

TOWARDS THE FRONTIER

**Lessons from Auckland's
leading firms**

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October 2021

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Foreword

What makes for a high-performing business? Who do they look to for new ideas, know-how and technologies, and what capabilities do they need to apply them?

This report examines some of Auckland's best-performing firms to find out. Our intention is that the findings provide Auckland businesses with practical tips and opportunities for driving performance. It builds on the insights detailed in our Pathway to Productivity¹ report and findings by the New Zealand Productivity Commission.

This is important because New Zealand is facing a productivity problem relative to other countries. This contributes to a comparatively lower standard of living for most New Zealanders in terms of incomes and access to social and economic services and infrastructure.

Generating around 40 per cent of New Zealand's GDP, Auckland plays a vital role in lifting the country's prosperity. The city is home to many of the country's leading businesses – or frontier firms – which are

important creators of wealth and quality jobs. They also help improve the performance of other businesses by using contemporary business practices and technologies, which then spread through supply chains and peer networks.

However, even our best performing companies are less than half as productive as those in comparable Small Advanced Economies (SAE). Growing more and better-performing frontier firms is crucial to achieving higher collective productivity. Likewise, other businesses adopting the practices and technologies of frontier firms can significantly increase performance.

So, what does it take for ambitious Auckland businesses to reach the frontier, and for those already there to go further? All the ingredients for success are here – how can we harness them for a more productive economy?



Pam Ford
DIRECTOR
Investment and Industry
Auckland Unlimited

[1] Pathway to Productivity: Opportunities for sustainable economic growth across Tāmaki Makaurau

Frontier firms: driving productivity

Frontier firms typically comprise the most productive 10 per cent of firms within an economy². They are the most productive because they generate the greatest output from the fewest inputs.

Productivity frontiers can be described as the crossover point for firms entering the top 10 per cent of an economy. These frontiers are commonly established at industry, national and global levels.

Collectively, frontier firms make a disproportionately large contribution to New Zealand's economy. They export more, employ higher-skilled workers, pay more, invest heavily in research and development, and provide a bridge to the world's leading-edge technologies, ideas and business practices.

Despite their relatively small number, New Zealand's frontier firms are responsible for 27 per cent of total (gross) output. They are, in aggregate, nine times more productive (per labour hour) than the bottom 10 per cent (decile 1) of firms, with nearly double the value-add per worker to those in the next group (decile) below (Figure 1.)

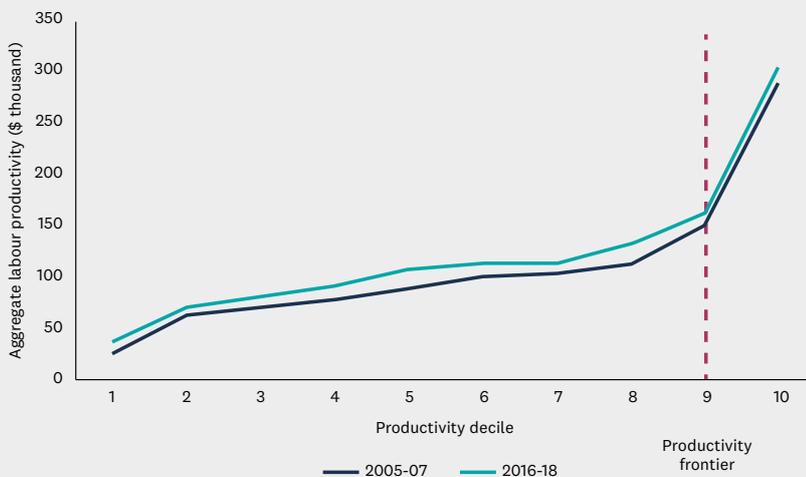
The productivity of frontier firms differs across industries due to variations in underlying industry dynamics, such as the level of competition, capital intensity and R&D investment. New Zealand's leading

industries in terms of labour productivity include construction, and Information, Communications and Technology (ICT).

Naturally, the composition of firms within the productivity frontier changes over time as the relative performance of individual firms change. While firms may enter and exit the frontier, a significant number of New Zealand firms remain within the group of top performing firms over many years.

A dynamic pipeline of high-performing innovative businesses is essential for pushing out the productivity frontier over time, and new high-performing businesses will compete with existing frontier firms for market leadership. The pipeline may include early-stage, pre-revenue, high-growth technology businesses that exhibit the characteristics of frontier firms, but have low productivity in financial terms. These firms may be highly productive on other relevant measures and are an important feeder to both the productivity frontier and long-term aggregate productivity.

Figure 1: Labour productivity by multi-factor productivity decile 2005-07 & 2016-18



Source: New Zealand Productivity Commission (2021), New Zealand firms: Reaching for the frontier (Final report).

A dynamic pipeline of high-performing innovative businesses is essential for pushing out the productivity frontier.

[2] Other definitions of frontier firms may point to attributes other than measures of productivity.



DIFFUSION OF TECHNOLOGY AND KNOW-HOW

Frontier firms play an important role in channeling information, technologies, and know-how from the world's best performing firms to other, less productive New Zealand businesses. This role is especially valuable to businesses with limited or no international operations and few resources.

The process, often referred to as technology diffusion, plays out in many ways. For example, the early adoption of technology or business practices by frontier firms and the resulting value will, over time, incentivise technology uptake by less productive businesses. In this way, the actions of frontier firms help to de-risk capability building and investment in technology for businesses operating below the frontier.

The diffusion of information and technology across the productivity frontier happens through interactions between businesses, entrepreneurs and the wider economic community. While new knowledge generally flows from better performing to lesser performing businesses, it needs to be acknowledged that the process is messy and takes time.

The ability of all firms to absorb external information and technology depends on their existing capabilities and capacity to learn, a key driver of innovation. The rate of change in firm performance is often directly aligned with the speed at which they can learn, adapt and innovate.

CASE STUDY: EMIRATES TEAM NEW ZEALAND (ETNZ)

From know-how to innovation

Emirates Team New Zealand (ETNZ) exemplifies the power of organisational learning. The organisation models superior innovation performance through the process of knowledge accumulation. When they couldn't find the technology to help with social distancing in the workplace during COVID-19 lockdowns, working with network partner Igtimi and leveraging existing know-how, they built their own. Noting necessity breeds invention, Dan Bernasconi, ETNZ Head of Design, says, "problem-solving is part of the organisation's culture, adding: "we're lucky that we can attract the very best people in their field."

PUSHING THE BOUNDARIES

Having established the importance of New Zealand's frontier firms for overall economic performance, we also need to compare their contribution to frontier firms in other countries. The facts are confronting. Despite the exceptional performance of our leading businesses domestically, on average they remain the least productive among international peers (Small Advanced Economies), as shown in Figure 2 below. Moreover, the productivity gap appears to be widening in some instances.

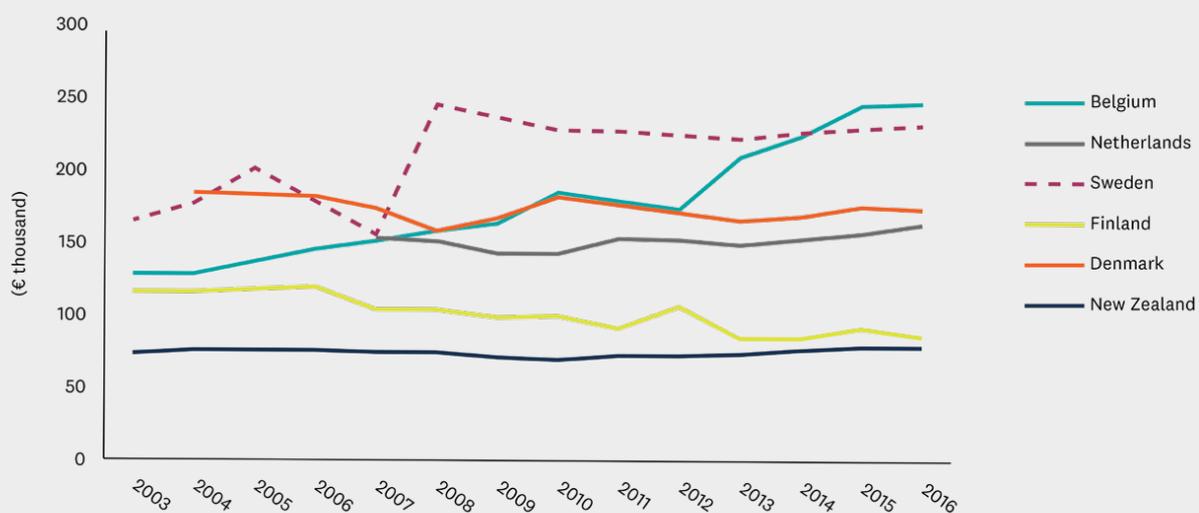
The comparatively low productivity of our best performing firms, in comparison with their international peers, aligns with other, broader measures of productivity for New Zealand. Many long-understood features of New Zealand's economic landscape contribute to productivity gaps with other countries, particularly difficulties innovating and commercialising products and services from a small, remote market. Going forward, overcoming known challenges is essential for closing the gaps.

To move the needle on Auckland's productivity, increasing the number, size and performance of the region's frontier firms is crucial. Equally, growing the productivity of the wider business population – more businesses operating more productively – will also yield significant economic benefit. Shifting this larger group of businesses to higher levels of productivity may be our 'quick win' opportunity.

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The focus of our research is frontier firms. We aim to shed light on the attributes and practices of frontier firms that better enable them to absorb new technologies, what those technologies are, and where they come from. While our insights will be of interest to frontier firms, our primary goal is to learn from these high performing firms for the benefit of aspiring, growth-oriented firms currently sitting below the frontier.

Figure 2: Labour productivity of national frontiers, 2003–2016



Source: New Zealand Productivity Commission. Working paper 2021/01. Benchmarking New Zealand's frontier firms



About the study

We interviewed eight businesses with the hallmarks of frontier firms³.

Using a simple measure of labour productivity across our research sample, we calculated an average figure of approximately \$600,000 per employee. This includes two businesses generating around \$1 million turnover per employee. Productivity figures for firms at the lower end of the range may be understated due to aggressive, early-stage international expansion and investment.

Three additional interviews were conducted with sub-frontier businesses to provide contrasting perspectives. This group's average labour productivity was approximately \$233,000 per employee. A further seven interviews were held with various subject matter experts (see the full list of interviewees at the end of this report).



\$600K

AVERAGE LABOUR
PRODUCTIVITY
(FRONTIER FIRMS)



\$233K

AVERAGE LABOUR
PRODUCTIVITY
(SUB-FRONTIER FIRMS)



\$1M

AVERAGE LABOUR
PRODUCTIVITY OF 2
TOP FRONTIER FIRMS

[3] Due to the difficulties in identifying frontier firms based strictly on quantifiable measures of productivity (which would require access to voluminous financial data for many individual firms and therefore outside the scope of the current exercise), we instead vetted a number of candidate firms from across higher-productivity sectors, including via rudimentary productivity analysis, where possible.



Key findings

Some aspects of our findings are unsurprising – frontier firms are differentiated by a stronger, more consistent global focus, greater export intensity, and dedicated R&D functions. They tend to be larger than other firms and employ workers with more extensive management and technology skills.

Though our insights touch on most of these themes, we also looked for attributes that paint a more subtle picture of what makes frontier firms tick, including

how they engage with their external environment and for practical insights that can be applied by other businesses.

SHARED SUCCESS FACTORS OF FRONTIER FIRMS



Exploiting a global market niche



Leaders' exceptional credentials and experience



Focus on the customer



Leaders are prolific networkers and learners



Relentless, deep innovation for market leadership



Elevated focus on governance



Intense focus on execution



Investment in expert advice



EXPLOITING A GLOBAL MARKET NICHE

Our findings support research that shows New Zealand’s comparatively small frontier firms succeed internationally by carving out a market niche, matched to an appropriate business model.

- **Wellington Drive Technologies** dominates a narrow but significant market for specialised refrigeration technology. Design leadership in digitally enabled hardware, particularly in Latin American markets where the company has a long-standing foothold, enables it to maintain its competitive edge and achieve 20 per cent annually compounding growth.
- **Bobux** is a specialist manufacturer of high-end children’s footwear, generating around \$1 million in revenue per employee. The company maintains leadership of its segment through aggressive branding that focuses on foot health, achieved through quality product design and manufacturing.
- **The Pure Food Co** is a New Zealand Trade and Enterprise Fast 700 client with around 80 per cent compounding annual growth. The company manufactures food products for the aged care sector using specialised ingredients and techniques, making it unique in the global market.
- **Sentient Software** produces Cloud Enterprise Portfolio Program Management solutions and leverages an established foothold in Australasia and avoids the US market, seeing it as too competitive.
- **Dodson Motorsport**, a manufacturer of specialised performance car parts, believes New Zealand’s strength lies in its isolation. The firm’s relatively low global visibility helps to protect its market space and reduce the risk of losing staff and IP to competitors.



FOCUS ON THE CUSTOMER

An intensely customer-centric mindset towards product design and the innovation process is a characteristic of these frontier businesses. This typically requires significant investment in technology development based on close interactions and alignment with customer needs. Dodson Motorsport’s CEO, David Sweas, says “Salespeople in the US enable face time with customers. Without this we’d be dead in the water.” Customer centricity is described as “getting ahead of customers”, engaging with them systematically before, during, and after the business transaction.



RELENTLESS, DEEP INNOVATION FOR MARKET LEADERSHIP

Constant innovation, including investment in R&D, is considered essential for success, and is therefore a key strategic focus. However, there are differences in the approaches taken among our group of frontier firms. An innovation mindset is built into the company culture of each firm, with a broad expectation that everyone provides input to new ideas. Steve O’Neil from Sentient Software believes in creating a safe place to make mistakes, which encourages staff participation in the innovation process. Likewise, Mike Sweet from EROAD, makers of vehicle and asset tracking technology, refers to a shared responsibility for finding and proposing new ideas.

These leading firms also look globally for sources of innovation and actively foster offshore networks. Andrew Sharp, formerly of Bobux, says “Getting a global network for idea flow is key. We look to whoever is the best in the world to solve particular problems.” He cites relationships with a diverse group of global titans including Lego, Nike, and in New Zealand, Fisher and Paykel Healthcare. Several of the companies interviewed only look globally for technology trends and ideas due to their market leadership position in New Zealand.

Innovation strategy is also a leading factor in firms’ investment decisions. The Pure Food Co has in-house manufacturing facilities for greater control and faster innovation. The company has invested heavily in R&D to establish its reputation as an innovator and has recruited the appropriate skills and knowledge with the aim of improving its innovation process. Several of the interviewed firms have prominent R&D teams with substantial annual expenditure on new product development.



INTENSE FOCUS ON EXECUTION

The emphasis on execution is a consistent feature of our frontier firms – converting strategy to action. This includes a focus on systems and processes, but with a recurring theme of strict prioritisation of activity and investment. Formal business casing and investment decision funnels are common for assessing new technology proposals.

David Howell of Wellington Drive Technologies references the systematic prioritising of new opportunities on the basis that “there are always more ideas than we can execute on.” He cites a current project to evaluate an exciting new technology using these processes. Sentient Software consults a “trusted community” of companies to help with evaluating new technology options.

The Pure Food Co uses a ‘stage and gate’ model in their evaluations, while David Sweas at Dodson Motorsport cites the need to be systematic and do things in the correct order. He advises taking a step back to see what’s causing an issue, “then wipe it out.”

Grant McKinlay at Epicurean Dairy says the company achieves competitive advantage by being highly agile, enabling them to keep in front of the product life cycle. He refers to the constant tension in capital investment decisions; for example, the tension between lowest-cost production facilities, and more agile but less efficient configurations.

High investment in enabling technologies, both software and hardware, is universal among the frontier firms. Several cite the challenge of pinpointing the optimal spend on technology to maximise return on investment. Andrew Sharp, former Bobux CEO, says “businesses need to be really targeted in their choice of technology or it gets too expensive.” The Pure Food Co emphasises the need to be clear on the firm’s strategic pillars and not split energy across too many priorities.

Some firms also use Agile management methodology, particularly within technology teams. However, EROAD’s Mike Sweet says the practice, like all management initiatives, needs to be deliberate and supported by the business to be successful. He says investing in both technology tools and management practices is critical for enabling growth, but these are areas often neglected when everyone is busy.

All interviewees stress the importance of their people for effective business delivery. EROAD, for example, invests heavily in staff development and supports everyone to develop their career for their time at the company and beyond.

High investment in enabling technologies, both software and hardware, is universal among the frontier firms.



LEADERS’ EXCEPTIONAL CREDENTIALS AND EXPERIENCE

The ambition and performance of every business participating in the research is inspiring, as are the interviewees themselves. While leaders of frontier firms would be expected to be highly experienced and skilled, the extent of their credentials is often remarkable.

Several interviewees from frontier firms cited a combination of three distinctive credentials: corporate work experience, offshore corporate experience, and extensive academic qualifications.

- Co-founder of The Pure Food Co, Sam Bridgewater, worked in investment banking overseas and has degrees in law and finance.
- David Sweas, CEO of Dodson Motorsport, is experienced in mergers and acquisitions in the US, and has a dual degree in business and engineering management. He says his experience taught him the art of business from a more strategic perspective.
- Steve O’Neil, founder of Sentient Software, had over 20 years’ experience in big corporate before starting his company. He says the experience taught him lots of common-sense business practices and the concept of strategic selling.



- One research respondent noted the value of strong founder capability when dealing with venture capitalists and financiers. Commercial experience and expertise helped avoid perceptions of someone being “just another entrepreneur with a hockey stick” (a term often used to describe projected exponential company growth).
- Two interviewees noted the importance of fit between their personal leadership capabilities and the needs of the firm, stating their willingness to step aside if a different set of capabilities became necessary in the future to take the business to the next level. Another interviewee believes “the lack of acceptance of these different needs can be a limiting factor for New Zealand businesses.”



LEADERS ARE PROLIFIC NETWORKERS AND LEARNERS

Frontier firms are outward facing – scanning, monitoring, and engaging their external environment for new opportunities to drive innovation and business growth. The ability and willingness of company founders, managers and board members to continuously monitor and engage with external stakeholders is a key source of advantage and a function they keenly understand to add value.

In several cases it is also clear that external scanning is not just a function of job description or a business need but is driven by a more personal motive: a voracious appetite for learning. In some instances, this is also highly systematic.

Andrew Sharp, for example, cited his personal reading habits. He aims to read a business or science book a week and two fictional stories a month to help build skills in storytelling, which underpins the company’s branding strategy. He meets with New Zealand Trade and Enterprise and key partners monthly and spends most of his time generally networking and socialising, looking for new ideas and inspiration.

There is also variation in the approach to environmental scanning. Steve O’Neil from Sentient Software says he is always scouting for new technology, which is often not available in New Zealand. Before the COVID-19



The Pure Food Co

pandemic, Steve took at least one international trip of discovery each year to meet with big international players. He prefers to leapfrog local company offices and head straight to their international headquarters.

These leadership practices within frontier firms are important because of their influence on company culture, in particular, attitudes to learning and innovation. If a firm’s innovation potential lies with its people and is always growing, then the capacity of its leaders to keep learning and applying new ideas and technologies is critical to success.

Frontier firms are outward facing – scanning, monitoring, and engaging their external environment for new opportunities to drive innovation and business growth.



ELEVATED FOCUS ON GOVERNANCE

Robust governance stands out as a focus for our frontier firms. The model of governance varies across our sample, however all firms recognise the value that a quality board and tight oversight can bring to the business.

Former Bobux CEO Andrew Sharp reported directly to the board (rather than the founder) and says he expected to be constantly challenged by its members. He believes “a compliant board is not a good board” and that too many businesses surround themselves with people they like or who always agree with them, rather than people who put the brand’s best interest first. Sam Bridgewater at The Pure Food Co agrees that strong governance is critical. He says his company has much stronger governance structures than is usually the case for a company at their stage of development. This is largely due to the influence of his business partner, who is also board chair.

Several interviewees say the experience and networks of board members are invaluable to their businesses. A mix of relevant skills among board members is also critical to success and likely to evolve with firm growth – for example, one research respondent recently added a new board member with expertise in technology and ecommerce to address a specific capability gap.



INVESTMENT IN EXPERT ADVICE

Frontier firms understand the value of good advice, with many making extensive use of expert consultants.

Sam Bridgewater at The Pure Food Co says he has previously used best-in-class consultants, including experts in supply chains. The costs were offset by support from New Zealand Trade and Enterprise, and he says the opportunity to work with these experts has been phenomenal for the business.

David Sweas from Dodson Motorsport says the company has used consultants in a variety of areas, including production methods, marketing, and human resource management – the latter being a “game-changer” for the business. He says the firm is also never shy of “harvesting” the best practices of other businesses too.

One respondent notes that not investing in good advice is a common problem among New Zealand businesses, citing examples of firms believing they can “go it alone” when trying to set up sales teams in the US and failing.

OTHER NOTABLE BUSINESS PRACTICES



Rapid product innovation

This strategy includes staying at the forefront, or even leading the product development life cycle, and application of start-up methodology focused on co-design, prototyping, fast iteration, and fast-fail practices.



Remote working

Most respondents already had digital capability for remote working before COVID-19. However, lockdowns drove changes in behaviour that embedded digital in day-to-day work practices.



Data-driven

Several respondents cite the importance of data in their business practices and internal benchmarking; 'hard' metrics for continuous improvement are common.



Lean production

This is universal across our survey sample and an important driver of productivity.

NOTABLE EXCEPTIONS

With two exceptions, our sample firms perform relatively light external benchmarking of performance, though some have projects underway to develop capability in this area.

Competitor monitoring is routine but is generally not systematic. A few respondents cite competitor monitoring as a distraction and say that accessing reliable competitor data is difficult. Bobux benchmarks its Net Promoter Scores (NPS) against

Tesla Corporation's and sources industry data from Ask Nicely.

A common theme is a desire to keep firms relatively small to protect company culture, believing it helps recruitment. This may be a barrier to scaling even New Zealand's best performing businesses, with implications for firms' global competitiveness and for Auckland's economy.

CASE STUDY: SENTIENT SOFTWARE

Māori principles at the frontier

Sentient Software embodies the Māori values of founder Steve O'Neil. Of Te Aupōuri heritage, Steve believes good business is about "respecting people; respecting their mana" and taking a long-term view of relationships to build value. In practice, this means pursuing an alignment of values between the business and its customers, while sticking to one's own principles.

OTHER SOURCES OF NEW IDEAS, KNOW-HOW AND TECHNOLOGY



Internationally sourced technology

Frontier firms routinely acquire new technology internationally due to lack of availability locally. In doing so, these firms can channel global innovations to businesses with weaker connections to global markets and suppliers.



Government agencies

Most firms interviewed are enthusiastic users of, and advocates for, government services, notably New Zealand Trade and Enterprise (NZTE) and Callaghan Innovation. Several firms have accessed Callaghan Innovation's R&D funding programmes and one interaction involved 'borrowing' a robot for product testing.



Student recruitment

All interviewees are keen recruiters of university interns and graduates. They are seen to not only bring fresh capability to the firms, but in some cases provide a channel into new and emerging innovation and capability within universities, which businesses occasionally tap into to help inform technology investment decisions.



Conferences and trade shows

Prior to COVID-19, most frontier firms regularly attended international conferences and, to a lesser extent, trade shows to stay up to date with global trends and technologies. One interviewee notes the importance of having Kiwi accents on the stand at trade shows; to be proud of and push the New Zealand brand.



Customers and suppliers

Customers and suppliers are valuable sources of market insights and innovation opportunities for frontier firms. Many respondents engage with customers deeply and systematically.

NOTABLE EXCEPTIONS

Our interviewee firms have surprisingly limited engagement with New Zealand universities and the wider research sector for R&D purposes. Explanations for this include difficulties aligning timelines and availability between businesses and researchers for R&D activities, cost, or navigating the complexities of tertiary institutions to connect with the right researchers or resources. Firms are, however, enthusiastic recruiters of graduates and interns for in-house R&D projects. Improving connections between frontier firms and universities is an important way to create higher-value innovation and sustainable competitive advantage, both within firms and the wider economy.

Hiring decisions are a critical factor in building firm capability. New hires bring fresh ideas, skills and experience and play a part in technology diffusion. Sentient Software uses staff 'recycling' as a capability-building tactic, believing a positive company culture encourages alumni to return to the firm, bringing new benefits. One worker has cycled through the business three times, with intervening stints at Google, eBay and Foxtel.

Katherine Swan from global recruitment agency Randstad says a company's brand is increasingly important for attracting the best staff, noting that job hunters are increasingly selective in whom they choose to work for.

Mentorship is an excellent learning tool and common among our research sample. Several interviewees are mentored and mentor others.

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EXTERNAL BARRIERS TO CAPABILITY BUILDING



Board member and Chief Executive (CE) capability

Several interviewees make the connection between firm performance and board and/or management capability, citing the contribution of board networks and experience. However, the supply of suitably qualified people in Auckland for these roles is limited.



Recruitment and retention of world-class talent

Respondents face challenges in recruiting staff with the right skills. While they value internationally experienced employees, meeting salary expectations is a big challenge. Staff upskilling is an alternative to specialised recruitment but slows down adaptability. EROAD's Mike Sweet says New Zealand has capability gaps: "We lack people who've worked in successfully scaled international organisations, resulting in gaps in critical areas such as user experience and product management." David Sweas at Dodson Motorsport sees a shortage of capability in driving sales and attracting capital as a widespread challenge for Auckland firms.



Quality of technology consultants and vendors

All frontier firms invest heavily in digital technologies. However, they report a variety of experiences in their dealings with technology vendors and consultants, including poor engagements. One respondent cites experience with software consultants who lack the necessary capability and have to buy in the required skills during the contracting process.



Technology costs

Technology costs are a problem for all respondents. A recurring theme is that buying the gold-plated version of a product was not generally necessary – in other words, near enough is generally good enough. However, off-the-shelf digital technology is often not well suited to business requirements and can be difficult and expensive to customise.



Shallow industry-specific networks

Despite the tendency among interviewees to network prolifically, some comment on difficulty identifying relevant industry networks – possibly due to their niche operating environments.



Frontier firms and other businesses – similarities and differences

Our research also included interviews with three businesses we assessed as sub-frontier firms⁴. The aim was to enrich the overall findings by drawing comparisons between these three businesses and our larger group of frontier firms, including testing assumptions about their differences.

The two groups share many similarities, including being active innovators, having systematic management practices, a global outlook on new technologies, a focus on continuous improvement, and a high level of digital enablement. Both groups value their people as their

number one asset, encourage collective environmental scanning and take a customer-centric approach to business. Above all else, founders and managers in both groups share a passion for entrepreneurship, their businesses, and an unwavering ambition to succeed. However, shared business practices do not equate to similar business performance. Our research identifies important layers in the depth and application of the practices that set frontier firms apart.

[4] The target group for sub-frontier firms was growth-oriented SMEs with estimated middling levels of productivity. Interview questions were nearly identical for both groups.

DESPITE SIMILARITIES, THE FINDINGS REVEAL IMPORTANT DISTINCTIONS



Market opportunity

The mostly domestic focus of each sub-frontier firm in our group contrasts with frontier firms' global footprint. The findings support other evidence that exporting and international operations are important differentiators of frontier firm performance, including higher productivity^{5,6}. Exporting enables participation in niche global value chains and exposure to heightened competition that drives innovation and adoption of sophisticated business models. The primarily domestic focus of our sub-frontier firms is both a product and driver of their respective business capabilities and strategies. For example, each company's position in its industry's value chain and choice of business model shapes its competitive positioning, innovation opportunities and investment decisions. To pursue higher productivity through international expansion, a fundamental change in these companies' growth strategies would be necessary.



Depth of innovation

Frontier and sub-frontier firms have different interpretations of innovation and vastly different innovation practices and outcomes. Frontier firms, for example, demonstrate innovation activities and opportunities across a wider range of dimensions, such as systems, processes, products, and R&D-led innovation. Sub-frontier firms more commonly perceive product customisation as innovation. The distinction is important for business scalability, competitive advantage and developing value-creation opportunities. A high proportion of the value in the products of sub-frontier firms comes from embedded or assembled technologies they acquire elsewhere. While they create value beyond these inputs, their returns to innovation may be lower than those of other industry players.



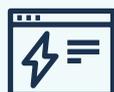
Focus on execution

Changes to operational practices within sub-frontier firms appear more commonly issue-driven than strategic. In contrast, frontier firms show a significant step up in their sustained use of multiple contemporary business practices, often applied at the same time. We earlier noted a particular focus of frontier firms on prioritising investment, including in new technologies and product innovation. While sub-frontier businesses also prioritise investment, their internal processes generally appear less rigorous and frequent – again possibly associated with lower business complexity and a slower pace of innovation.



People matters

There are two areas of difference: staff recruitment and development. Frontier firms often experience challenges recruiting for niche skills. They also take a deliberate, systematic approach to professional and personal development, demonstrated by staff development plans. Overcoming these challenges involves placing significant stock in frontier firms' brands and reputations, combined with a strategic focus on culture building to attract and retain talent.



Environmental scanning

Each group's approach to environmental scanning and technology acquisition differs, both in terms of the information they look for and how it is applied. For example, each sub-frontier firm has acquired machinery and technology from overseas to meet specific needs and innovation opportunities. Frontier firms have ongoing engagement with global networks and businesses, including adjacent sectors, with a wider focus on learning and capability building aimed at growing their overall capacity to innovate.

[5] Fabling, R. (2021). Motu Working Paper 21-01. Living on the edge: An anatomy of New Zealand's most productive firms.

[6] The research finds frontier firms have greater export 'intensity', meaning where they do export, exports comprise a greater proportion of their output than that of sub-frontier firms. This is different to stating frontier firms are generally more likely to export – i.e., the research only finds weak association between exporting activity and frontier firms (or, in technical terms, a statistically insignificant relationship).



This report contains a number of practical insights for businesses of all sizes to lift performance and drive productivity.

Through the Regional Business Partner (RBP) Network programme, business and innovation advisors support businesses with capability building and R&D support, as well as providing advice, connections and resources for business growth and innovation.

Get in touch at business@aucklandnz.com

INTERVIEWEES

Interviewee

Mike Sweet
David Sweas
Andrew Sharp
Sam Bridgewater
David Howell
Grant McKinlay
Steve O'Neil
Dan Bernasconi

Sam Ramlu
Heidi Johnson
Genevieve Knights

Subject matter expert

Liz Wotherspoon
Dr Robin Mann

Nathan Stantiall
Will Charles
Katherine Swan
Shyamal Maharaj

Dr Wender Martins

Organisation

EROAD
Dodson Motorsport
(formerly) Bobux
The Pure Food Co
Wellington Drive Technologies
Epicurean Dairy
Sentient Software
Emirates Team
New Zealand
Method Studios
Windowmakers
Genevieve's

Organisation

The Icehouse
New Zealand Business
Excellence Foundation
Callaghan Innovation
UniServices
Randstad Recruitment Agency
Auckland Council Chief
Economist's unit
The University of Auckland

REFERENCES

- Fowcs-Williams, I. Galwey, D & Wilson, D. (2021). NZ: Prisoner of an outdated paradigm. Submission on New Zealand Productivity Commission Draft Report Reaching for the Frontier.
- Fabling, R. (2021). Motu Working Paper 21-01. Living on the edge: An anatomy of New Zealand's most productive firms.
- Harris, R. & Le, T. (2018). Motu Working Paper 18-01. Absorptive capacity in New Zealand Firms: Measurement and importance.
- Lewis, G. Garden, S. Shafiee, H. Simmons, G. & Smith, J. (2021). Frontier firms: Four industry case studies. New Zealand Productivity Commission working paper 2021/02.
- Martin Jenkins (2021). International manufacturing policy and programme responses to COVID-19. Final Report.
- Ministry of Business, Innovation and Employment (MBIE) (2020). Business investment in New Zealand. A literature review. CEU Working Paper 20/01.
- New Zealand Productivity Commission (2020). New Zealand firms: Reaching for the frontier: Draft report.
- New Zealand Productivity Commission (2021). New Zealand firms: Reaching for the frontier. Final report.
- New Zealand Productivity Commission (2021). Productivity by the numbers.
- Skilling, D. (2020). Frontier firms: An international small, advanced economy perspective. Submission to New Zealand Productivity Commission.
- Smart Industry Readiness Index (www.siri.gov.sg/)
- Teece, D. (2017). New Zealand Economic Papers. A capability theory of the firm: an economics and (strategic) management perspective. www.tandfonline.com/doi/full/10.1080/00779954.2017.1371208
- Teece, D. & Brown, K. (2020). BRG Institute. New Zealand Frontier Firms: A Capabilities-Based Perspective. Submission to New Zealand Productivity Commission.
- Zheng, G. Duy H. & Pacheco G. (2021). New Zealand Productivity Commission working paper 2021/01: Benchmarking New Zealand's frontier firms

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Anthony Gibbons

Economic Development Advisor - Innovation

E: anthony.gibbons@aucklandnz.com

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