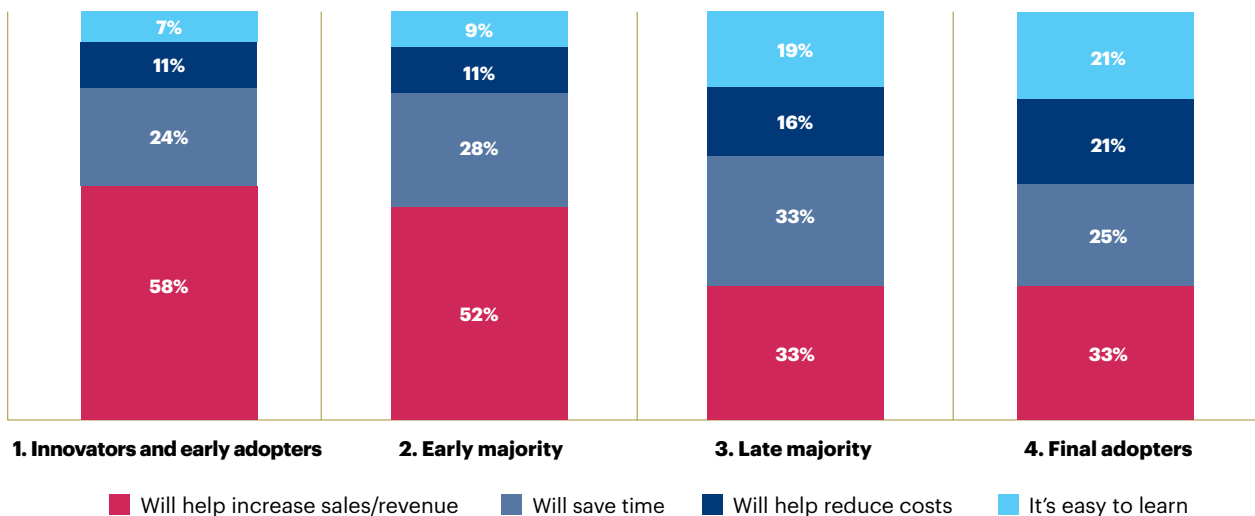


As we might expect, there is significant variation in preferences by industry sector (Appendix 1):

- Increasing sales/revenue is particularly important to businesses in the Retail, Hospitality and Wholesale Trade sectors
- Saving time is especially appealing to businesses in Health Care and Social Assistance, Education and Training, and Professional/Scientific/Technical Services
- Cost reduction appeals to businesses in the Transport, Postal and Warehousing sector
- Ease of learning was most likely to be selected by businesses in the Agriculture, Forestry and Fishing sector.

‘Don’t know’ responses have been excluded from Figure 36 to better illustrate the difference in needs between early and late-adopting groups of businesses⁴⁸. It shows that later-adopting businesses place greater importance on the cost-saving and ease of learning benefits of digital tools, when compared with earlier adopters who are more likely to favour their revenue-enhancing qualities.

Figure 36: What’s most important in choosing digital tools for the business – by adoption group



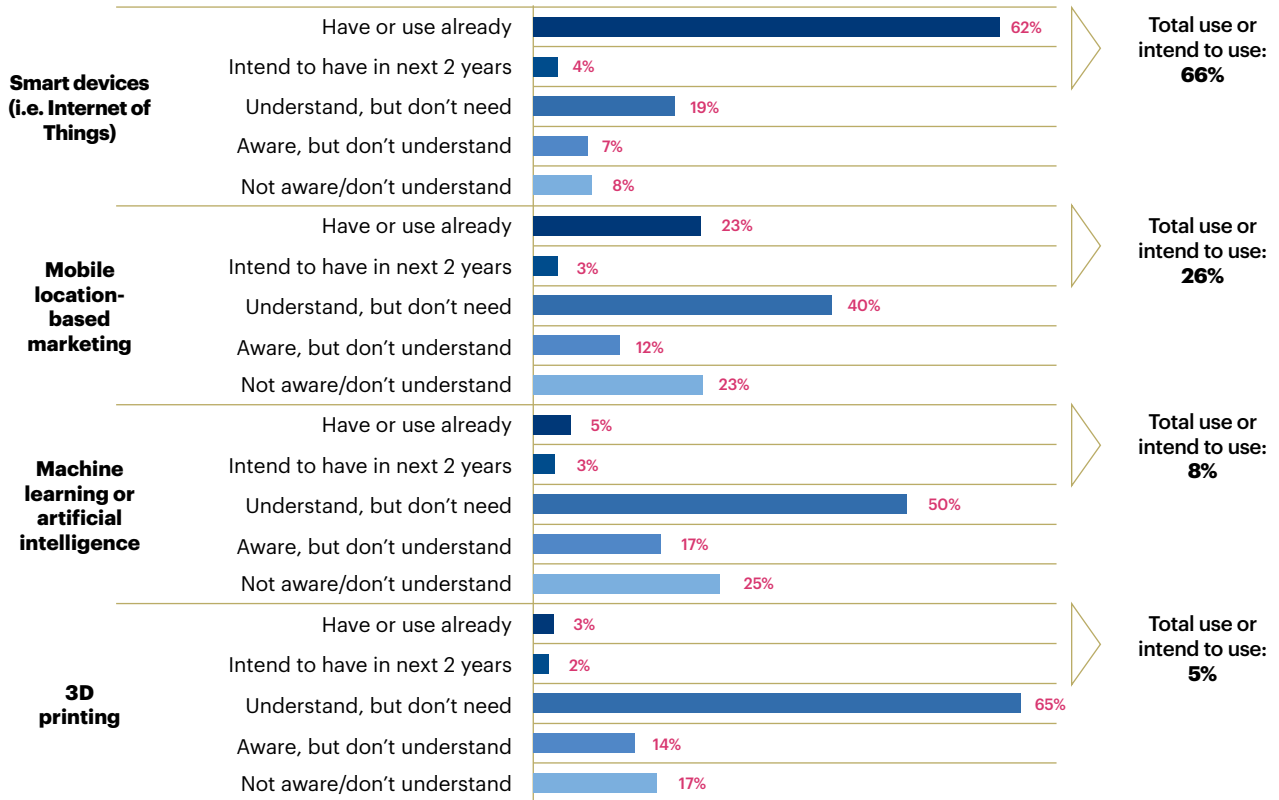
⁴⁸ 37% of *Final Adopters* and 16% of *Late Majority* businesses said they did not know what would be most important in choosing digital tools (compared to 3% of *Early Majority* and 1% of *Innovators and Early Adopters*).

AWARENESS AND ADOPTION OF NEW TECHNOLOGIES

Smart devices are already being used by more than half of NZ businesses and almost a quarter are using mobile location-based marketing (Figure 37).

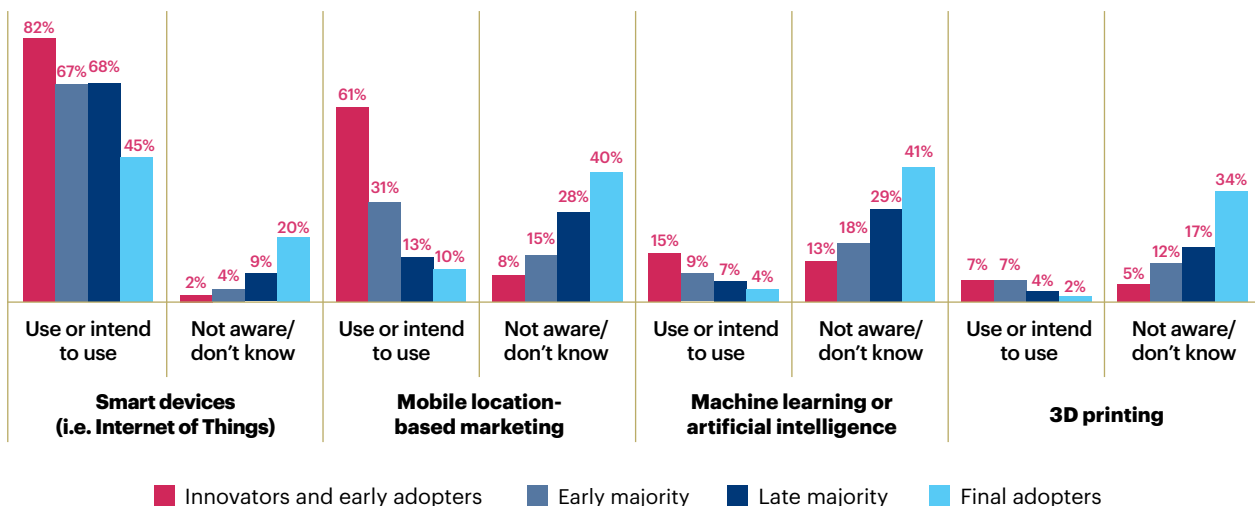
Machine learning and artificial intelligence have applications in most industry sectors and yet 50% of business owners believe they do not need the technology. This figure does not vary significantly across industries and results suggest it will be a number of years before this technology is widely embraced by small businesses.

Figure 37: Awareness and adoption of new technologies



Awareness and adoption of new technologies follow the expected pattern across the digital adoption groups (Figure 38). *Innovators and Early Adopters* are far more likely to be using mobile location-based marketing than other groups.

Figure 38: Awareness and adoption of new technologies – by adoption group





Appendix 1: Index analysis by business size and industry

Business size (i.e. scale) and industry both have an influence on digital behaviours and attitudes. This section examines patterns by business size, by industry, and also the interplay between the two. We see, for example, that:

- Sole traders in financial/insurance services, professional services, retail trade and property/real estate have similar and above-average Digital Index scores – while larger businesses in those industries typically have higher scores.
- Among the least digitally enabled businesses in NZ are self-employed people working in agriculture and construction. But larger businesses in those sectors are more digitally enabled.

INDEX DIMENSIONS BY BUSINESS SIZE

Sole traders are making less use of digital currently but show reasonable potential for future uptake

When examining index dimensions by business size (Figure 39):

- The area where we see most variation by business size is on the *Digital Actual-Transact* dimension, which relates to the use of cloud accounting and payroll services and e-commerce.
 - Investing in these technologies is clearly a function of scale, with usage increasing with business size (Figure 40). But the prevalence of cloud accounting and payroll software in large businesses is similar to that of medium businesses – which suggests larger businesses are more likely to have established systems and may be slower or have less reason to adapt to cloud solutions.

- There is also variation on the *Digital Actual-Use* dimension, which covers the use of digital tools such as smartphones, cloud collaboration tools, social media, search engine optimisation, mobile location-based marketing, inventory management (connected with suppliers) and marketing and communications through smartphone apps.
 - Again, the larger the business, the more likely they are to make use of each of these tools – with most variation on tools which relate to having an online presence (Figure 41).
- Regardless of size, businesses score most highly on the *Digital Aptitude-Transact* dimension – which means they are already relatively confident making use of digital banking and government services.
- Sole traders score relatively strongly on the dimension of *Digital Aptitude-Access-Jobs-Trust*. As someone who typically manages most aspects of the business themselves, they are less likely to believe that their skills are a barrier to making greater use of digital tools and they are also less likely to be affected by internet connectivity issues.
 - This pattern holds true across most industries.
- The *Digital Aptitude-Use* dimension includes a measure of the extent to which businesses see benefits in making greater use of digital tools. 41% of sole traders see benefits in being more digital, compared with 60% of large businesses.

Figure 39: Index scores and dimensions by business size



Being self-employed does not have to mean being less digitally active. A third of sole traders (34%) are currently making use of at least six different kinds of digital tools.

Figure 40: Use of digital tools for 'internal' purposes – by business size

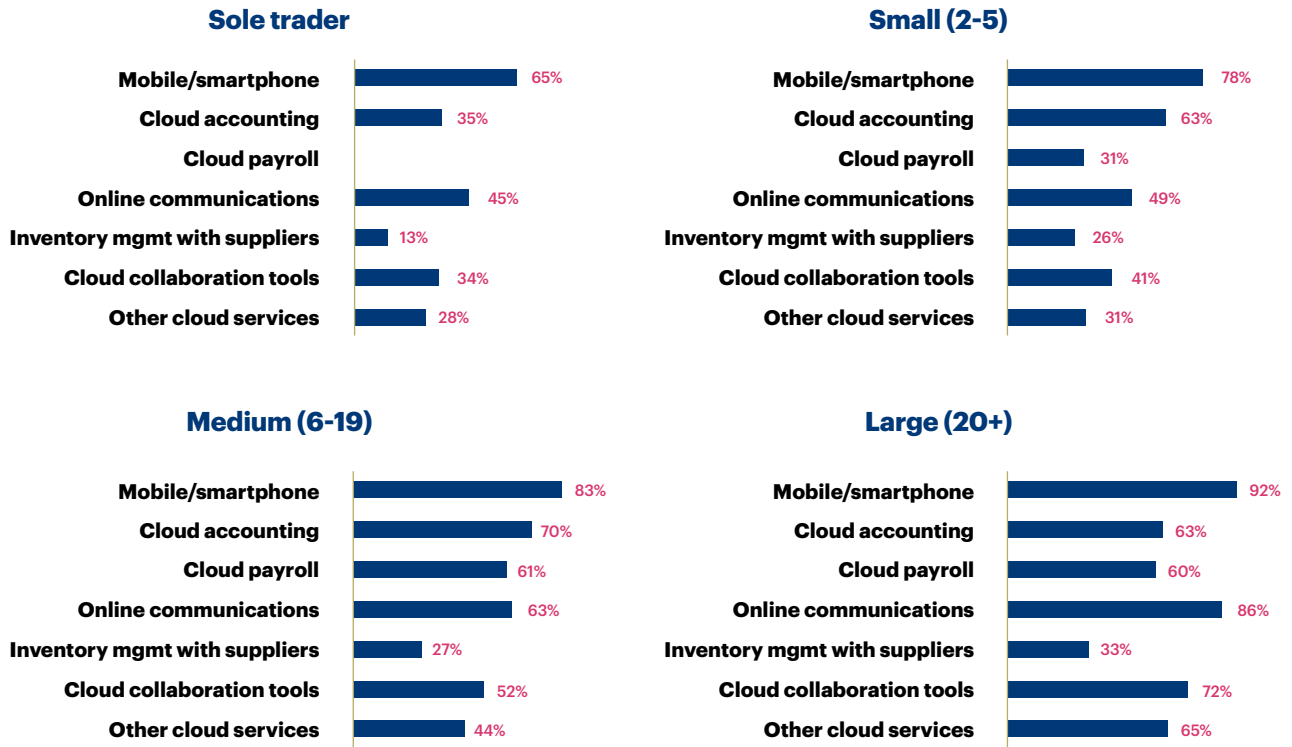
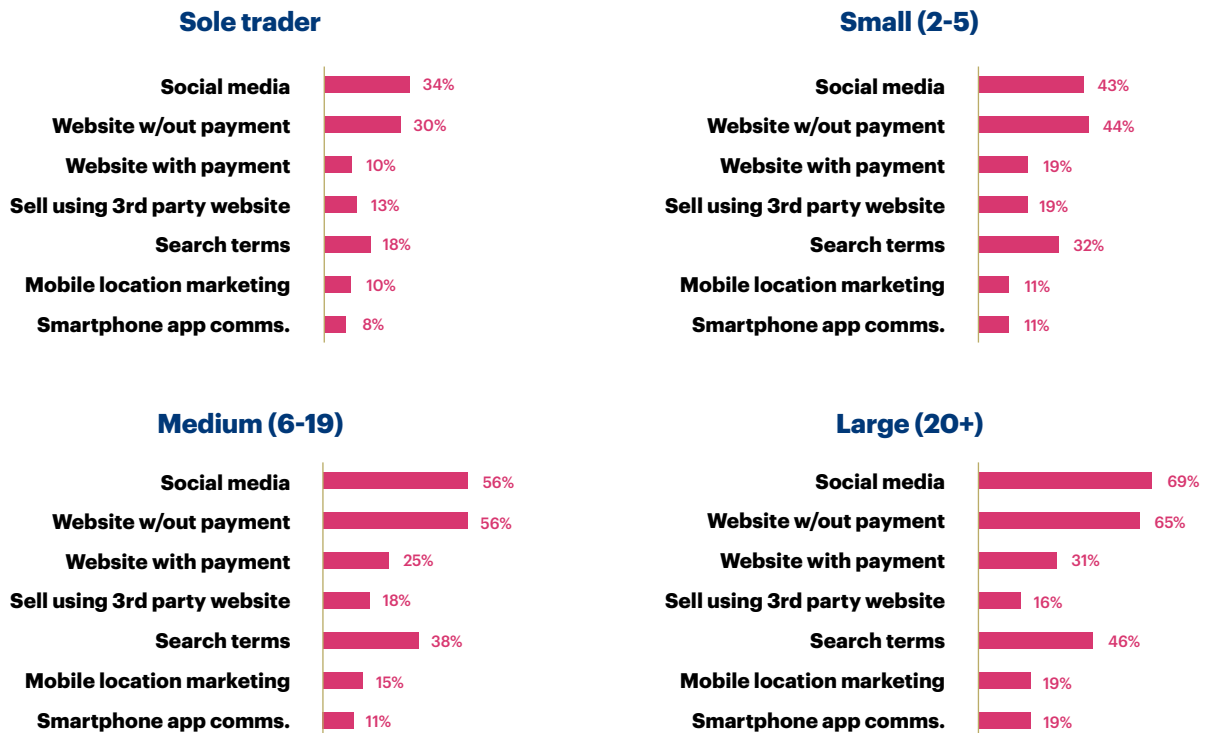


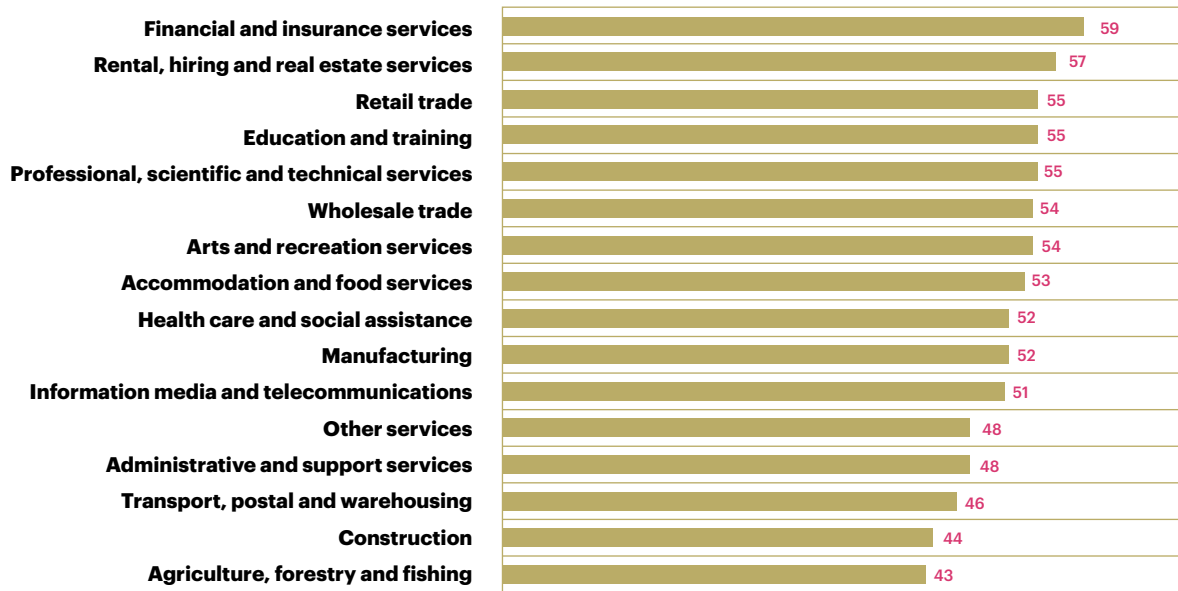
Figure 41: Use of digital tools for 'external' purposes – by business size



ANALYSIS BY INDUSTRY⁴⁹

As we might expect, some industries have greater digital capability, on average, than others (Figure 42).

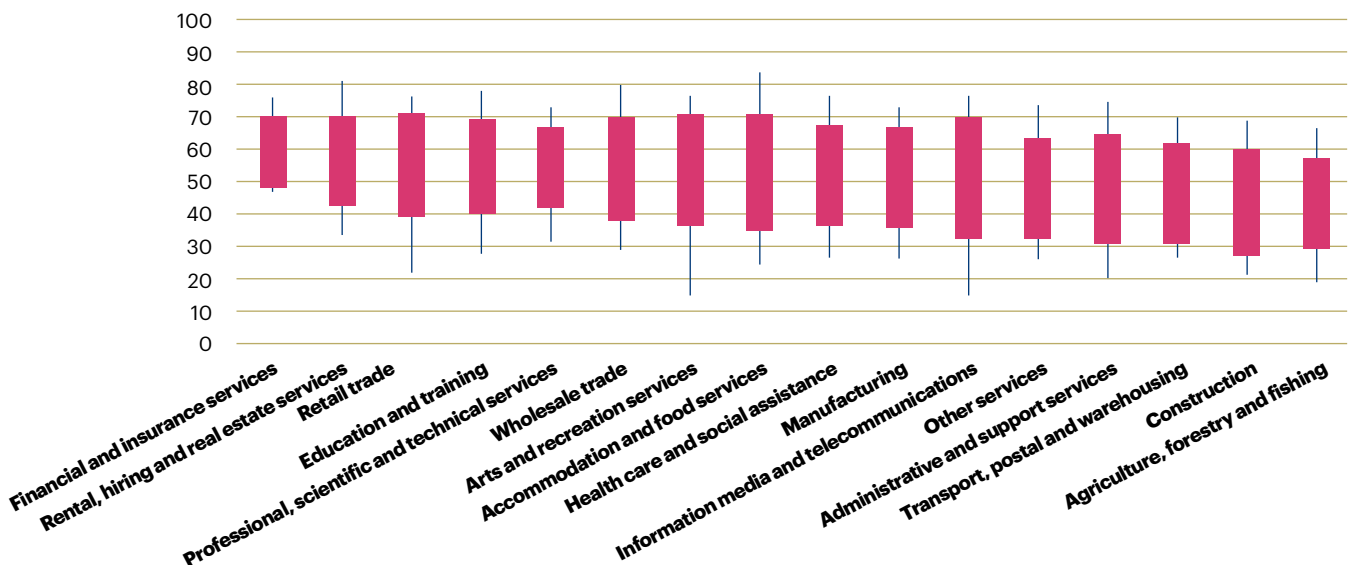
Figure 42: Digital Index scores by industry



But as mentioned previously, a range of digital capabilities can be found in each industry. Figure 43 is illustrative of the variability within each industry⁵⁰.

Financial and Insurance Services shows the least variability in digital capability, while Information Media and Telecommunications and Accommodation and Food Services show the greatest variability.

Figure 43: Variance in Digital Index scores by industry



49 Throughout this section, industries with small achieved sample sizes (<30 respondents) are excluded from analysis. Those industries are: Public administration and safety; Electricity, gas and waste water services; Mining.

50 The red boxes show the values which can be found within one standard deviation of the mean score, and the vertical lines extend to the values found in the middle 90% of scores within each industry.

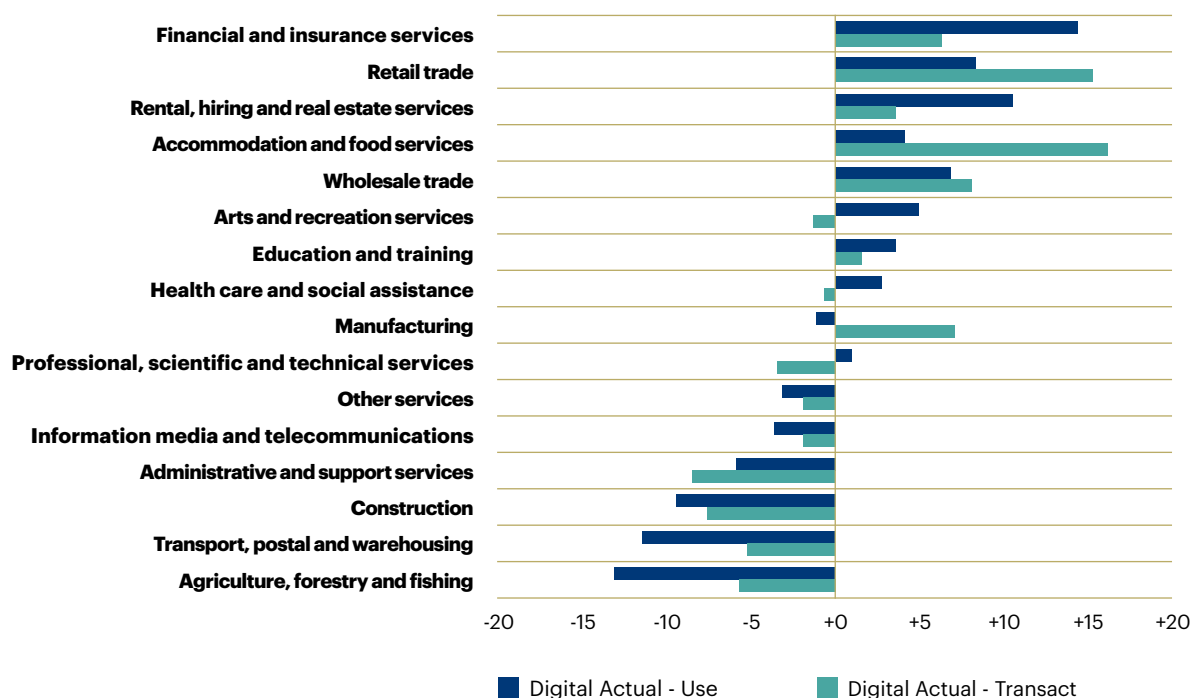
Figure 44 is sorted by the average score across both 'Actual' index dimensions. It illustrates that in some industries, being digitally active is now the 'norm' while businesses in other sectors are not yet experiencing the pressure to 'keep up' digitally with their competitors.

The *Actual - Use* dimension covers a range of digital tools. Businesses in the finance/insurance services sector are most digitally active, while businesses in the agriculture/forestry/fishing sector are least digitally active.

The *Actual - Transact* dimension covers the use of cloud accounting, cloud payroll and e-commerce. Uptake of cloud accounting does not vary significantly by industry but has been most widely adopted in the accommodation and food services sector, where large volumes of sales and expense transactions typically need to be managed (Figure 47). Cloud payroll uptake does not vary by industry.

According to survey responses, 52% of retail businesses and 43% of accommodation and food service businesses are currently using e-commerce.

Figure 44: 'Actual' index dimensions - variation from average by industry



In some industries (e.g. agriculture), a smaller range of more specialist digital tools are relevant and therefore more specialist advice might be beneficial – while in others, a wider range of more generic business tools will appeal.

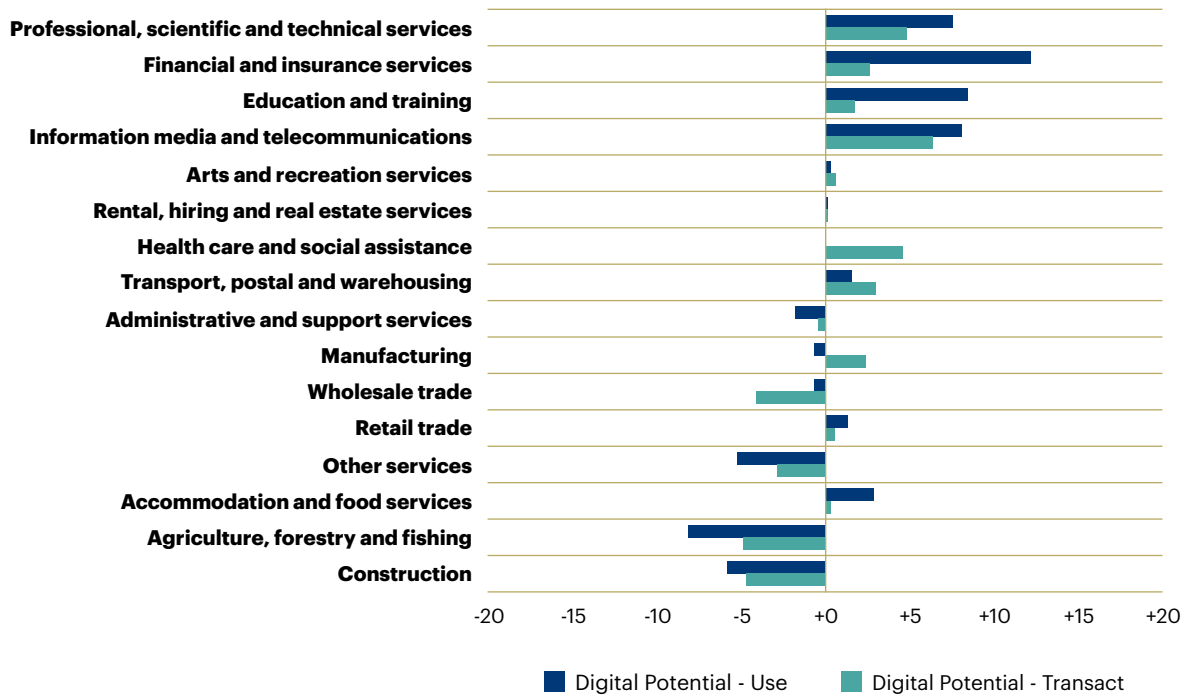
In general, there is less differentiation between industries on the 'aptitude' dimensions – which cover attitudes and aptitude – than the 'actual' dimensions. Past B4B research has also shown that attitudes vary more within industries than across industries.

Businesses in the Financial and Insurance Services sector – which already scores strongly in terms of its actual use of digital tools – also stand out in terms of their high potential for future use. The Education and Training sector also scores relatively strongly on this dimension, which includes confidence with computers and perceptions of the benefits of greater digital enablement.

The *Transact* dimension includes confidence using online banking and digital government services. While most businesses score highly on this dimension, construction and agriculture/forestry/fishing – where outsourcing of government dealings is common – show the greatest room for improvement.

Figure 45 is sorted by overall scores across all 'aptitude' dimensions.

Figure 45: 'Aptitude' use and transact index dimensions – variation from average by industry



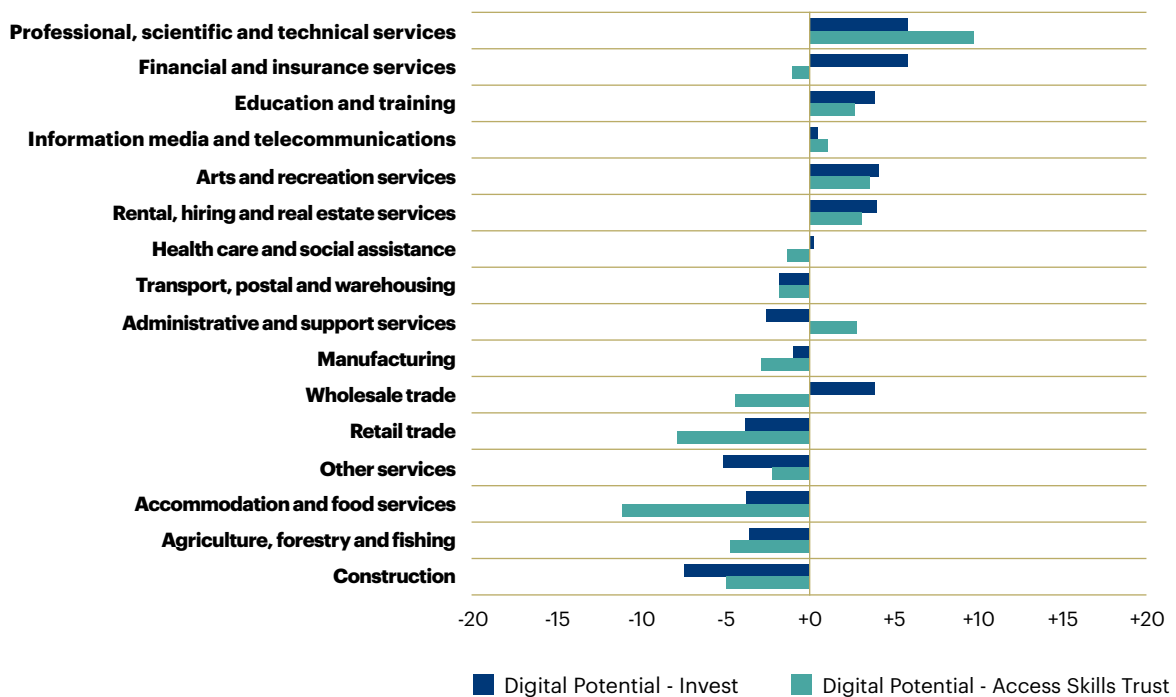
Scores on the *Invest* dimension – which covers perceptions about the relevance and return on investment of digital tools and awareness of what’s available – do not vary a great deal by industry. On balance, however, businesses in the construction industry will need the most convincing on these points.

Retail and hospitality businesses have particularly low scores on the *Access-Skills-Trust* dimension, with lack of skills being especially relevant to retail businesses while many hospitality

businesses are concerned about internet connectivity. The barrier of internet connectivity is also particularly pertinent to agriculture, forestry and fishing businesses.

Financial/insurance and arts/recreation businesses, which score relatively highly on the ‘actual’ index dimensions, are most likely to see a lack of skills as something which is holding them back.

Figure 46: 'Aptitude' invest and access-skills-trust index dimensions – variation by industry



Uptake of internally-focused digital tools is clearly influenced by the work environment (e.g. the size of the workforce or customer/stakeholder audience and the extent to which work is desk-based).

Figure 47: Use of digital tools for 'internal' purposes – by industry

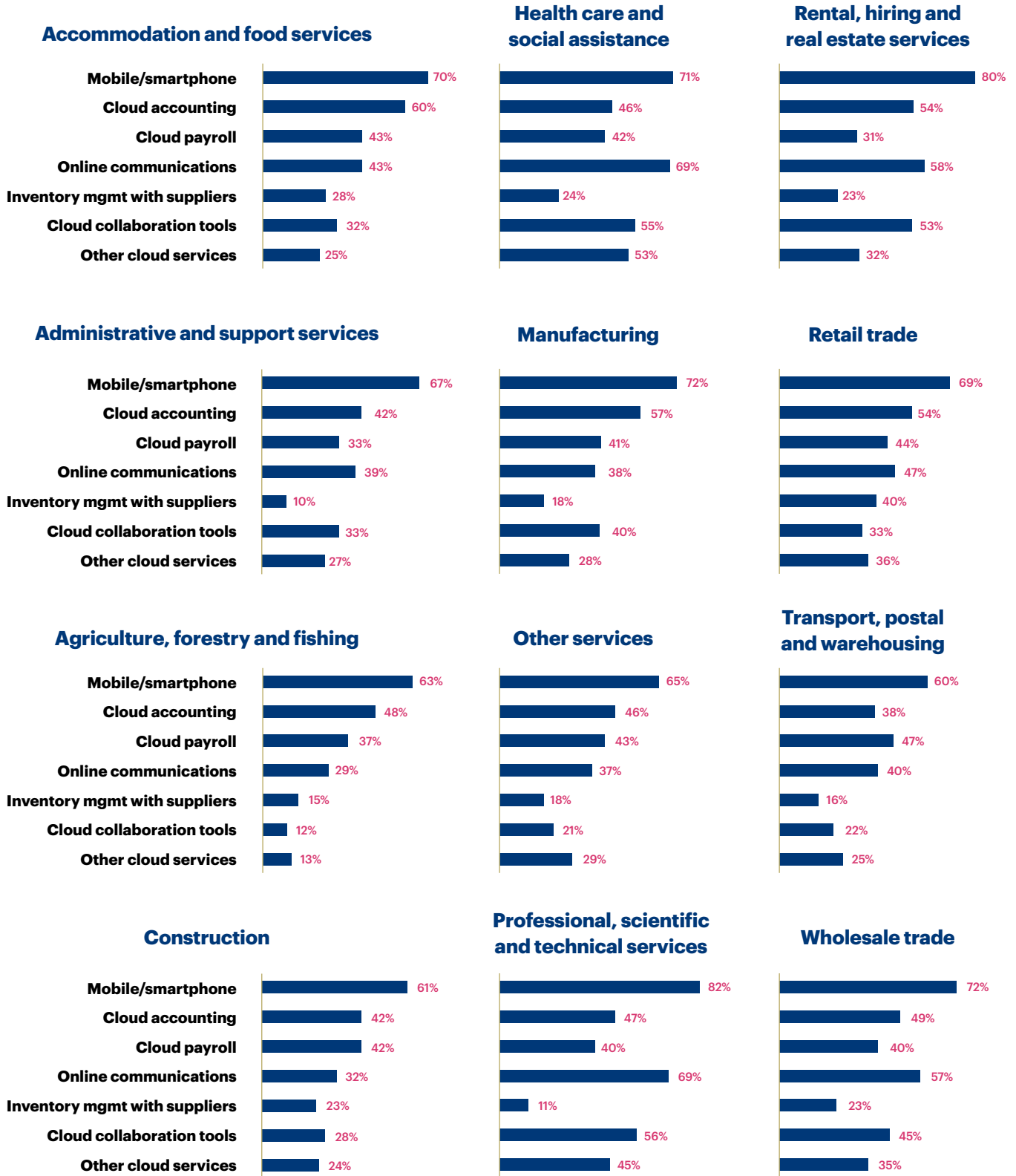


Figure 48 illustrates that businesses in most sectors have a very limited online presence.

Figure 48: Use of digital tools for 'external' purposes – by industry

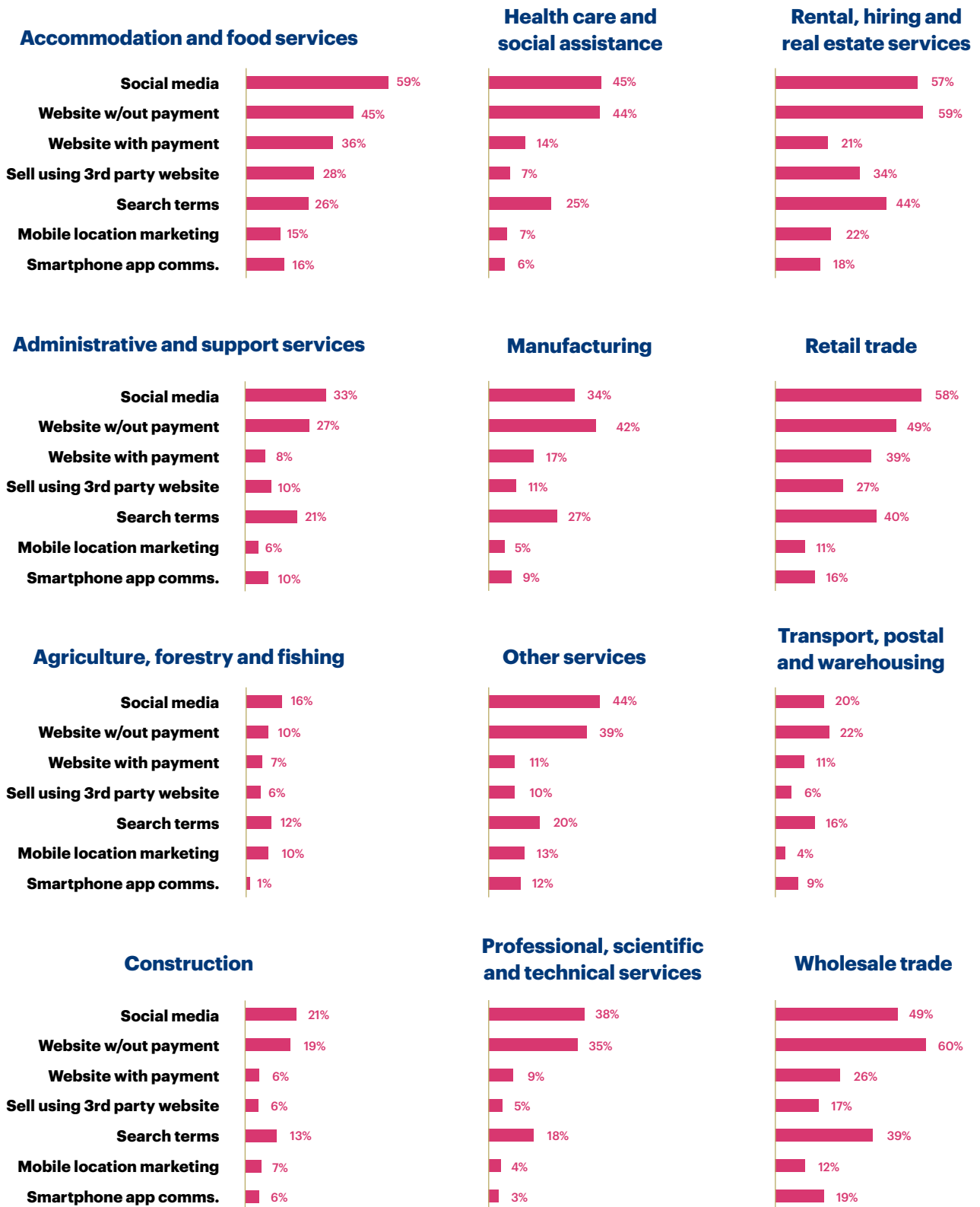
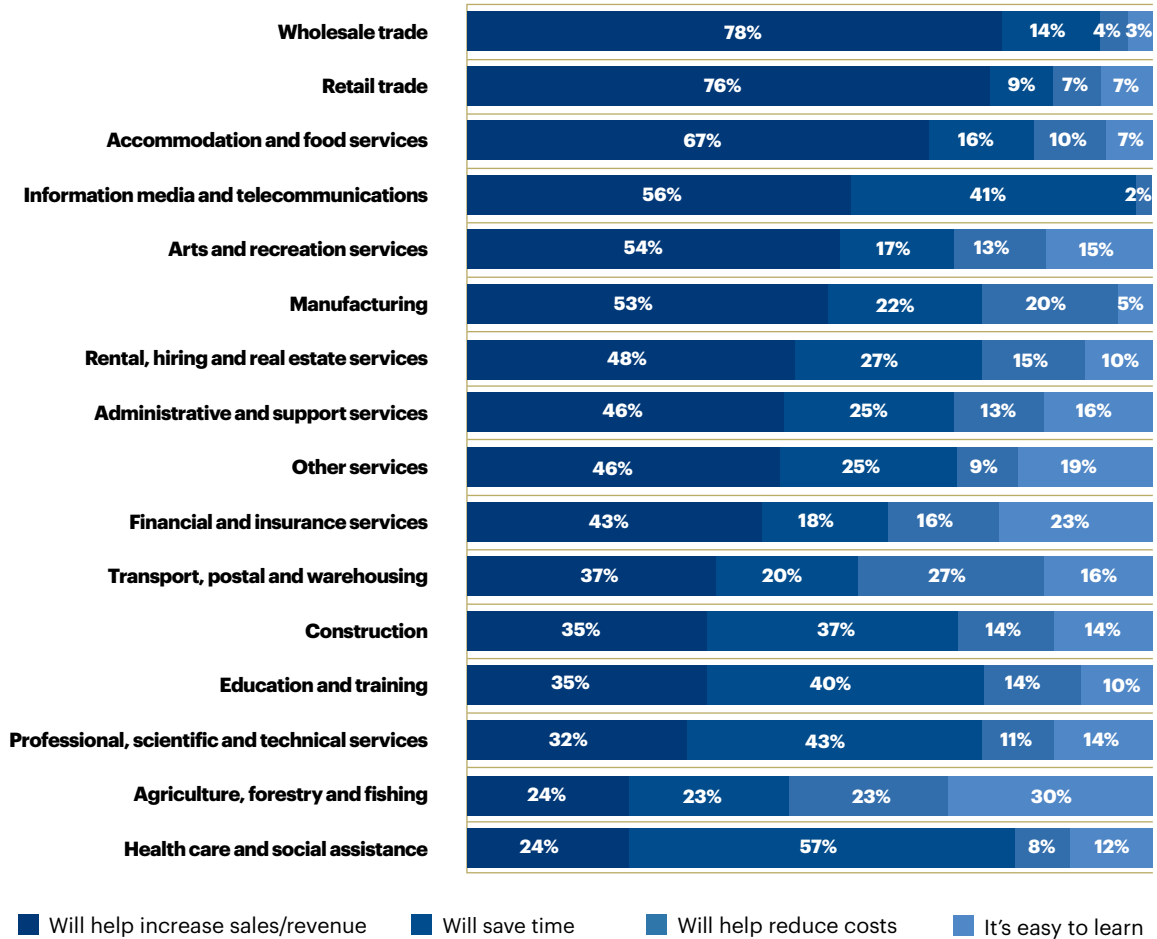


Figure 49 reveals some differences in choice preferences by industry.

The time-saving benefits of digital tools are likely to appeal to businesses in the healthcare/social assistance, professional/scientific/technical and information/media/telecommunications sectors.

Cost-saving is more important to businesses in the transport/postal/warehousing sector than other sectors, while typically later-adopting and less confident businesses in the agriculture/forestry/fishing sector will seek tools that are easy to learn.

Figure 49: What’s most important in choosing digital tools – by industry⁵¹



Small business in most sectors have similar use of cloud accounting services. And in most industries, usage increases with size (Figure 50). A similar pattern can be seen with cloud payroll and other cloud services. Usage is more a function of scale than industry.

⁵¹ 'Don't know' responses are excluded.

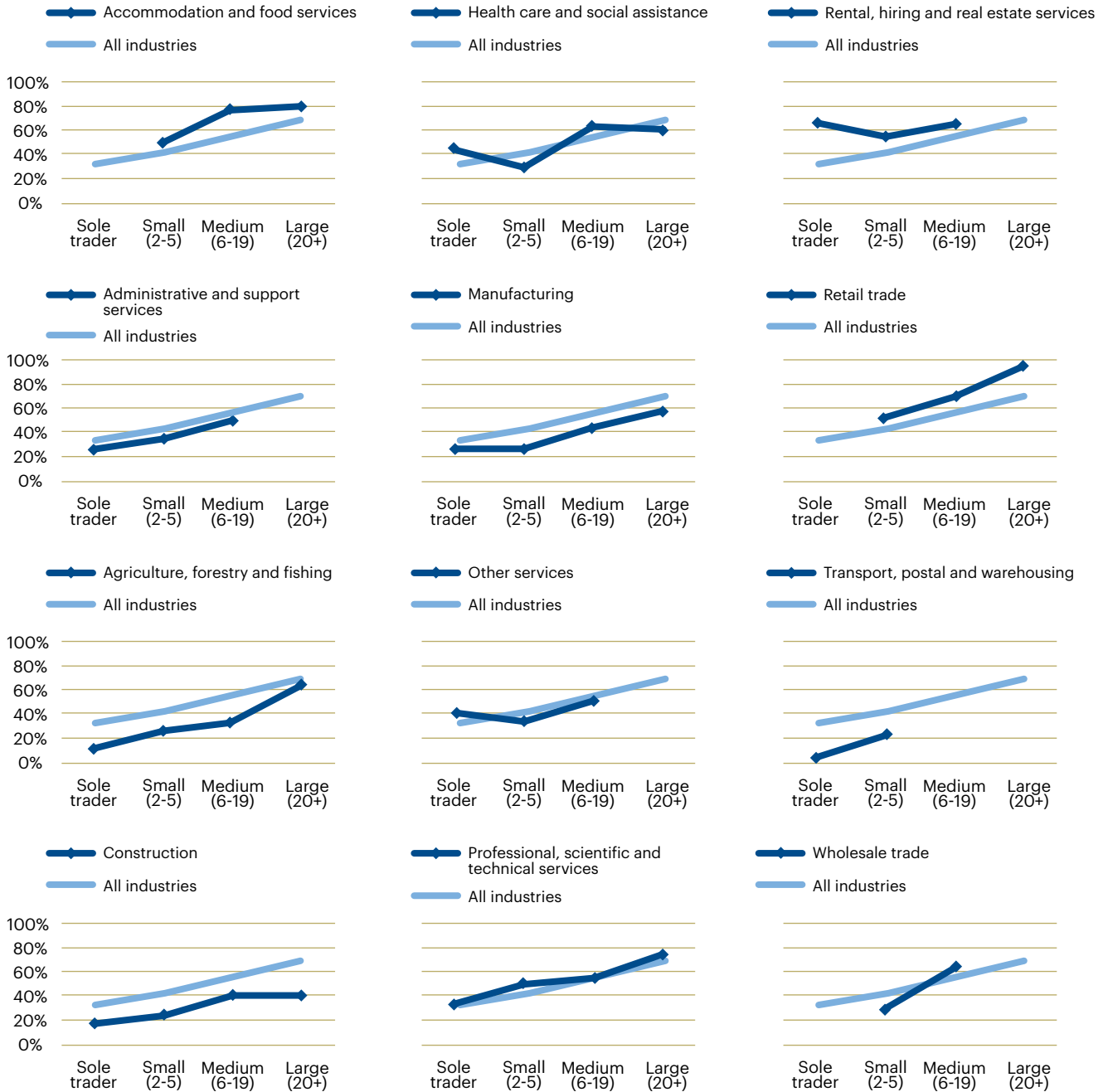
Figure 50: % of businesses using cloud accounting by industry and business size⁵²



52 Data points based on small sample sizes are excluded (i.e. some industries and some business size groups within industries).

When it comes to adoption of social media, again we see that usage increases with size in most industries (Figure 51). But some industries have below-average usage in every size category.

Figure 51: % of businesses using social media by industry and business size⁵³



⁵³ Data points based on small sample sizes are excluded (i.e. some industries and some business size groups within industries).





Appendix 2: Comment themes

ARE THERE ANY OTHER FACTORS THAT MIGHT STOP THIS BUSINESS FROM MAKING GREATER USE OF DIGITAL TOOLS?

Businesses were invited to describe any other factors that might prevent them from making greater use of digital tools. The main themes of those comments are listed below, accompanied by examples. Some are new themes, not already presented to respondents (Figure 31, page 47);

others are expansions or variations on the themes already presented to respondents – displayed here to illustrate some of the nuances within each one.

YOU CAN'T DO MY KIND OF WORK 'ONLINE'

"Most of my business is best done face to face, in person."

"Our business requires physical work. You can't clean a septic tank digitally!"

"We sell food. Can't sell that online."

"We can't do haircuts online."

"The fact it's a hands on industry. You cannot fix cars online."

"We are an old fashioned, hands-on business that involves people and animals. The law demands close examinations and discussions that telemedicine can't always provide."

WE'RE DOING ENOUGH/ ALL WE CAN

"We're a service business - clients come to us and we perform treatments on them. Yes, we're online, yes we use IT services, yes we have a digital presence but ultimately we need clients, in-salon, to perform treatments on them."

"We are a motel. The only online thing we have is booking via our website and some social media marketing. We simply don't see what we could gain from any further digital tools. No money to invest in them anyway."

"We are a manufacturing facility. 90% of work requires a physical presence on-site. Only a small amount of design work can be done off-site/online. Along with accounting work and administrative duties."

COSTS, FINANCIAL PRESSURES

"Many tools are becoming subscription based, not a one off purchase. This is difficult or impossible for small businesses. Governments should financially support and pursue the adoption of free and open source software especially in the education sector."

"The cost of up-skilling staff."

"The software I'm currently using isn't working as well as I would like and it is expensive and time consuming to change."

"Monthly ongoing cost for packages, to do invoicing and inventory control are high. We would prefer the ability to buy out right and pay a small fee yearly to upgrade to correct legislation."

"Forecast of future of business, on lower turnover and less staff then twelve months ago, the cost benefit analysis is less and we simply don't have the funds to outlay."

"Relevant forest industry tools are very expensive and geared towards larger corporate structures."

"Purely the revenue stream - my business took a huge hit of savings this year so I don't have enough money to be able to take my work online, though I am exploring what I can afford to do."

"Disruption cost of changing to new technology in such a challenging environment."

"I have to limit our spend on digital tools even though I know it is extremely important."

TOO MUCH CHOICE. INTEGRATION CHALLENGES

"Worried about overlapping when buying online tools."

"So much choice, it's overwhelming where or how to start."

"Sometimes different clients might have different preferences for specialist software they use, and I would want to have confidence I would get a return of investing money and time in learning their specialist software."

"We already use quite a number of digital tools. Integration and fit with other more critical digital tools are important for tools that are less critical in nature."

AWARENESS/ KNOWLEDGE

"Unsure of what's out there that would be helpful to our administration and online services."

"Senior management not understanding benefits and not wanting to invest."

"Lack of understanding of what is relevant and whether it would be profitable."

"I don't even know what digital tools would be relevant to use in a retail store. I had to google what the difference is between 'online' and 'digital!'"

TIME AND OTHER PRESSURES

"Small businesses have little slack to research the suitability of software to meet their needs."

"Time to explore options and costs, and follow through with implementation."

"Time to get it done after attending to all the essentials, bills, invoices, repairs and maintenance council and government legislation, etc."

"We already use digital tools quite comprehensively. But as a small business my limited time availability is a factor. We should/could make better use of some of our existing tools before we add to our tool kit, but once again it is a trade-off between spending time on say digital marketing tools and servicing existing clients."

CLIENTS OR STAKE-HOLDERS LACK ABILITY/ DESIRE

"Educating our clients at the other end. I have been working with others still post lockdown on Zoom but it is still amazing how many people need to be 'dragged' to get with the program."

"Rate of change quite challenging. Difficulty driving third party and client uptake. Competitive pressure."

"We deal with a lot of people who are not fully up with digital technology who lack the capability to do things online."

"Our customers don't want us to deliver our training products online - old school way of thinking, we have to educate them (see it as poorer quality). Our customers do not have adequate digital tools (laptops, smartphones, and tablets) as they work in manual roles where digital tools are not needed."

NO NEED TO CHANGE – OUR CURRENT APPROACH WORKS

"I have all the clients I can handle who come to me by word of mouth so no need for using digital tools for promotion, etc."

"We rely on referrals and face-to-face interactions."

"Quite happy with how we are managing."

"We are a production based business with contracts and clientele already established. Additional use of digital is not very relevant to our core business."

OTHER

"Security. If the NZX and NIWA can get caught, what hope have the rest of us got?"

"Complexity of the software/process. High ongoing cost. Rapidly "out of date" hardware and software. Hackers and scammers. "

"Limitations of reading and comprehensions skills some staff we currently employ."

"Just no cell phone coverage which is the biggest thing that stops us from advancing further with our knowledge and business."

"Privacy and data security. We are very careful where we host our private and confidential data, and we do not make use of cloud based services where we cannot manage our own encryption layer for data."

"I am a financial adviser. It is best to see people face-to-face, if they are new clients. It is fine for existing clients to do business online."

ARE THERE ANY OTHER FACTORS THAT MIGHT HELP THIS BUSINESS MAKE GREATER USE OF DIGITAL TOOLS?

Businesses were invited to describe any other factors that might help their business make greater use of digital tools. The main themes of these comments are listed below, accompanied by examples of comments.

COST REDUCTIONS/ FINANCIAL SUPPORT

“Easy access to capital, i.e. government-backed low interest loans.”

“Wider adoption of free and open source software.”

“Grants to make implementation cheaper.”

“Encouragement from government by way of tax deductibility or financial incentives.”

“Many tools are becoming subscription based, not a one-off purchase. This is difficult or impossible for small businesses. Governments should financially support and pursue the adoption of free and open source software, especially in the education sector.”

“Instead of employing an IT firm to do all our IT/digital support it could be beneficial if there was a free service overseeing/recommending options.”

AWARENESS

“Awareness and exposure.”

“More awareness of available tools.”

“Digital tools that are relevant to our business. I'm just not aware if there are any for me.”

ACCESS TO MARKETING EXPERTISE

“Having someone to support and do the marketing and advertising for me. As a one man band it's very difficult to apportion the time. Financially it's difficult at this stage to be in a place to pay someone.”

“Having a part-time, in-house dedicated marketing person.”

“Government help to employ a good marketing company to online grow the business resulting in more income and the ability to give more people jobs.”

TRAINING

“Staff training will help because not everyone is an expert in that stuff so a little bit of training will help a lot.”

“If staff were more tech savvy and if they had time.”

“Help with a digital plan to implement.”

“Staff knowledge and training - overcoming change.”

“Help from a specialist in our area.”

THE QUESTION OF RELEVANCE

“Relevance – persuasion.”

“Our work is manual. It doesn't occur at desks in offices.”

“To be fair I'm over technology full stop. Computers won't paint your house or sand or prep. Too many people talking about working, not enough actually working (manual labour that is!).”

SHOW THE BENEFITS

“Able to see them in action and the results they achieve, and that they are at a cost proportionate to the results they achieve.”

“Proof that they work.”

“If I could be convinced there would be something in it for us. If I could be convinced that there is a gain I would use [digital tools].”

“Better vendor roadmaps for their products and couching their language in the value for our business, not just a set of features (how does the tool help us improve sales, reduce cost to serve, increase customer satisfaction).”

UNDERSTAND MY CONTEXT

"If we were a big company we could enter into more marketing, etc., but right now everything is good with word of mouth and referrals. As a tertiary training provider we access no funding and it all just works."

"My business took a huge hit of savings this year so I don't have enough money to be able to take my work online, though I am exploring what I can afford to do."

"Perhaps, an opportunity to join or partake in a creative courses to give me fresh ideas, as I continue to pick up a lot of the day to day activity that is required to keep the business running more leanly at this pertinent time of not knowing what will happen next. Another closure? For how long? How much money can the business afford to spend on new digital approaches, versus not spending to keep on hand for potential survival mode if that is what comes next."

OVERCOMING CONFIDENCE ISSUES LINKED WITH AGE

"Younger staff, [who are] more tech savvy."

"A younger person to set up this platform within my business."

"I'm old school, so everything is done manually. I use my skills from the past to keep me going, it just frustrates me when on a computer."

IMPROVED CONNECTIVITY

"Digital connectivity. I live on a State Highway and there is no fibre connection at my gate - appalling in this day and age."

"Better connectivity in rural and semi-rural areas."

"The area between Coromandel township and Colville has a lack of internet connection; it's very frustrating".

BETTER INTEGRATION / ALIGNMENT

"More mature tools, i.e. a lot of tools only have a single purpose of fulfilling a basic function and the ability to integrate and transfer data in and out of the apps, e.g. you cannot get out the data you want from Xero easily and import it into Power BI."

"Reduction in cost accessibility for integration of NZ GIS/GPS software with internal mapping/inventory/on-site machinery."

"Wider health service alignment of digital systems used by DHB's across NZ. Nothing is joined up and therefore data is regionalised not national. The data collection from public health during the pandemic is a prime example. Private health providers are an integral part of health provision nationally in NZ but are excluded from and outside the national health IT system."



Appendix 3: Methodology

SURVEY DETAILS

Surveying was undertaken between 9 September and 18 October 2020. Businesses were selected from both a pool of previous respondents to B4B's ongoing research monitor and a randomised selection of new respondents.

Respondents are business owners or managers and self-employed people. 'Businesses' includes business-like entities such as societies, trusts and charitable organisations along with public sector organisations (although the latter are typically underrepresented due to the difficulty in reaching someone who can answer wide-ranging questions on

behalf of these typically very large organisations). Sampled businesses would have received an ACC invoice in the last two years (as an indication they are actively operating), with liable earnings over \$10,000 in the last levy year. The sample does not include businesses that are less than one year old.

Answers are weighted to be representative of industry category and business size (by number of staff).

For further information please contact the Better for Business team: betterforbusiness@mbie.govt.nz.

INDEX COMPONENTS AND CALCULATION

Selection of variables and dimensions

Dimensions were arrived at based on a factor analysis of available variables in the survey data, considered alongside the OECD⁵⁴ and Lloyds Bank approaches to measuring digital capability. See Table 4 for the list of index dimensions and the survey questions used to create each one.

A key consideration in selecting the individual variables that would form the index was to seek variables that were not strongly correlated with each other.

Treatment of individual variables which form the various index dimensions

All of the variables used in the *Actual-Use* and *Actual-Transact* dimensions are binary, assigned a score of five if the item (e.g. cloud accounting) is currently used by the business and a score of one if it is not.

All variables used in the *Aptitude* dimensions are scale variables, ranging from a score of one for the most negative score (e.g. strongly disagree that the business would benefit from making greater use of digital tools) and five for the most positive (strongly agree with the statement).

Negatively-geared statements are inverted, so – for example – strong agreement that a barrier exists for the business results in the most negative score, while strong disagreement is given the most positive score.

'Don't know' and 'Would rather not say' responses to individual questions are assigned a score of zero.

The calculation

For the overall Digital Index, the scores across all 20 contributing variables are summed together to create a maximum score of 100.

For individual dimensions (e.g. *Aptitude-Invest*), scores across contributing variables are summed and multiplied by a factor which allows for a maximum score of 100.

54 OECD (2020), *Going Digital integrated policy framework*, OECD Digital Economy Papers, No. 292, OECD Publishing, Paris, <https://doi.org/10.1787/dc930adc-en>.

Table 4: List of dimensions used in the index

	Actual	Aptitude
Access		<ul style="list-style-type: none"> Perceived barrier: Poor connectivity/ slow internet
Use	<ul style="list-style-type: none"> Use Mobile/smartphone Use Inventory management connected with suppliers Use cloud tools for coordination and collaboration (e.g. Trello, Shared Calendars, Google docs, Dropbox) Use marketing and communications through a Smartphone app Use mobile location based marketing Use search engine optimisation/search terms (e.g. Google AdWords) Use social media (e.g. Facebook, LinkedIn) 	<ul style="list-style-type: none"> Confidence installing software See benefits in business making greater use of digital tools
Transact	<ul style="list-style-type: none"> Use Cloud accounting services (e.g. Xero, MYOB online) Use Cloud payroll software or supplier Use website with payment facility 	<ul style="list-style-type: none"> Confidence using digital govt. services Confidence using internet banking
Invest		<ul style="list-style-type: none"> Perceived barrier: Lack of time to learn how to use new digital tools Perceived barrier: Return from digital tools is not worth the cost Perceived barrier: Not sure what to buy
Jobs		<ul style="list-style-type: none"> Perceived barrier: Staff skills and business owner skills
Trust		<ul style="list-style-type: none"> Perceived barrier: Concerns about information security/fraud

RESEARCH AND DIGITAL INDEX LIMITATIONS

There are a number of known limitations with the survey and the approach used to create the Digital Index, which will be addressed in future studies:

- The fact that some types of digital tools used in the index are not relevant to certain businesses; for example, sole trader contractors working as management consultants are unlikely to need e-commerce.
- The limited space available in the survey to cover and explore the different index dimensions in detail. There is an opportunity to delve deeper into the different contexts businesses face and understand more about particular facets of their digital capability.
- The perspectives of Māori businesses were not able to be distinguished from those of non-Māori businesses in this initial phase of research.

BNZ DIGITAL INDICATORS

Based on an exploratory analysis, BNZ has created digital indicators from its transactional data by looking at whether its business customers are making payments to providers in the following categories:

- Social media
- Cloud accounting
- Cloud payroll.

Analysis methodology

For each quarter from September 2017 to September 2020 the transactions in the preceding 12 months that were either a purchase on a credit card, or an automatic/bank/direct debit/point of sale payment on a transaction account were examined to see whether they were with a digital services provider in one of the categories listed.

Analysis was limited to non-personal customers with a 'type' of Company, Sole Trader or Partnership, that have a transaction account or credit card, that use BNZ as their main bank and who had made at least 10 automatic/bank/direct debit/point of sale transactions in the last three months.

At each point in time BNZ looks to see whether the customer has a transaction where the other party name includes any of the providers listed in each category over the preceding twelve months. The lists of providers are not exhaustive and could be refined and expanded should this exercise be repeated in future.

- Social media: Facebook, Instagram, YouTube, LinkedIn and Twitter
- Cloud accounting: Xero, MYOB, QuickBooks, Reckon (One), Sage, FreshBooks, Kashoo, KashFlow
- Cloud payroll: PaySauce, Flexitime, SmartPayroll, iPayroll, KiwiPayroll, Thankyou Payroll.

Regions shown in analysis are based on the postcode of the customer.

Known limitations

Results are shown as index scores rather than actual percentages, which would be misleading to report on due to a number of known limitations with this exploratory analysis, for example:

- The fact that some business transactions may be carried out through personal bank accounts (e.g. in the case of sole traders) or with another bank.
- Biases in the profile of BNZ's customer base relative to the overall population of NZ businesses.
- The fact that the list of providers is not exhaustive, and the difficulty in accurately finding those providers in transactional information.
 - For example, there are many cloud payroll providers who do not exclusively provide cloud payroll services. This means that some key players in the market have been excluded from analysis of that service type.
- A business may not need to pay for social media to be using it.
- If customers are paying for their accounting software via their accountant this is not picked up in analysis. It is still possible to use desktop (i.e. non-cloud) versions of accounting software provided by some listed providers.

Despite these limitations, B4B considers that there is value in monitoring trends in these indicators over time and that they also help improve our understanding of regional differences in business behaviour.



