

Technology and tax literacy of small business owners in New Zealand – views from tax practitioners

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Abstract

This article seeks to explore whether tax practitioners perceive that Inland Revenue's Business Transformation program (which aligns with the OECD's vision for Tax Administration 3.0), and the technology used by small businesses, have impacted upon the tax literacy levels of small business owners in New Zealand (and if so, whether this impact has been positive or negative). Specifically, this article draws on semi-structured interviews with tax practitioners who work with small businesses and their owners. Results show that tax practitioners consider that the natural systems (ie, the digital systems) of most small businesses are cloud accounting systems and that this technology has improved the records kept by small businesses. However, the majority of tax practitioners thought that technology used by small businesses, and Inland Revenue's BT program, has had a negative impact on tax literacy. Some tax practitioners were also of the view that Inland Revenue's BT program has made it more difficult for some small business owners (eg, those with low levels of digital literacy) to interact with Inland Revenue. To this end, the results have implications for both policymakers and those who work with small businesses.

Keywords: tax literacy, technology, small business owners, New Zealand

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1. INTRODUCTION

Economies are becoming increasingly digitalised, meaning that individuals and businesses are changing the way that they work, how they transact, and how they store records and information.¹ To this end, there are greater expectations of tax administrations and the way that they can support taxpayer compliance. In response, many tax administrations have embraced digitalisation and e-government,² and in 2020, the Organisation for Economic Co-operation and Development (OECD) set out a vision for the digital transformation of tax administration known as Tax Administration 3.0.³ New Zealand is at the forefront of this movement,⁴ and the New Zealand Inland Revenue Department has recently completed the multi-year Business Transformation (BT) program which was aimed at delivering a modern, digital revenue system that makes tax and payments simpler and more certain.⁵ A key part of the BT program was a shift to a new computer system, Simplified Tax and Revenue Technology (START).⁶

Alongside developments in tax administration, the technology, and therefore the natural systems, used by taxpayers has also advanced. For many businesses, the proliferation of cloud accounting systems (which increasingly utilise artificial intelligence and machine learning) has resulted in significant changes to the tax compliance process, with more components being automated. In addition, some cloud accounting systems directly interface with START, which means that tax data can be shared between the natural systems used by small businesses and START.

Proponents of technology argue that these trends are positive because they decrease compliance costs, reduce errors (ie, unintentional non-compliance) and minimise opportunities for evasion (ie, intentional non-compliance).⁷ However, it is less clear as to the impact of technology on tax literacy, with some research indicating that too much automation could lead to disengagement,⁸ and that a lack of personal engagement can encourage people to operate outside of the tax system.⁹

Previous research has identified small business owners as having low levels of tax literacy,¹⁰ and accordingly, this article seeks to explore whether tax practitioners

¹ Organisation for Economic Co-operation and Development (OECD), 'Digital Transformation of Tax Administration'

<<https://www.oecd.org/en/topics/sub-issues/digital-transformation-of-tax-administration>>.

² Bernadene de Clercq, 'The "Uberisation" of E-Filing in South Africa' (2019) 16(3) *eJournal of Tax Research* 440.

³ OECD, *Tax Administration 3.0: The Digital Transformation of Tax Administration* (OECD Publishing, 2020) ('*Tax Administration 3.0*').

⁴ New Zealand was one of the original five members of the Digital 5 ('D5') nations, with this group now being known as 'Digital Nations'. See, eg, Adrian Sawyer, 'The Impact of Digital Delivery on Taxpayer Assistance – A New Zealand Perspective' (4th International Conference on Taxpayer Rights, 2019).

⁵ Inland Revenue, 'Business Transformation' (last updated 2 July 2021) <<https://www.ird.govt.nz/about-us/business-transformation>> (accessed 20 May 2026) ('Business Transformation').

⁶ Ibid.

⁷ OECD, *Tax Administration 3.0*, above n 1.

⁸ Lawrence Zelenak, *Learning to Love Form 1040: Two Cheers for the Return-Based Mass Income Tax* (University of Chicago Press, 2013).

⁹ Simon James and Adrian Sawyer, 'Digitalization of Tax: Comparing New Zealand and United Kingdom Approaches' (Atax 13th International Tax Administration Conference, 2018).

¹⁰ See, eg, Margaret McKerchar, 'Understanding Small Business Taxpayers: Their Sources of Information and Level of Knowledge of Taxation' (1995) 12(1) *Australian Tax Forum* 25; Eliza Ahmed and Valerie Braithwaite, 'Understanding Small Business Taxpayers: Issues of Deterrence, Tax Morale, Fairness and

perceive Inland Revenue's BT program and, the technology used by these small businesses, as impacting upon their tax literacy levels (and if so, whether this impact has been positive or negative). Specifically, this article draws on semi-structured interviews with tax practitioners who work with small businesses and their owners.

Section 2 of this article briefly summarises the relevant literature. Details of the research method are outlined in section 3. For the purpose of this article, tax practitioners are referred to as 'Tax Practitioner A' through to 'Tax Practitioner J'. The research results are outlined in section 4, and analysis of these results is undertaken in section 5. Conclusions are provided in section 6, along with limitations and a proposal for future research.

2. RELEVANT LITERATURE

2.1 Tax literacy

In simple terms, tax literacy can be described as 'having the knowledge, skills and confidence to make responsible tax decisions'.¹¹ The concept of tax literacy is broader than just having tax knowledge and requires that taxpayers have the confidence to apply that knowledge in their everyday lives.¹² There is a significant overlap between tax literacy and financial literacy, and Chardon has argued that tax literacy is a subset of financial literacy.¹³ It is widely acknowledged that financial literacy (and tax literacy) are essential skills, and recent times have seen an increase in governments implementing measures to increase these skills.¹⁴ Previous research has also identified digital literacy as being a facet of tax literacy;¹⁵ however de Clercq notes that:¹⁶

[The core foundations identified in the literature] were not necessarily stated *per se*, but identified by the attendant digital competency required. For example, being able to use technology to be compliant requires taxpayers to be sufficiently digitally literate to submit tax returns via an online portal; being able to access and read legislation and other tax-related materials would require a level of literacy; and the ability to calculate tax liability would require basic numeracy that includes adding, subtracting and multiplying.

Work Practice' (2005) 23(5) *International Small Business Journal* 539; Melissa Belle Isle, Brett Freudenberg and Tapan Sarker, 'The Business Tax Literacy of Australian Small Businesses' (2022) 37(1) *Australian Tax Forum* 65 ('The Business Tax Literacy of Australian Small Businesses').

¹¹ Antoine Genest-Grégoire, Luc Godbout and Jean-Herman Guay, *The Knowledge Deficit about Taxes: Who It Affects and What to Do About It* (CD Howe Institute Commentary No 484, July 2017) 4.

¹² Anthony Pham, Antoine Genest-Grégoire, Luc Godbout, and Jean-Herman Guay, 'Tax Literacy: A Canadian Perspective' (2020) 68(4) *Canadian Tax Journal* 987.

¹³ See, eg, Toni Chardon, 'Weathering the Storm: Tax as a Component of Financial Capability' (2011) 5(2) *Australasian Accounting, Business and Finance Journal* 53.

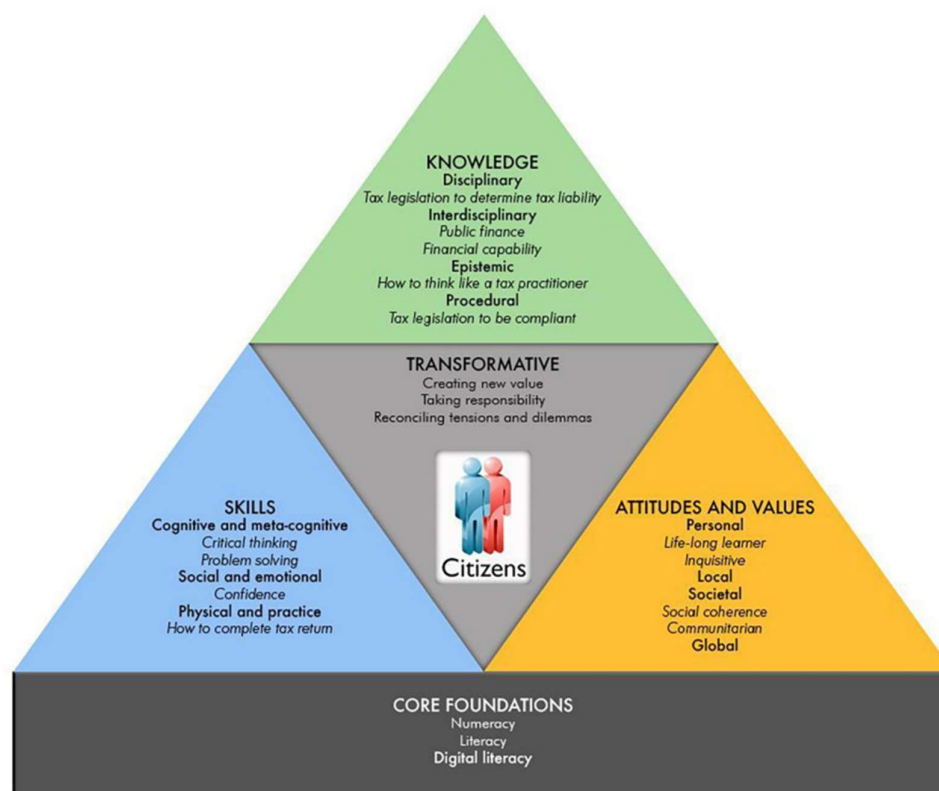
¹⁴ In the New Zealand context, the New Zealand government has recently announced that financial literacy (and tax literacy) courses will be compulsory for students in Years 1 through to 10.

¹⁵ See, eg, Ahmed Razman Abdul Latiff, Bany-Arifin Amin Noordin, Mohamad Rafli Che Omar and Dwiprptono Agus Harjito, 'Tax Literacy Rate Among Taxpayers: Evidence from Malaysia' (2005) 9(1) *Jurnal Akuntansi dan Auditing Indonesia* 1; Attiya Waris and Hadija Murangwa, 'Utilising Tax Literacy and Societal Confidence in a State: The Rwandan Model' (2012) *University of Nairobi Law Journal* 1; Dajana Cvrlije 'Tax Literacy as an Instrument of Combating and Overcoming Tax System Complexity, Low Tax Morale and Tax Non-Compliance' (2015) 4(3) *The Macrotheme Review* 156; Genest-Grégoire, Godbout and Guay, above n 11.

¹⁶ Bernadene de Clercq, 'Tax Literacy: What Does It Mean?' (2023) 31(3) *Meditari Accountancy Research* 501, 509.

To this end, de Clercq proposes a competency framework for tax literacy which is shown in Figure 1.¹⁷

Fig. 1: De Clercq's Competency Framework for Tax Literacy



Source: Bernadene de Clercq, 'Tax Literacy: What Does It Mean?' (2023) 31(3) *Meditari Accountancy Research* 501, 507 (adapted from the OECD learning framework 2030).

De Clercq's competency framework is based upon work undertaken by the OECD in 2019, which identified fundamental conditions and core skills, knowledge, attitudes and values that are viewed as being 'the building blocks from which context-specific competencies for 2030, such as financial literacy ... can be developed'.¹⁸ These core foundations are literacy, numeracy and digital literacy, with the latter being defined as 'rel[ying] on the same fundamental abilities as "traditional" literacy; but [being] applied

¹⁷ Ibid 507.

¹⁸ Ibid 506 citing OECD, *Future of Education and Skills 2030: OECD Learning Compass 2030, A Series of Concept Notes* (OECD Publishing, 2019) ('Future of Education and Skills 2030').

in digital contexts and draw[ing] on new digital tools and competencies'.¹⁹ De Clercq's competency framework argues that being tax literate requires that three prerequisites are met, being numeracy, 'traditional' literacy, and digital literacy.

This research considers tax literacy as it relates to small businesses and their owners. For this purpose, a small business is defined to mean one that has 20 employees or less,²⁰ irrespective of the legal structure adopted. Accordingly, this definition includes sole traders. Because a legal structure cannot be tax literate in and of itself, this research is concerned with the owners of small businesses. In addition, it should be noted that while there are some differences between how different legal structures are taxed in New Zealand (for example, the company tax rate is 28 per cent, and is subject to the imputation system, whereas individuals are subject to a progressive system with a top rate of 39 per cent), generally, the same taxation principles apply irrespective of the legal structure adopted.

Small businesses are the focus of this article (as opposed to individuals or larger businesses) because, in the New Zealand context, the vast majority of individuals in New Zealand are not required to file an income tax return due to automatically issued tax assessments (and therefore, they are not explicitly required to take a tax position). Income tax is withheld at source on salaries/wages in most instances, and there is a very limited range of deductions available (eg, accounting fees and income protection insurance if the proceeds from that insurance will be assessable income). On the other hand, larger businesses have greater resources which allow them to meet their tax obligations more easily, compared to smaller businesses.²¹ Larger businesses may also gain other managerial benefits from meeting their tax obligations.²² In addition, small businesses are more likely to evade tax and are renowned for their participation in the shadow economy.²³ Furthermore, small businesses owe disproportionate amounts of tax debt to Inland Revenue, with 15 per cent of small businesses owing one third of total tax debt.²⁴

There has been limited research on the tax literacy levels of small businesses owners in New Zealand,²⁵ however, research in other jurisdictions such as Australia has shown

¹⁹ OECD, *Future of Education and Skills 2030*, above n 18, 49.

²⁰ This definition of a small business is used by the New Zealand Ministry of Business, Innovation and Employment, and the Australian Bureau of Statistics.

²¹ See, eg, Cedric Sandford and John Hasseldine, *The Compliance Cost of Business Taxes in New Zealand* (Victoria University of Wellington Institute of Policy Studies, 1992); Colmar Brunton, *Measuring the Tax Compliance Costs of Small and Medium-Sized Businesses – A Benchmark Survey, Final Report* (Report Prepared for Inland Revenue Department, 2005). For more recent studies, see, eg, Philip Lignier and Chris Evans, 'The Rise and Rise of Tax Compliance Costs for the Small Business Sector in Australia' (2012) 27(3) *Australian Tax Forum* 615; Ranjana Gupta and Adrian Sawyer, 'The Costs of Compliance and Associated Benefits for Small and Medium Enterprises in New Zealand: Some Recent Findings' (2015) 30(1) *Australian Tax Forum* 135.

²² See, eg, Philip Lignier, 'A Silver Lining in the Tax Compliance Cost Cloud? A Study of the Managerial Benefits of Tax Compliance in Small Business' in Margaret McKerchar and Michael Walpole (eds), *Further Global Challenges in Tax Administration* (Fiscal Publications, 2006) 415.

²³ See, eg, OECD, Forum on Tax Administration SME Compliance Sub-Group, *Reducing Opportunities for Tax Non-Compliance in the Underground Economy* (OECD Publishing, 2012); Ahmed and Braithwaite, above n 10.

²⁴ Inland Revenue, *Identifying Sanction Thresholds Among SME Tax Debtors: An Overview* (2020) <<https://www.ird.govt.nz/about-us/publications/research-evaluation/tax-debt>>.

²⁵ The author is aware of two empirical studies which had conflicting results. The first of these is Lin Mei Tan, 'Coping with Tax Obligations: A Preliminary Study of Some Small Firms in New Zealand' (1997)

that the tax literacy levels of small business owners are low. For example, Belle Isle, Freudenberg and Sarker explored levels of tax literacy amongst Australian small business owners in the service sector.²⁶ A large-scale survey showed that over half of small business owners had a tax literacy score of ‘low’ or ‘poor’. In comparison, just over a quarter had a ‘medium’ or ‘high’ level of tax literacy, with the remainder having a ‘basic’ level of tax literacy.

2.2 Tax Administration 3.0

Following the 2019 OECD Forum on Tax Administration Plenary in Santiago, the OECD released a discussion paper that set out a vision for the digital transformation of tax administration, where taxation becomes more of a seamless and frictionless process. Specifically, Tax Administration 3.0 posits that tax administration will become taxpayer-centric, with taxation processes (which include identity, verification, assurance, tax calculations and payments, amongst other things) occurring in the natural systems of taxpayers. The natural systems are systems that taxpayers use to transact, run their business, make or receive payments, communicate, etc. An example of Tax Administration 3.0 that OECD refers to is the Pay As You Earn (PAYE) system for salaried employees that has been adopted in a number of jurisdictions. Specifically, the OECD states that:²⁷

In many of these systems, taxation processes are embedded in the payroll software used by employers to pay their employees.

These payroll systems, which form part of the natural systems of taxpayers, automatically calculate the tax due alongside salary calculations and, in many cases, then directly send the tax payment to the tax administration.

The burdens on the employer and employee are relatively low, and the tax gap negligible. For example, a UK tax gap report estimated that the tax gap was less than 1% for PAYE compared to 15% for self-reported income by small and medium sized enterprises (SMEs).

The OECD states that, globally, the benefits of Tax Administration 3.0 (and moving taxation processes into taxpayers’ natural systems include):²⁸

- the significant reduction (or elimination) of burdens on taxpayers because tax is calculated (and potentially paid) when the taxable event occurs in their natural systems;

13(3) *Australian Tax Forum* 337. While this research did not specifically focus on tax literacy, the findings indicated that small businesses did not appear to have difficulty in regard to understanding and complying with tax obligations. The second of these is Natrah Saad, ‘Tax Knowledge, Tax Complexity and Tax Compliance: Taxpayers’ View’ (2014) 109 *Procedia-Social and Behavioral Sciences* 1069. This research concluded that the small businesses had inadequate knowledge of the tax system. The reason for these conflicting results is unclear, and given the time that has elapsed since these studies, more contemporary research would be beneficial.

²⁶ Belle Isle, Freudenberg and Sarker, ‘The Business Tax Literacy of Australian Small Businesses’, above n 10; Melissa Belle Isle and Brett Freudenberg, ‘A Comprehensive Analysis of the Business Literacies of Australian Small Businesses’ (2021) 23(1) *Journal of Australian Taxation* 67.

²⁷ OECD, *Tax Administration 3.0: From Vision to Strategy* (2025) 11 (footnote omitted).

²⁸ *Ibid* 12.

- errors caused by taxpayer mistakes and negligence are reduced (or eliminated), as is deliberate non-compliance;
- taxpayers receive benefits (an example of these benefits in the New Zealand context is family tax credits) automatically;
- more real-time tax certainty which makes it easier for taxpayers to understand their tax and cashflow position;
- increasing the control that taxpayers have over their data given that personal or sensitive data is not centralised in tax administration systems;
- reducing (or eliminating) the need for new standalone systems to be developed because taxation processes occur in the taxpayers' natural systems;
- the potential for developing standardised technological solutions which can connect tax administrations and third parties;
- reduced costs associated with changes in tax legislation because the processes that deal with these are embedded in taxpayers' natural systems.

Notably, increasing tax literacy is not explicitly mentioned by the OECD as being a benefit of Tax Administration 3.0. Rather, tax literacy appears to be less relevant in the context of Tax Administration 3.0, given that the Tax Administration 3.0 is aimed at 'making tax just happen'.²⁹ While it could be argued that tax literacy is not as important in a world where tax compliance is largely automated, previous research has shown that increased tax literacy has benefits other than improving tax compliance. For example, previous research by Belle Isle, Freudenberg and Sarker concluded that tax literacy positively impacts upon the ability of small business owners to perform effective cashflow management.³⁰ In any instance, tax literacy is important for civic engagement because it ensures that taxpayers are aware of their rights and responsibilities, and because it allows taxpayers to hold their governments accountable.³¹

As alluded to above, previous research has concluded that Tax Administration 3.0 assists in reducing tax evasion and tax avoidance, and enhancing tax compliance.³² In addition, previous research has concluded that Tax Administration 3.0 has changed the role that tax practitioners play. For example, Sonnerfeldt states:³³

Digitization and digitalization have led to a more dependence on tax technologies. Tax expertise, once primarily held by tax professionals, is increasingly shifting toward organizations and commodities.

²⁹ OECD, *Tax Administration 3.0*, above n 3, 15.

³⁰ Melissa Belle Isle, Brett Freudenberg and Tapan Sarker, 'Does Tax Literacy Matter? The Relationship Between Small Business Literacy and Business Performance and Cash Flow' (2023) 25(1) *Journal of Australian Taxation* 5 ('Does Tax Literacy Matter?').

³¹ De Clercq, above n 16.

³² See, eg, Rida Belahouaoui and El Houssain Attak, 'Digital Taxation, Artificial Intelligence and Tax Administration 3.0: Improving Tax Compliance Behavior – A Systematic Literature Review Using Textometry (2016-2023)' (2024) 37(2) *Accounting Research Journal* 172.

³³ Amanda Sonnerfeldt, 'Navigating the Digital Frontier: The Implications of Tax Technology on Systems of Expertise and Legitimacy in Taxation' in Åsa Hansson and Joakim Wernberg (eds), *Taxation in the Digital Era: Economic, Legal, and Policy Challenges* (Palgrave Macmillan, 2026) 153, 159.

Notwithstanding the above findings, the author is unaware of any research that has considered the impact (if any) that Tax Administration 3.0 has on tax literacy. Accordingly, this research seeks to contribute to this underexplored area.

2.3 BT program

In November 2015, the New Zealand government agreed to invest in transforming Inland Revenue, overhauling systems that had been in use since the 1980s.³⁴ This project, known as the BT program, was aimed at making the digital interface the principal mechanism for taxpayer interaction with Inland Revenue. To this end, the BT program was aimed at delivering a modern, digital revenue system: (i) ‘based around customers’ needs’; (ii) ‘that is easy to understand and interact with’; (iii) ‘that is based on near real-time information’; (iv) ‘that is digital and highly automated’; (v) ‘where systems and software do most of the work’; (vi) ‘that is more responsive, flexible, and certain for customers’; (vii) ‘that is future-proofed to accommodate change’, and (viii) ‘that allows for services to be delivered with others both inside and outside government’.³⁵

As part of the BT program, Inland Revenue implemented the START system. The START system replaced Inland Revenue’s legacy systems and all taxpayer accounts have now been migrated to the START system.³⁶ Notably, the START system allows accounting systems to submit data (including tax returns) to Inland Revenue digitally, and to receive data from Inland Revenue (such as tax statements). For taxpayers, the START system is accessed through myIR Secure Online Services (myIR), which is aimed at providing taxpayers with the means to do much of what they need to do themselves. Inland Revenue provides the following example:³⁷

For instance, people receiving Working for Families Tax Credits can use myIR to check that their money is on the way, no matter where they are. They don’t need to call us to get that peace of mind.

Inland Revenue notes that use of digital channels has increased significantly in recent years, with user sessions for myIR trebling from 17 million for the year ended 30 June 2016 to 50 million for the year ended 30 June 2021.³⁸ To the author’s knowledge, the most recently published statistics are for the year ended 30 June 2024, which state that user sessions for myIR for this period were 65 million.³⁹ These statistics also show that, in the same period, 99.2 per cent of tax returns (across all tax types) were filed digitally.⁴⁰

³⁴ Inland Revenue, ‘Business Transformation’, above n 5.

³⁵ Inland Revenue, ‘Programme Business Case’ (last updated 17 March 2022) <<https://www.ird.govt.nz/about-us/business-transformation/where-we-started/programme-business-case>> (accessed 21 May 2026).

³⁶ Inland Revenue, ‘Taxpayers Get a Smarter and Fairer System’ (Media Release, 2 May 2019) <<https://www.ird.govt.nz/media-releases/2019/taxpayers-get-a-smarter-and-fairer-system>> (accessed 21 May 2026).

³⁷ Inland Revenue, *Annual Report 2021* (2021) 30.

³⁸ Inland Revenue, *Final Programme Business Case Addendum: Business Transformation, Implementing a Digital Revenue System* (2022).

³⁹ Inland Revenue, *Annual Report 2023-24* (2024) 63 (‘*Annual Report 2023-24*’). Interestingly, this statistic was not included in Inland Revenue’s *Annual Report 2024-25* (‘*Annual Report 2024-25*’) for the year ended 30 June 2025.

⁴⁰ Inland Revenue, *Annual Report 2023-24*, above n 39.

There is a significant overlap between the stated aims of the BT program (and the implementation of START) and the OECD's vision for Tax Administration 3.0. For example, the OECD states that one of the benefits of Tax Administration 3.0 is more real-time tax certainty, and one of the stated aims of the BT program was to provide a tax system based on real-time information. This is only one example.

However, the digitalisation of tax administration through developments such as the BT program is problematic for certain members of society, especially those who may be 'digitally challenged'.⁴¹ That is, digitalisation requires that the taxpayer has access to a computer, tax software, a reliable internet connection and the required knowledge to utilise e-filing.⁴² If taxpayers do not have the ability to engage digitally, then they may be forced to engage third parties (such as tax practitioners) or they may ignore tax obligations entirely.⁴³ Accordingly, there is a significant relationship between digital literacy, tax literacy and tax compliance.⁴⁴ In the context of the BT program, Sawyer comments that:⁴⁵

Even without digitalization it is clear there are many taxpayers facing difficulties in interacting with IR. It has become increasingly difficult over the last few years for taxpayers to ask for official help from IR on a face-to-face basis or even by telephone. This is a consequence of IR closing regional and district offices, and a less than effective telephone services where many calls fail to be answered.

Accordingly, Sawyer suggests that there is considerable scope for enhancing tax services for the digitally challenged, and that Inland Revenue should be playing a significant role with support from government and other charitable and voluntary agencies.⁴⁶ Specifically, Sawyer suggests that New Zealand should implement a project similar to Tax Help, which was run in the United Kingdom by a charity known as Tax Volunteers.⁴⁷ This charity provides confidential and free advice for older people on lower incomes. An alternative option would be to implement tax clinics, which have gained prominence in Australia in recent times.⁴⁸

More recently, Inland Revenue has, in response to the OECD's work on Tax Administration 3.0, issued a green paper on tax administration.⁴⁹ This paper considers New Zealand's increasing shift to digital business transactions and operating models and suggests how the tax system might adapt, with the aim of taxation being seamlessly

⁴¹ Sawyer, above n 4, 1. See also James and Sawyer, above n 9.

⁴² Wadesango Newman, N Mwandambira, Charity Mhaka and Ongayi Wadesango, 'Literature Review on the Impact of Tax Knowledge on Tax Compliance among Small Medium Enterprises in a Developing Country' (2018) 22(4) *International Journal of Entrepreneurship*.

⁴³ Richard Bird, 'Taxation and Development: What Have We Learned from Fifty Years of Research?' (2014) 13(4) *Public Finance and Management* 266.

⁴⁴ Newman et al, above n 42.

⁴⁵ Sawyer, above n 4, 15.

⁴⁶ Ibid. Currently, support in New Zealand for those that are digitally challenged is primarily provided by non-government organisations.

⁴⁷ This organisation is now known as 'TaxAid': see <www.taxaid.org.uk>.

⁴⁸ See, eg, Brett Freudenberg, Colin Perryman, Kristin Thomas and Melissa Belle Isle, 'The Griffith Tax Clinic' (2020) 22(2) *Journal of Australian Taxation* 64.

⁴⁹ Inland Revenue, *Tax Administration in a Digital World: An Officials' Issues Paper to Support Future Tax Administration* (February 2022) ('*Tax Administration in a Digital World*').

integrated into the natural systems of businesses.⁵⁰ Notably, Inland Revenue references digital inclusion, and states that:⁵¹

A more digital world works well for those able to embrace those technologies but can create barriers for those not able or wanting to participate in this way. Digital exclusion will arise for those lacking access to digital services and devices, skills in using them, and motivation and trust to operate in digital channels. The Government estimates one in five people lack at least one of the elements to be digitally included. Groups who are less likely to be digitally included in New Zealand are: people living in social housing, individuals with disabilities, Pasifika, Māori, people living in large country towns, older members of society, and those not in the workforce.

In the paper, Inland Revenue acknowledge that in comparison to individuals, micro and small business segments tend to have more complex tax arrangements, and in the past, have been a harder group for Inland Revenue to service.⁵² This is reinforced by findings showing that despite the BT program, 65 per cent of small businesses felt that there was no difference in the ease of meeting their tax responsibilities and in fact, 8 per cent thought that it was harder compared to before the BT program.⁵³ Accordingly, the BT program (and, Tax Administration 3.0 more generally) poses additional hurdles and challenges for small business owners, particularly if they are ‘digitally challenged’.⁵⁴

2.4 Technology used by small businesses

A key part of the OECD’s vision for Tax Administration 3.0 is the natural systems of taxpayers, and therefore, the technology used by taxpayers. In New Zealand, small businesses do not need to prepare general purpose financial reports, and instead, prepare special purpose reports that comply with the relevant tax legislation. In fact, some research has found that small businesses primarily keep accounting records so that they can meet their tax obligations.⁵⁵ This finding is consistent with a survey conducted by Colmar Brunton in 2005,⁵⁶ which found that some small businesses would not keep accounting records if they were not required to for tax purposes.

⁵⁰ Inland Revenue, ‘Public Views Sought on Digitising the Tax System’ (11 February 2022) <<https://www.taxpolicy.ird.govt.nz/news/2022/2022-02-11-digitising-tax-system-consultation>> (accessed 21 May 2026).

⁵¹ Inland Revenue, *Tax Administration in a Digital World*, above n 49, 14 (footnote omitted).

⁵² Ibid 13.

⁵³ Inland Revenue, *2021 Study on the Time and Cost of Doing Business Taxes Incurred by NZ Small Businesses: Survey Undertaken April – June 2021, Customer Insight and Evaluation Summary Report* [2021] (‘2021 Study on the Time and Cost of Doing Business Taxes’). A similar study was undertaken by Inland Revenue in 2024, which concluded that, amongst other things, the proportion of businesses that found it harder to comply with their tax obligations continues to trend upwards. See Inland Revenue, *2024 Study on the Time and Cost of Doing Business Taxes Incurred by NZ Small Businesses: Survey Undertaken April – May 2024, Customer Insight and Evaluation Summary Report* (2024) 18 (‘2024 Study on the Time and Cost of Doing Business Taxes’).

⁵⁴ Jennie Granger and Adrian Sawyer, ‘Digitally Prepared? The Journeys of the Revenue Administrations in Australia and New Zealand’ in Nella Hendriyetti, Chris Evans, Chul Ju Kim and Farhad Taghizadeh-Hesary (eds), *Taxation in the Digital Economy: New Models in Asia and the Pacific* (Routledge and the Asian Development Bank Institute, 2023) 166.

⁵⁵ Sue Yong, ‘Procedural Justice and Audit-Query Experiences of Small Businesses and Tax Agents’ (2012) 7(1) *Journal of the Australasian Tax Teachers Association* 101.

⁵⁶ Colmar Brunton, above n 21.

Accordingly, one of the most important developments in this area is the proliferation of cloud accounting systems. These systems increasingly incorporate artificial intelligence, machine learning and data analytics technology.⁵⁷ Traditionally, accounting systems have relied on manual processes and paper documentation.⁵⁸ These manual processes include data entry and reconciliation, which means that traditional accounting systems are both labour intensive, and prone to human error.⁵⁹ In addition, extensive physical records need to be kept in order to substantiate the outputs (noting that, for tax purposes in New Zealand, records are required to be kept for a minimum of seven years).⁶⁰ From a tax compliance perspective, these manual processes mean that users of traditional accounting systems might have difficulty in ensuring that tax obligations are calculated correctly. In addition, traditional accounting systems are slow to react to changes in tax legislation and are often unable to provide real-time insights and reporting. These weaknesses are noted by the OECD in its vision for Tax Administration 3.0.

In the New Zealand context, a number of cloud accounting systems integrate with Inland Revenue's START system (discussed previously in section 2.2). This integration means that data is transmitted directly from taxpayers' natural systems to Inland Revenue (and vice versa), which can mean fewer human errors, and a reduction in compliance costs. In addition, there are potentially fewer opportunities to evade taxes, given the lack of human intervention.

While there is some literature on the impact that technology (for example, e-filing) has on tax compliance, there is limited literature on the impact of technology on tax literacy.⁶¹ However, Belle Isle, Freudenberg, and Sarker note that literacy, both in terms of business tax, and computer accounting systems, can be linked with higher net income and annual revenue (and that therefore, business owners that are literate have a competitive advantage).⁶² In addition, some research has indicated that too much automation could lead to disengagement,⁶³ and that a lack of personal engagement can encourage people to operate outside of the tax system.⁶⁴

3. RESEARCH METHODOLOGY

Because this research is aimed at understanding whether tax practitioners view technology as impacting the tax literacy levels of small business owners, an interpretivist approach has been adopted. Interpretivism is characterised by the belief

⁵⁷ See, eg, Xero, 'How Your Accounting Practice Can Leverage AI' (19 December 2023) <<https://www.xero.com/nz/accountant-bookkeeper-guides/ai-in-accounting/>> (accessed 21 May 2026).

⁵⁸ Adel M Qatawneh, 'Requirements of AIS in Building Modern Operating Business Environment' (2023) 44(3) *International Journal of Business Information Systems* 422.

⁵⁹ Trang Nguyen, Jengchung Victor Chen and Thu Phuong Ha Nguyen, 'Appropriation of Accounting Information System Use Under the New IFRS: Impacts on Accounting Process Performance' (2021) 58(8) *Information and Management* 103534.

⁶⁰ *Tax Administration Act 1994* (NZ), subpart 3AC.

⁶¹ The author notes, however, that previous literature has considered taxpayer rights in the context of technology. See, eg, John Bevacqua, 'Tax Authority Immunity in a Digital Tax Administration World' (2020) 18(2) *eJournal of Tax Research* 402 and John Bevacqua, 'Digital First – An Australian Taxpayers' Charter Fit for the Digitalisation Revolution' (2023) 38(3) *Australian Tax Forum* 441.

⁶² Belle Isle, Freudenberg and Sarker, 'Does Tax Literacy Matter?', above n 30.

⁶³ Zelenak, above n 8.

⁶⁴ James and Sawyer, above n 9.

that there are differences between people and objects in natural and social science.⁶⁵ To this end, interpretivism assumes that social reality is socially constructed and understood through the meanings that individuals assign to their experiences. Accordingly, an interpretivist paradigm allows tax practitioners to share their perceptions and experiences as they relate to this research. This research also adopts a qualitative descriptive approach, as articulated by Sandelowski.⁶⁶ A qualitative descriptive approach is appropriate for research (such as this) that seeks to summarise participants' perceptions and experiences in a way that remains close to the data and uses language that reflects participants' own accounts.

In line with the interpretivist paradigm, and the qualitative descriptive approach, this research utilises semi-structured interviews with tax practitioners. Tax practitioners have been selected as a sample due to the role that they play in respect of tax literacy. This role can be modelled using knowledge management theory, which was adopted by Hasseldine, Holland and van der Rijt for research that sought to explore the relationships between the United Kingdom's tax agency (HM Revenue and Customs (HMRC)), corporate taxpayers and accounting firms.⁶⁷ Knowledge management theory centres around the idea that knowledge is an economic asset, and in the transaction of that asset, several players are active.⁶⁸ These players are knowledge buyers, sellers and brokers, although 'an individual can perform all three roles in a single day and sometimes plays more than one role simultaneously'.⁶⁹

In Hasseldine, Holland and van der Rijt's research, the authors viewed HMRC as the knowledge seller, because they take a lead role in developing, and communicating new tax legislation. Corporate taxpayers 'then seek, either by compulsion (for routine compliance) or volition (for tax planning and avoidance), knowledge about new tax legislation'.⁷⁰ Accordingly, they are viewed as knowledge buyers. Finally, accounting firms are viewed as knowledge brokers because 'they operate as *intermediaries* between corporate taxpayers (knowledge buyers) and HMRC (knowledge seller), a role that can also be described as "gate keeping" or "boundary spanning"'.⁷¹

In New Zealand, Inland Revenue is the knowledge seller; while Parliament is ultimately responsible for enacting legislation and therefore, knowledge creation, Inland Revenue has a lead role in the development and communication of new tax legislation. Small businesses, similar to corporate taxpayers, seek knowledge about tax legislation for routine compliance, and to a lesser degree, for tax planning and avoidance. Accordingly, tax practitioners operate as intermediaries between small businesses and Inland

⁶⁵ Emma Bell, Alan Bryman and Bill Harley, *Business Research Methods* (Oxford University Press, 6th ed, 2022).

⁶⁶ Margarete Sandelowski, 'Whatever Happened to Qualitative Description?' (2000) 23(4) *Research in Nursing and Health* 334; Margarete Sandelowski, 'What's in a Name? Qualitative Description Revisited' (2010) 33(1) *Research in Nursing and Health* 77.

⁶⁷ John Hasseldine, Kevin Holland and Pernill GA van der Rijt, 'The Management of Tax Knowledge' in Lynne Oats (ed), *Taxation: A Fieldwork Research Handbook* (Routledge, 2012) 145.

⁶⁸ Thomas H Davenport and Laurence Prusak, *Working Knowledge: How Organizations Manage What They Know* (Harvard Business School Press, 1998).

⁶⁹ *Ibid* 27.

⁷⁰ John Hasseldine, Kevin Holland and Pernill van der Rijt, 'The Market for Corporate Tax Knowledge' (2011) 22(1) *Critical Perspectives on Accounting* 39, 41.

⁷¹ *Ibid* citing Chun Wei Choo, *The Knowing Organization: How Organizations Use Information to Construct Meaning, Create Knowledge, and Make Decisions* (Oxford University Press, 1998) and OECD, *Study into the Role of Tax Intermediaries* (OECD Publishing, 2008).

Revenue and are therefore well placed to provide views on the tax literacy levels of small business owners. Inland Revenue's most recent annual report states that there are nearly 5,600 tax agents who support approximately 1.6 million clients and file close to 2 million tax returns each year.⁷²

The main research question addressed in this research is:

RQ 1: From the perspective of tax practitioners, how has technology impacted the tax literacy levels of small business owners, if at all?

The research sub-questions addressed in this research are:

RQ 1A: From the perspective of tax practitioners, how has the technology that small business owners use impacted their tax literacy levels, if at all?

RQ 1B: From the perspective of tax practitioners, how has Inland Revenue's BT program impacted the tax literacy levels of small business owners, if at all?

3.1 Semi-structured interviews

This research utilises semi-structured interviews of tax practitioners to gather data. These interviews were conducted from November 2023 to June 2024. Interviews were considered by the author to be the most appropriate method of gathering data because they allowed tax practitioners to give their own perspectives on small business owners and tax literacy. That is, interviews as a methodology allow rich data to be collected from people in various roles and situations.⁷³ Alternative methods of gathering data such as a questionnaire would not have resulted in rich data being collected from tax practitioners. In addition, interviews provide the opportunity for follow-up questions and additional inquiry, meaning that further insights were gleaned.

3.2 Interview guide development

The author circulated an interview guide to tax practitioners ahead of the interviews. The interview guide was aimed at giving interviewees a chance to reflect on the questions and give a considered response. From the author's perspective, the use of an interview guide also ensured that no topics or areas were omitted. The interview guide had four main headings, being: 'Small businesses', 'Small business owners', 'Tax literacy' and 'Tax education'. The questions under the heading 'Tax literacy' are the focus of this article. Notwithstanding, the interview guide was not formal or rigidly structured. Rather, it was flexible, and questions were not asked in a set order. In addition, the interview guide was fluid as it was updated as interviews progressed. The interview guide was also piloted with an experienced tax practitioner and the responses from this were used to improve the interview guide and provide additional areas for exploration.

3.3 Sample selection

For the purpose of this research, a broad definition of tax practitioners has been adopted. That is, tax practitioners are defined to be tax preparers, tax accountants, tax lawyers and tax agents, provided that they have experience working with small businesses and

⁷² Inland Revenue, *Annual Report 2024-25*, above n 39.

⁷³ Bell, Bryman and Harley, above n 65.

their owners. Tax practitioners were recruited with the assistance of John Cuthbertson (New Zealand Tax Leader of Chartered Accountants Australia and New Zealand (CA ANZ)), Lindsay Ng (Senior Tax Advocate at CA ANZ) and Rick Jones (Regional Head of Certified Practising Accountants (CPA) Australia, as he was then). Individual emails were sent to a potential list of interviewees, as identified by each of these people. Responses were received from five practitioners, all of whom agreed to participate in the research. Accordingly, the author sought to identify and recruit further participants. This was predominately done via Google searches with key words aimed at filtering tax practitioners who had experience with small businesses and their owners. This resulted in five more tax practitioners agreeing to participate in the research. Accordingly, the sample of tax practitioners included five tax practitioners recruited through ‘snowball’ sampling.⁷⁴ Snowball sampling is advantageous in that it is a low-cost solution allowing participants to be found easily and quickly, especially from a specific population.⁷⁵ However, snowball sampling can lead to various types of sampling bias and can make generalisation difficult.⁷⁶ These limitations were overcome by the use of purposive sampling to recruit the other five participants.

A total of 10 tax practitioners were interviewed in their professional capacity. These tax practitioners were located in a range of locations throughout New Zealand, including Auckland, Christchurch, Dunedin, Hamilton, Invercargill, and regional New Zealand. The tax practitioners predominately worked out of mid-tier firms and small accounting firms, meaning that a number of different perspectives were provided. After 10 responses, saturation of information occurred, and in the author’s view, it was unlikely that additional responses would have resulted in new information being gleaned. Further detail on the 10 tax practitioners is provided in Table 1.

⁷⁴ Alistair Geddes, Charlie Parker and Sam Scott, ‘When the Snowball Fails to Roll and the Use of ‘Horizontal’ Networking in Qualitative Social Research’ (2018) 21(3) *International Journal of Social Research Methodology* 347.

⁷⁵ Ibid.

⁷⁶ Ibid.

Table 1: Tax Practitioners

Pseudonym	Location	Position	Professional Membership	Size of Firm	Experience	Gender
Tax Practitioner A	Auckland	Director	CPA	Sole practitioner	12 years	Male
Tax Practitioner B	Christchurch	Director	CA ANZ	Small	24 years	Male
Tax Practitioner C	Invercargill	Principal	CA ANZ	Medium	28 years	Male
Tax Practitioner D	Christchurch	Director	CA ANZ	Sole practitioner	19 years	Female
Tax Practitioner E	Regional New Zealand	Director	CA ANZ	Sole practitioner	33 years	Male
Tax Practitioner F	Regional New Zealand	Director	CPA	Small	28 years	Female
Tax Practitioner G	Hamilton	Director	CA ANZ	Medium	19 years	Male
Tax Practitioner H	Dunedin	Partner	CA ANZ	Medium	30 years	Male
Tax Practitioner I	Dunedin	Principal	CA ANZ	Small	23 years	Male
Tax Practitioner J	Auckland	Manager	CA ANZ	Medium	14 years	Female

3.4 Data collection procedures

A consent form was issued to all participants, and a signed copy was returned to the author before each respective interview. Interviewees were given a chance to ask any questions before the interview commenced and were free to withdraw from the research at any time. Each interview was recorded using the recording function in Google Meet / Microsoft Teams and where possible, a transcript was automatically generated. This was checked by the author against the recording of the interview (and amended if necessary), and a copy was provided to the interviewee within two weeks of each particular interview. Interviewees were then provided with an opportunity to make any amendments to the transcript. Alongside recording, brief notes were taken by the author throughout the interviews.

Interviews ranged from 40 to 70 minutes in length. While virtual interviews can have disadvantages (eg, technical challenges), the use of these negated many of the disadvantages associated with phone interviews (eg, the inability to gauge body language), and given the geographical spread of the interviewees, were more practical and cost effective than in-person interviews.

3.5 Data analysis

The author analysed data collected from the semi-structured interviews by following the six-phase process set out by Braun and Clarke.⁷⁷ Given the dearth of previous literature in this area, and, given that this research is exploratory in nature, an inductive approach

⁷⁷ Virginia Braun and Victoria Clarke, 'Using Thematic Analysis in Psychology' (2006) 3(2) *Qualitative Research in Psychology* 77. See also Lorelli S Nowell, Jill M Norris, Deborah E White and Nancy J Moules, 'Thematic Analysis: Striving to Meet the Trustworthiness Criteria' (2017) 16 *International Journal of Qualitative Methods* 1. Thematic analysis was undertaken with a view to meeting the trustworthiness criteria outlined in Yvonna S Lincoln and Egon G Guba, *Naturalistic Inquiry* (Sage, 1985).

(ie, data-driven approach) was used for data analysis. First, the author familiarised themselves with the data by reviewing the transcripts (and amending these where necessary). Throughout this phase, the author noted down initial ideas and thoughts. Next, NVivo, a qualitative data analysis software package, was used to generate initial codes. Care was taken to ensure that each data item was given equal attention during this process. These codes were subsequently collated into various themes, and these themes were then reviewed and refined by the author. Themes were checked against each other, as well as the original transcripts from interviews. A thematic map was generated by NVivo that showed the themes and how they related to one another. Finally, the data within these themes was analysed with a view to identifying areas of consensus and disagreement amongst the tax practitioners interviewed.

4. RESULTS

This section introduces the findings from the interviews with tax practitioners. This section will provide a basis for section 5, which will set out further discussion and analysis of the findings.

4.1 Technology used by small businesses

As a starting point, tax practitioners were asked what technology (and therefore, what the natural systems were) in the context of small businesses. Most tax practitioners indicated that the natural systems used by their small business clients were cloud accounting systems (generally, with the adoption of cloud accounting systems being instigated by the tax practitioners themselves), with the most commonly mentioned cloud accounting system being Xero:

A lot of our clients were still using BankLink and that was because it's a legacy product. It still worked. It was cheap. We didn't have to move but it's an end of life product. So we've just holus bolus moved everyone off BankLink now and put them on Xero. [Tax Practitioner G]

It was a Hubdocs, Xero, and with farmers, Figured combination. And that's what we were pushing our clients towards. [Tax Practitioner E]

For all our clients, we'd get them set up on Xero. We would give them training to be able to reconcile their accounts, invoices reconciling. Or if they really struggle with that, we would partner them up with a bookkeeper. [Tax Practitioner B]

But I would think 98% of our clients are on Xero or MYOB or something similar. [Tax Practitioner H]

Tax Practitioner J noted that some small businesses engaged the services of an alternative system such as Hnry, which in their view, is not a cloud accounting system, but rather, is a tax agent (and therefore, not a natural system):

I can use Hnry instead of Xero, not realising that Hnry's actually a tax agent. So it's kind of like a modern-day version of the old people that used to stand in the mall and be like, we'll do your tax return for free, it's that but in an online system for sole traders and stuff. [Tax Practitioner J]

Tax Practitioner D was of the view that the adoption of cloud accounting systems by small businesses was dependent on the age of the owners of those small businesses:

I'm probably not a good one because I've got all these elderly clients, right? Who are like, when I do the cloud, like what is this thing? You know, for my young fee base, I would say they're all about apps and stuff. [Tax Practitioner D]

Tax Practitioner J noted that the price point of cloud accounting systems had decreased in recent years, which removed a barrier to adoption by small businesses:

So where it used to be you'd be paying at least a hundred bucks a month to get onto a decent system. Now, you can start at sort of, twenty dollars or something. So that price point has definitely removed a barrier for a lot of small businesses. [Tax Practitioner J]

Finally, Tax Practitioner A noted that while their accounting practice used cloud accounting systems (namely, Xero), and that their clients were able to access this platform, in their experience, most small business owners did not do so:

Yeah, it has, but the thing that I would note there is you're asking what do we use? The clients often use nothing. So you know they're paying \$70 plus a month for access to a fairly generic but useful financial software system which they don't interact with at all. So the vast majority of my clients will go into their internet banking once a day and see if someone's paid them so they can meet the wage bill. [Tax Practitioner A]

Tax Practitioner A went on to give the following example:

I mean it's astonishing. Obviously, we do, gosh over a hundred GST returns every two months and well in excess of 80% are not coded. The bank feeds are there but nobody's bothered to go and code the lines. [Tax Practitioner A]

4.2 Record keeping and small businesses

All tax practitioners were of the view that, if used by small businesses, technology and, in particular, cloud accounting systems, had improved the record keeping practices of small businesses:

Yeah, I think people are getting better at it, it used to be asking them to hold on to receipts and invoices all the time. But now with digital means of doing that with the likes of Xero, where you take photos of your receipts, I think clients just find it find it a lot easier. [Tax Practitioner B]

I think technology has enabled them to be an awful lot better. So, the likes of Xero and your Hubdocs and your Dext and all that sort of stuff, where you can take a photo when you're out and lots of stuff is now coming in via email and it's not hard copies, so that naturally helps with retaining information. So I think technology has played a huge part in making that better. [Tax Practitioner F]

I think generally pretty good. Most people know they need to obviously keep their receipts. We thankfully mostly moved away from the old shoebox approach now, so the digitalising of invoicing has really helped, most people

get their invoices on PDF now, so that's why we've obviously started using Hubdoc significantly. [Tax Practitioner G]

Tax Practitioner I, however, considered that some small business owners still had poor record keeping practices:

Some are awesome. Some are terrible. Absolutely terrible. I've got a client where I'd be quite happy to receive a shoebox. That would be awesome. Instead of no records at all. [Tax Practitioner I]

Tax Practitioner G noted that technology was also used within their practice to digitise the records kept by small businesses, if they were not already in a digital format:

We've still got a number, probably more our agri clients who would still bring us a shoe box or a folder of bits of paper, but now we just scan and stick them in Hubdoc anyway. [Tax Practitioner G]

4.3 The impact of technology on the tax literacy levels of small business owners

When asked whether technology, and in particular, cloud accounting systems, increased the tax literacy levels of small business owners, all tax practitioners were of the view that while it did provide other advantages, it did not increase the tax literacy levels of small business owners:

No, I don't think so. I think it's given those businesses a way to speed up the process of getting their information into a system. In terms of from a tax literacy perspective no, it hasn't really improved that I would have said. [Tax Practitioner C]

No. No, if anything it's probably dumbed it down because they think it's got it right. [Tax Practitioner F]

The software has made our lives easier, but it's actually reduced people's literacy. [Tax Practitioner I]

In particular, tax practitioners considered that technology, and in particular, cloud accounting systems, have decreased the tax literacy levels of small business owners for a variety of reasons:

I think people have probably become reliant on the prompt. And if they've miscoded it wrong last month, they'll miscode it wrong this month. So it actually probably doubles down on the issue. [Tax Practitioner G]

People have become less tax literate because they don't actually have to do anything. If you were using Xero and your GST return is being prepared in Xero, which you would, you don't need to do the calculation to work out what the GST proportion is. [Tax Practitioner I]

Yeah, actually, it's probably, if anything, created more risk that the literacy is going down. And then I think that is possibly a downfall of technology is that yeah, it's just we've put a number and it spits something out. We accept that it's got to be right and so we aren't actually applying logic to it as we're going through it. [Tax Practitioner C]

You know, so it's almost counter, like it stops the financial literacy because they're just, oh well, if Xero says this, I'll just click okay. [Tax Practitioner B]

In fact, Tax Practitioner I was of the view that, in using cloud accounting systems, small businesses owners were making mistakes that would not have occurred in their absence:

They were just like, well, the software did it, must be right. Yeah, and then you go back and you go, well, that figure doesn't reconcile with your actual bank balance. It's clearly not right. But just zero appreciation of that and understanding that was not correct. When you did your return on paper, you wouldn't have made that mistake. [Tax Practitioner I]

Similarly, Tax Practitioner D noted that the data inputted into the cloud accounting systems by small business owners was determinative of the outputs:

I'm very mindful that it is, as all software is, it's a garbage in, garbage out scenario, right? So it's only as good as your attention to detail. [Tax Practitioner D]

Some tax practitioners mentioned that some small business owners were not competent using technology generally:

Like when cheques were taken away, people were paying their GST and stuff by cheque. We've still got a couple of people who come into our office and ask for their little barcode thing for their GST returns so they can turn up to the bank with that. And even like not related to tax specifically, but like Xero changed the bank feeds for BNZ last year and you had to log in using your internet banking login and do it that way. And that flushed out a whole bunch of people who didn't have internet banking at all. [Tax Practitioner D]

There's definitely issues with the fact that some people do not have access to the online world basically. So we've got a very small group of clients where they don't have email, they don't do online, they do not have cell phone coverage or internet where they live. It's a very small group and those people would be the people who would otherwise use IRD's phone option. But the reality is the phone option is not great anymore because the time that you have to wait to have a call answered or get a call back just doesn't work for most people. [Tax Practitioner I]

Finally, Tax Practitioner B noted that, in their experience, there appeared to be a trend of small business owners using artificial intelligence to obtain tax advice:

People starting to use more AI for, I mean, I guess even just general search engines as well. Like, you know, if I've got a complex, not complex, but if I've got a tax question, then even I'm thinking, oh, I wonder what this, you know, I'd Google and look at this and see what pops up and sort of help inform a decision there as well. [Tax Practitioner B]

4.4 The impact of Inland Revenue's BT program on the tax literacy levels of small business owners

The majority of tax practitioners did not think that Inland Revenue's BT program had improved the tax literacy levels of small business owners:

So the majority of people probably don't even have a myIR. And business owners that do have a myIR would only use it for filing their PAYE and GST via whatever accounting software they're using. I don't think they're actively participating with the platform. And if IRD messaged them I don't think they'd read it or respond to it. [Tax Practitioner F]

I guess the good thing out of that whole Business Transformation project that IRD did is that everyone, if they want, has access to their information at IRD. And for those people who feel that they're sufficiently capable of doing that, then that's great. [Tax Practitioner I]

I think the technology aspects of the software definitely has; I don't think the department's BT project has greatly. Other than the fact, people are more connected through myIR then obviously they were previously and some choose to engage on that basis others choose not to. Again, I think there's going to be some philosophical challenges there for both Revenue and for the profession around where those lines sit and actually, what the role of the department is versus what the role of intermediaries is. [Tax Practitioner H]

However, Tax Practitioner J considered that small businesses generally had a higher level of engagement with Inland Revenue subsequent to the completion of the BT program and the implementation of the START system:

[W]e find a lot more clients have set up their own myIR accounts and they do have access to all that stuff themselves where we previously might have been involved in helping them set up, payment arrangements and things like that. They can do it all themselves, which is really good because anytime we touch something, we charge them for it. [Tax Practitioner J]

Tax Practitioner J also stated that, in their opinion, Inland Revenue's START system was confusing for people who did not have a tax background:

I think a lot of it is, and myIR definitely makes things like filing tax returns and things and much easier to do, I still think, I mean we file tax returns through a system. So it's a little bit different but every now and then when you pop into myIR to step through a tax return there are a couple of things where we sit there and go that doesn't make sense. If I was reading this as a lay person, I wouldn't understand not to put the number in that box and it needs to go somewhere else. [Tax Practitioner J]

Finally, Tax Practitioner G noted that Inland Revenue's START system was not without issues, and in particular, how it calculated use-of-money interest:

Yeah, IRD's system couldn't deal with it. I had a massive running battle with them over the way that use-of-money interest was being calculated and they disagreed I said, no, no, this is what I'm seeing this I can show you the calculations. [Tax Practitioner G]

5. ANALYSIS OF INTERVIEW FINDINGS

5.1 Accounting systems used by small businesses

Tax practitioners were generally of the view that most small businesses had adopted cloud accounting systems (although, see discussion below on the meaning of adoption), which is broadly consistent with research that shows that many small businesses have adopted cloud accounting systems in New Zealand.⁷⁸ Accordingly, tax practitioners considered that the natural systems of small businesses are cloud accounting systems. This finding is important in the context of the Tax Administration 3.0, which is premised on tax administration systems (such as Inland Revenue's BT program and START) interfacing with the natural systems of taxpayers.

Tax practitioners indicated that the adoption of cloud accounting systems was largely driven by themselves. In other words, the adoption of cloud accounting systems was not instigated by small business owners. The reason for this finding is unclear, but the author suggests that these results can be explained by low tax literacy levels of small business owners on the basis that small business owners are unlikely to be aware of various accounting systems and the advantages that cloud accounting systems can potentially offer. To this end, small business owners are knowledge buyers, and in this context, tax practitioners are the knowledge sellers (as opposed to a more traditional role as a knowledge broker), given their experience with various accounting systems. Accordingly, the role of tax practitioners appears to be changing in response to technology in that their scope is no longer limited to just ensuring that their clients comply with tax obligations, but rather, it also extends to recommending (and, in some cases, implementing) the natural systems used by their clients. While the motivations for tax practitioners for doing so were unclear, it could be that it makes their work easier, and allows resources to instead be spent on tasks that add value for their clients.

Tax practitioners did not consider that there was a link between demographic factors and the uptake of cloud accounting systems by small businesses. This can potentially be explained by the finding that tax practitioners were responsible for small businesses adopting cloud accounting systems because, presumably, cloud accounting systems were suggested to small business clients by tax practitioners regardless of demographic factors (again, see discussion below on the meaning of adoption). Notwithstanding, Tax Practitioner D considered that younger small business owners were more likely to adopt cloud accounting systems on that the basis that they were likely to be more familiar with technology (such as apps) generally. However, this view was not shared by other tax practitioners, contrary to the author's initial expectations.

Tax Practitioner J stated that, in their view, a reduction in the cost of cloud accounting systems (which are used enable tax compliance) has led to increased adoption by small businesses. Previous research has shown that, in the New Zealand context, the main motivators for small businesses adopting cloud accounting systems are ease of use, security, availability, and performance.⁷⁹ Notably, this research also found that cost of

⁷⁸ See, eg, New Zealand Institute of Economic Research, *Economic Potential of Cloud-Based Business Tools: NZIER Report to Xero* (March 2020).

⁷⁹ Trevor Nesbit and Daniel Sidabutar, 'Adoption of Cloud-based Accounting by SMEs: Revisiting the Benefits, Risks and Motivations: A New Zealand Context Exploratory Study' (2022) 4(8) *Acta Scientifica Computer Sciences* 82.

adopting cloud accounting systems was not a significant issue for small businesses. Accordingly, this finding appears to be inconsistent with previous research.

As noted earlier, the most commonly mentioned cloud accounting system by tax practitioners (in the context of small businesses) was Xero. This finding is consistent with research conducted by the New Zealand Institute of Economic Research in 2020 which showed that, at that time, Xero was the most commonly used cloud accounting system in New Zealand (and, particularly, the most commonly used cloud accounting system for small businesses).⁸⁰ It is likely that even more small businesses in New Zealand have adopted Xero, given the growth that Xero has seen since 2020.⁸¹ For the sake of completeness, it is noted that two tax practitioners also mentioned MYOB as commonly being used by small businesses.

Tax Practitioner A also noted that while all their small business clients were set up on a cloud accounting system (namely, Xero), most small business owners did not actively engage with the platform and perform tasks such as reconciling bank accounts. To this end, it appears that, even though tax practitioners might consider that their small business clients have adopted a cloud accounting system, there are varying degrees of adoption. In other words, while small businesses might have access to a cloud accounting system, it seems that many small business owners do not actually utilise this platform. Rather, the cloud accounting system solely allows tax practitioners to perform tasks that they would otherwise undertake (such as compiling financial statements which feed into tax returns) in a more efficient manner. This finding also suggests that some small business owners outsource all tax compliance functions to a tax practitioner, and, that tax literacy is potentially of less value for this group.

In the light of the above, it appears that there is a difference between the adoption of cloud accounting systems, and the use of cloud accounting systems, by small businesses and their owners. Many of the advantages of cloud accounting systems outlined in previous research will only be realised if the owners of small businesses actually use cloud accounting systems, as opposed to just having a tax practitioner that uses a cloud accounting system to perform a task that they would otherwise undertake (with, perhaps, the exception of a reduction in costs if these savings are passed on to small businesses by tax practitioners).

Some tax practitioners considered that a key part of their role was training and educating clients, which is consistent with acting as knowledge broker. This finding is also consistent with previous research by Sonnerfeldt, which discusses the role of the tax practitioner (and tax knowledge) in the digital era.⁸² Specifically, tax practitioners are seemingly providing less tax advice in respect of tax compliance (because, to a degree, this is now built into the natural systems of taxpayers), and more advice on how to use accounting software and input data accurately.

⁸⁰ New Zealand Institute of Economic Research, above n 78.

⁸¹ Sukhinder Singh Cassidy, 'Xero's H1 FY24 Financial Results: Evolving Xero to Deliver on Our Global Aspirations', *Xero* (8 November 2023) <<https://blog.xero.com/nz/news-events/xero-half-year-fy24-financial-results/>> (accessed 21 May 2026).

⁸² Sonnerfeldt, above n 33.

5.2 Record keeping and small businesses

All tax practitioners were of the view that technology, and in particular, cloud accounting systems, have improved the record keeping practices of small businesses. Tax practitioners specifically referred to the ability to take pictures of invoices and receipts and load these into cloud accounting systems and also noted that invoices and receipts are now typically issued in a digital format. The Ministry of Business, Innovation and Employment (MBIE) has, the last few years, been working on a campaign on the adoption of 'e-invoicing' and based on results from the interviews with tax practitioners, it appears that this campaign has been successful.⁸³

However, Tax Practitioner I noted that the record keeping practices of some small businesses was still poor, and that in some instances, they would be happy to receive any information at all. This finding is consistent with those detailed above, namely, that small businesses need to be actively engaging with cloud accounting systems to gain the associated benefits (including better record keeping).

For the sake of completeness, it is also worth noting that there have been changes to tax invoices for Goods and Services Tax (GST) purposes in the last few years. These changes, which apply from 1 April 2023, replaced the requirement to use tax invoices with a more general requirement to provide and keep certain records known as taxable supply information.⁸⁴ Broadly, these changes are aimed at ensuring compliance with the 'e-invoicing' initiative and providing more flexibility for businesses. Only one tax practitioner, Tax Practitioner G, commented on these changes. Specifically, Tax Practitioner G was of the view that, practically, these changes did not have any impact on the records kept by small businesses. Tax Practitioner G considered that these changes were inconsequential and that they have largely been ignored by both tax practitioners and small businesses alike.

Finally, Tax Practitioner G also noted that their accounting practice used technology to digitise records if they were not already in a digital format. This finding is consistent with the research that shows that accounting practices in New Zealand have relatively high adoption rates of technology, including cloud accounting systems.⁸⁵

5.3 The impact of technology on the tax literacy levels of small business owners

Despite all tax practitioners being of the view that technology, and in particular, cloud accounting systems, had advantages, increasing tax literacy was not seen as one of these advantages. Rather, all tax practitioners were of the view that cloud accounting software had led to a reduction in tax literacy for small business owners. Tax Practitioner E noted that if cloud accounting systems were used by small businesses, then the automation of manual tasks could free up small business owners to undertake other tasks that added more value to their businesses. This view was shared by Tax Practitioner C, who considered that cloud accounting systems could save time by automating the process of

⁸³ eInvoicing, Ministry of Business, Innovation and Employment, 'Get Your Business eInvoicing Today' (last updated 19 February 2026) <<https://www.einvoicing.govt.nz/get-set-up/get-your-business-einvoicing>> (accessed 21 May 2026).

⁸⁴ Inland Revenue, 'Taxable Supply Information for GST' (last updated 27 November 2024) <<https://www.ird.govt.nz/gst/tax-invoices-for-gst>> (accessed 21 May 2026).

⁸⁵ Xinding Ma, 'The Adoption of Cloud Computing for Small and Medium Accounting Firms' (MCom Thesis, University of Canterbury, 2015).

importing information. However, a number of tax practitioners indicated that automation also meant that small business owners were disconnected from their tax obligations (and potentially the financial performance of their business more generally) because they did not need to have as much involvement. Automation was also seen as resulting in unintentional non-compliance (and therefore, negatively impacting disciplinary knowledge), because if a mistake had been made in determining the classification of a transaction (say for, example, whether a transaction was capital or revenue in nature), then this treatment could be inadvertently repeated in a subsequent period. To this end, Tax Practitioner I was of the view that cloud accounting systems could result in mistakes being made by small business owners that would not have otherwise occurred, and, that small business owners would not have sufficient tax literacy (and specifically, disciplinary knowledge) to identify these mistakes. An example of this was the preparation of a GST return, which can be automatically prepared by cloud accounting systems and does not require additional manual input. Tax Practitioner I indicated that some small business owners would blindly accept the net GST payable, or receivable (and therefore the GST treatment of the underlying transactions) calculated by the cloud accounting system without further investigation. Given that a number of cloud accounting systems (including Xero) integrate with START, it is concerning that small businesses could potentially be transmitting information to Inland Revenue and therefore taking incorrect tax positions based on the (incorrect) assumption that these tax positions are correct.⁸⁶

As discussed above, some cloud accounting systems utilise artificial intelligence to prompt users to classify transactions and therefore take tax positions. Some tax practitioners were of the view that these prompts were unhelpful because they gave small business owners the impression that, in accepting these prompts, they had taken a correct tax position. One possible solution to this might be for cloud accounting systems to include a warning to users to check the tax treatment of a transaction, and if they do not know the correct tax treatment, that they seek advice from a tax practitioner. A more holistic solution is to increase the tax literacy (and, specifically, the disciplinary knowledge) of users, so that they can identify issues and errors, and, even if they do not know the correct tax treatment, that they (as information buyers) have enough awareness to know that they need to engage the services of a tax practitioner (as an information broker), or to contact Inland Revenue (as the information seller).⁸⁷

Some tax practitioners also mentioned that some small business owners were not digitally literate and therefore were not competent using technology such as the internet, email, online banking and cell phones. This finding means that, for these people, there are a number of barriers present in today's digital world, and particularly in regard to the tax system, given the recent BT program and implementation of the START system (discussed further in section 5.4). In this context, small business owners are still information buyers.

⁸⁶ The penalties regime and use-of-money interest mean that taking an incorrect tax position can result in a significant financial impact for small businesses.

⁸⁷ There is a philosophical question as to whether Inland Revenue, as the revenue authority, should be assisting taxpayers to take a tax position, given that they also develop tax policy and prosecute taxpayers for non-compliance. To this end, one tax practitioner drew an analogy between this situation and 'asking the police before you commit a crime'.

Finally, Tax Practitioner B observed that there was a trend of small business owners using artificial intelligence to obtain tax advice, and therefore, as an information broker. This trend is concerning, especially if small business owners do not have the appropriate level of tax literacy (and, in particular, disciplinary knowledge) to know the right questions to ask, or what facts are important (or not important) to their particular scenario. In addition, it remains to be seen as to whether artificial intelligence has reached a point where it is capable of providing accurate tax advice, even if the right questions are asked of it.

While other benefits are gained from the use of cloud accounting systems, tax practitioners indicated that cloud accounting systems have a negative impact on the tax literacy of small business owners, which, for the reasons stated above, is particularly important for this demographic. In other words, there appears to be a trade-off between the benefits gained from the use of cloud accounting systems, and the tax literacy levels of small business owners. Tax practitioners indicated that these benefits outweighed the reduction in the tax literacy levels of small business owners, however, further work should be undertaken (for example, education) to mitigate the detrimental impact of technology on tax literacy.

5.4 The impact of Inland Revenue's BT program on the tax literacy levels of small business owners

Most tax practitioners did not think that Inland Revenue's BT program had positively impacted the tax literacy levels of small business owners overall, despite the BT program (and the implementation of the START system) making online access easier and more information available through myIR (and therefore, potentially increasing procedural knowledge). Notwithstanding this, improving tax literacy was not a stated purpose of the BT program. In particular, Tax Practitioner F indicated that, in their experience, the vast majority of small businesses did not have a myIR login, but if they did, that they did not log in and actively participate with the platform. This finding is reinforced by research by Inland Revenue which shows that subsequent to the BT program, 65 per cent of small businesses felt that there was no difference in the ease of meeting their tax responsibilities, and in fact, 8 per cent thought that it was harder compared to before the BT program.⁸⁸ Tax Practitioners I and H had similar views and noted that while myIR had the potential to result in increased procedural knowledge via access to information availability and connection between small businesses and Inland Revenue, this benefit would only be realised if small business owners were capable of engaging with the platform and, small business owners actually did so. This finding is again consistent with research conducted with Inland Revenue that indicates that the BT program has only had a limited impact for small businesses. To this end, further resources should be deployed to upskill people (and especially small business owners) in terms of digital literacy.

Only one tax practitioner, Tax Practitioner J, had a different view. In particular, Tax Practitioner J considered that generally, small businesses had a higher level of engagement with Inland Revenue subsequent to the completion of the BT program and the implementation of the START system. Tax Practitioner J noted that, after the completion of the BT program and the implementation of the START system, more clients have set up myIR accounts, and that more clients were engaging with Inland

⁸⁸ Inland Revenue, *2021 Study on the Time and Cost of Doing Business Taxes*, above n 53, 5.

Revenue through myIR to organise things such as instalment arrangements. The reasons for this inconsistency are unclear. However, Tax Practitioner J did note that the START system could be confusing to navigate and to enter data in, especially for people that did not have a tax background. This finding is contrary to the stated goals of the BT program. Given that users of the START system are, in some instances, effectively taking tax positions (which, if incorrect, could result in exposure to use-of-money interest and/or penalties), this finding is concerning. Accordingly, it is suggested that further work is done to make the START system more accessible for those without a tax background.

Finally, Tax Practitioner G noted that the START system, in some instances, resulted in outcomes that were inconsistent with tax legislation. Tax Practitioner G used an example of the calculation of use-of-money interest, which, presumably, is automated within the START system. This automation resulted in an incorrect output, so accordingly, there needs to be sufficient checks and balances in place to ensure that this outcome does not occur.

Overall, it is clear that the BT program and the START system can provide benefits to small business owners. However, it appears that these benefits, like those associated with cloud accounting systems, come at the expense of tax literacy. On this basis, further research should be undertaken to determine the benefits of the BT program and the START system, and the trade-off between these benefits and tax literacy. In addition, further initiatives should be implemented that are aimed at increasing the tax literacy (and also, the digital literacy) of small business owners so that they can make the most out of these developments in technology.

6. CONCLUSIONS

In the light of the discussion in section 5 above, a number of conclusions can be drawn. First, the natural systems of small businesses appear to be cloud accounting systems (the most common of these being Xero), although it appears that not all small business owners are accessing and engaging with these cloud accounting systems, and therefore not receiving the various advantages that cloud accounting systems can offer. To this end, the role of tax practitioners has changed as it also involves educating and training small businesses as to the use of cloud accounting systems.

Almost all tax practitioners were of the view that technology, and in particular, cloud accounting systems, have improved the record keeping practices of small businesses. However, one tax practitioner did not think that record keeping practices had improved, which can be explained by the finding that while small business owners have access to cloud systems, not all small business owners are accessing and engaging with these cloud accounting systems, potentially due to low levels of digital knowledge.

Tax practitioners considered that cloud accounting systems were beneficial for small business owners, however, increases in tax literacy (and specifically, disciplinary knowledge) was not one of these benefits. Despite this trade-off, tax practitioners indicated that these benefits outweighed the reduction in the tax literacy levels of small business owners, however, further work should be undertaken (for example, education) to mitigate the detrimental impact of technology on tax literacy. Similarly, while Inland Revenue's BT program and the START system can provide benefits to small business owners, tax practitioners were of the view that these benefits come at the expense of tax literacy. On this basis, further research should be undertaken to determine the benefits

of the BT program and the START system, and the trade-off between these benefits and tax literacy. In addition, further initiatives should be implemented that are aimed at increasing the tax literacy (and also, the digital literacy) of small business owners so that they can make the most out of these developments in technology.

A limitation of this article is the lack of input from other stakeholders, and in particular small business owners themselves. To this end, there is scope for a wide-scale survey of small business owners to test results, which the author plans to subsequently undertake. In addition, input from the revenue authority, Inland Revenue, might also provide valuable insights. Future research could also consider how the tax literacy levels of small business owners could be improved. Another limitation of this article arises from the research method, being semi-structured interviews. Semi-structured interviews have some disadvantages, including a lack of validity and potential for observer bias. However, given the exploratory nature of this research, alternative methods of gathering data would not have been appropriate.