A note from our Director

Tēnā koutou katoa,

COVID-19 dominated 2020, but despite border restrictions and other challenges, our researchers were able to complete key projects and NZIBR continued to host a series of successful international events. Where possible, we link our research with international stakeholders to amplify impact. For example, in February, we hosted the Ministry of Science and Technology (MOST) Taiwan, to explore research collaboration opportunities related to the Āmiomio Aotearoa (Circular Economy) research programme. We also connect with international experts to stay current on research methods and disciplinary advances. For example, we hosted Professor Jeremy Short (University of Oklahoma) and Assistant Professor Aaron Anglin (Texas Christian University) for a Computer-Aided Text Analysis workshop.

Our externally funded research ranges from global clients, like Professor Riccardo Scarpa’s work with the Centre for International Economics, to national clients, for example, Professor Frank Scrimgeour’s research for the New Zealand Road Transport Forum.

Our focus is to enable and facilitate transdisciplinary research as our joint events with the Artificial Intelligence Institute and the Environmental Research Institute demonstrate. In addition, our training programmes, such as the leadership training conducted in partnership with Community Enterprise Leadership Foundation (CELF), is an important part of our work.

Next year, in 2021, NZIBR celebrates its 10-year anniversary. We plan to celebrate the accomplishments of the last decade and articulate a vision for NZIBR for the next ten years. Our work will include integration of the recommendations from the Racism Taskforce to ensure Mātauranga Māori is thoughtfully and respectfully woven into all our activities.

NZIBR is the source for independent analysis and insights into issues impacting New Zealand and global business, government and society. An overview of our key research activities and accomplishments are provided in this 2020 annual research report.

Associate Professor Eva Collins
Director, NZIBR
Our vision and mission

At the New Zealand Institute for Business Research (NZIBR), our business is adding value to your business or organisation.

NZIBR draws on the expertise of leading scholars from the University's Waikato Management School and across the University to deliver research projects of high value to the business community and wider society that will help drive long-term sustainability and shareholder value.

We work with industry, government agencies and other organisations to enhance their performance, productivity, and sustainable business.

Public policy projects are also an important part of our work programme. Our people have a wealth of knowledge in areas ranging from economic impact analysis, strategy and leadership, to marketing, innovation and entrepreneurship.

We publish high quality research in both professional outlets and in academic journals.

waikato.ac.nz/nzibr
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### Staffing

**Associate Professor Eva Collins**  
*Director*

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<th>Photo</th>
<th>Name</th>
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<tbody>
<tr>
<td>![Professor Les Oxley]</td>
<td><strong>Professor Les Oxley</strong></td>
<td>Co-Director, Responsible &amp; Sustainable Management Unit</td>
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<tr>
<td>![Professor Juliet Roper]</td>
<td><strong>Professor Juliet Roper</strong></td>
<td>Co-Director, Responsible &amp; Sustainable Management Unit</td>
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<tr>
<td>![Professor Shikhar Sarin]</td>
<td><strong>Professor Shikhar Sarin</strong></td>
<td>Co-Director, Enterprise Innovation Unit</td>
</tr>
<tr>
<td>![Professor Siggi Gudergan]</td>
<td><strong>Professor Siggi Gudergan</strong></td>
<td>Co-Director, Enterprise Innovation Unit</td>
</tr>
<tr>
<td>![Dr Maree Roche]</td>
<td><strong>Dr Maree Roche</strong></td>
<td>Co-Director, Leadership Unit</td>
</tr>
<tr>
<td>![Dr M. Roche]</td>
<td><strong>Dr M. Roche</strong></td>
<td>Co-Director, Leadership Unit</td>
</tr>
<tr>
<td>![Dr Vijay Kumar]</td>
<td><strong>Dr Vijay Kumar</strong></td>
<td>Research Fellow</td>
</tr>
<tr>
<td>![Amanda Wilson]</td>
<td><strong>Amanda Wilson</strong></td>
<td>Research Administrator</td>
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### Associate Researchers

All Management School staff and those from other Faculties who are involved in externally funded research projects and consultancies administered through NZIBR are considered to be associate researchers within NZIBR.

In 2020, the main contributors were: Dr Anna Strutt - Professor of Economics; Dr Frank Scrimgeour - Professor of Economics; Dr John Oetzel - Professor of Management Communication; Dr Michael Cameron – Associate Professor in Economics; Dr Ricardo Scarpa - Professor of Economics; Dr Susan Olivia - Senior Lecturer in Economics; Dr John Gibson – Professor of Economics

Furthermore, Co-Directors, Associate Professor Peter Sun and Dr Maree Roche (Leadership Unit) and Professor Les Oxley (Responsible and Sustainable Unit) also procured externally funded projects.
The year in perspective

NZIBR delivered and/or sponsored many successful events, seminars, workshops and collaborations in 2020. An overview of the Institute’s key research activities and accomplishments are provided below.

NZIBR and Circular Economy hosts international delegation MOST

NZIBR hosted a delegation from Project Promotion Office for Development of High-Value Added Materials and Technologies from Waste and Renewable Resources in Circular Economy, Ministry of Science and Technology (MOST), Taiwan to explore research collaboration opportunities related to the circular economy. The meeting was held at Waikato Management School, hosted by the University’s Āmiomio Aotearoa (Circular Economy) research team, and several discussions were held around high value products from waste recycling, key materials and techniques for circular process.

How peer-to-peer asset sharing services promote product purchase

Tomas Falk, Professor of Marketing, University of Mannheim, conducted a well-received presentation “Buying to share: How peer-to-peer asset sharing services promote product purchase” at Waikato Management School. His research presented positive links on how peer-to-peer asset sharing services promote and influence product purchase. He argued that people share houses so why not other commodities such as vehicles? Retailers may in future need to re-evaluate their message and incorporate peer-to-peer selling as part of their product campaign.

The Boundaries of Professional Expertise in Advertising and Marketing

Douglas West, Professor of Marketing – Kings College London, presented ‘The Boundaries of Professional Expertise in Advertising and Marketing’. From a professional perspective the findings suggest that organisations would save resources (principally time and budget) by delegating selective tasks to junior executives.
A double-presentation on two diverse topics

Gregor Gall, Professor of Industrial Relations – University of Glasgow, University of Leeds, presented two research topics. His first presentation 'Sex Workers: The struggle to establish collective identity and interest' centred on the importance of unionising and decriminalising workers. His second presentation 'The Torrid Troika: The importance of studying power, ideology and material interest in work and employment' was also well received.

Computer-Aided Text Analysis Workshop

Waikato Management School and the New Zealand Institute for Business Research provided an outstanding opportunity for scholars across a range of disciplines who are interested in utilising text data, with two very engaging scholars, Professor Jeremy Short (University of Oklahoma) and Assistant Professor Aaron Anglin (Texas Christian University).

The objective of this workshop was to demonstrate how to practically extract meaning from text using the Computer-aided Text (CATA) method applied to management research.

WMS and the Department of Computer Science: Workshop collaboration

Academics from the Department of Computer Science and WMS took part in a half-day workshop hosted by NZIBR and TEC Entrepreneurial Universities Initiative: Real-Time Analytics of Big Data? The purpose of this workshop is to create a networking platform and partnership on a research programme funded by TEC: Entrepreneurial Universities.

Professor Bernhard Pfahringer and Professor Albert Bifet from Computer Science, gave interesting presentations on Machine Learning technology, Big Data and AI applications in management. This was followed by group discussions around data decision making and culture and how AI is applied to human behaviour and environment sustainability.
Product market competition, platform business model and firm performance

Dr Shivendu Pratap Singh, WMS Lecturer in Digital Business, gave a compelling talk on Product market competition, platform business model and firm performance. He focused on the impact of product market volatility on firms’ performance and explore the platform business model as a strategic business choice to avoid/mitigate such effects. He also discussed how firms adopting the platform business model, as part of their business strategy, not only perform better overall but also mitigate the adverse effects of product volatility better.

Beyond surveys and interviews: Using think-aloud protocols for research

Dr Antoine Gilbert-Saad, WMS Lecturer in Innovation and Strategy, discussed ways think-aloud protocols provide a validated approach to elicit verbal reports that capture a participant’s thoughts, actions, and feelings. Antoine introduced the method and its development, presented potential applications, and familiarised participants with the steps involved in the process. An interesting example was used where a participant was observed on peeling an apple and actions verbalised.

A collaboration with cross-disciplinary researchers: Introductions and opportunities

An interactive workshop was initiated between NZIBR and Environmental Research Institute. Cross-disciplinary researchers from WMS and ERI enjoyed the opportunity to collaborate and discuss their research and research interests in what was a fast-paced, energetic event!
In Pursuit of Relevance: Engaged scholarship in entrepreneurship and small business research

Dr Jonathan M. Scott, WMS Senior Lecturer in Strategic Management – Tauranga, discussed the effectiveness of engaged scholarship approaches and how this process enables management scholars to engage with small businesses and entrepreneurs. The effectiveness of this approach was discussed by addressing two key questions, namely how do universities (or business schools) engage with small firms and secondly, what are the implications of such engagement for their business?

Measuring public sentiments using artificial intelligence: A five-country analysis of public perceptions of entrepreneurship

Dr Amanda J. Williamson, WMS Lecturer in Innovation and Strategy, presented her latest research in AI which can help illuminate change in meaning and perceptions.

In this presentation, Amanda introduced an AI approach (word embeddings) that captures meaning in large volumes of text data, and shared preliminary results on how “entrepreneurship” has changed over 20 years in five countries (NZ, USA, CA, AU, IE, UK). These results indicate that gender bias in language is reducing in relation to entrepreneurship. Moreover, entrepreneurship’s association with other words is shifting over time. Entrepreneurship is moving away from government and complexity, and towards social words and crowdfunding. Finally, the language surrounding entrepreneurship differs between countries.
The BUU China-New Zealand Tourism Research Unit has been funded by Beijing Union University since 2020.

The purpose of the funding is to permit Professor Christopher Ryan to work with colleagues located in China, including colleagues at Beijing Union University to undertake research in China pertaining in tourism, support research contracts (Beijing University), to aid post-graduate students at both universities to undertake research; produce research articles in conjunction with those colleagues and help introduce Chinese scholarship to a western audience by publishing in well regarded (preferably SSCI) journals; and, to edit and publish articles of global interest in Tourism Critique: Practice and Theory.

In 2020 tourism research at WMS was globally ranked 38th by the Shanghai University Rankings in the field of tourism and hospitality research and teaching.

Professor Li Yanqin from Minzu University of the Nationalities and Associate Professor Nicole Zhou from Zheijiang International Studies University spent some time in Waikato before being able to return to China. Both were involved in visits to Whakawhakawera Village in Rotorua and collected various sets of data. It is still an intention to develop a paper arising from these data.
Short training programmes

CELF Elevate Programme

The Community and Enterprise Leadership Foundation (CELF), in partnership with the University of Waikato, Management School delivers the Elevate leadership programme.

This is a practical leadership programme that requires 18 days of participation over eight months for a selected cohort of up to 22 participants. The programme ensures balanced participation from all sectors (public, business, Not-For-Profit, and Charitable Trusts) with an equal mix from For-Purpose and For-Profit organisations.

Together this diverse group of established leaders embarks on a life changing leadership journey, where individual leadership is considered and nourished, and diverse and cross sector connections are forged.

As a way to acknowledge leadership in a year of exceptions CELF Leadership Week was born. In November, the final sessions for Class of 2020 were completed, a Tira Hoe (waka journey) with Alumni and the Class of 2020 cohort from Turangawaewae to Huntly and graduation celebrations where the presentation of the inaugural CELF Alumni Leader of the Year to Rachel Karalus was made.

The reputation and recognition of the Elevate Leadership Programme continues to grow. A recent UoW research project, funded by the WEL Energy Trust - Responsible Leadership Capital - Broadening Insights on Leadership Development validated the anecdotal evidence of the impacts of CELF's Elevate Leadership Programme for the individual, organisations and the community, identifying four dimensions of leadership capital: responsible human capital, spiritual capital, responsible social capital, and reputational capital.

With nearly 100 CELF Alumni in our community we are seeing the benefits of connectedness, through collaboration, communication and commitment.

“Over a tumultuous year, we have clearly seen the impact and importance of leadership, where our lives and livelihoods have been significantly impacted. CELF remains committed to growing leadership capability in the Waikato to support a stronger region from a social, environmental, cultural and economic perspective” - Associate Professor Peter Sun, Co-Director of NZIBR's Leadership Unit and a Trustee of the Community & Enterprise Leadership Foundation.
Research stories and case studies

Direct and indirect effects of Covid-19 on life expectancy and poverty in Indonesia

The spread of the Coronavirus and the threat of the associated disease (Covid-19) has resulted in an unprecedented set of economic and public health responses in Indonesia and elsewhere.

In a recent study funded by The Australian National University, WMS economists, Professor John Gibson and Dr Susan Olivia, analyse direct and indirect effects of Covid-19 and economic responses on life expectancy and poverty in Indonesia.

These two outcomes are viewed as indicators of the quantity and the quality of life. The analysis is partly motivated by a concern that current actions to reduce Covid-19 related deaths and morbidity may indirectly cause more deaths in future, due to a reduction in economic activity that is so great that lower future incomes reduce lower life expectancy below what it otherwise would have been.

Our analysis shows that the indirect effects on life expectancy, that operate through lower future income, exceed the direct effects of Covid-19 related deaths by at least five orders of magnitude. The reduction in long-run real income due to the Covid-19 shock may reduce life expectancy by up to 1.7 years, compared to what could otherwise be expected. In contrast, even if the Covid-19 death toll was 40-times worse, the direct effect is that life expectancy would fall by just two days. Given this imbalance between direct and indirect effects, any interventions to reduce the risk of Covid-19 must be finely targeted and must be mindful of the indirect effects. Otherwise, actions to prevent deaths from Covid-19 may end up doing more damage than good, by indirectly reducing life expectancy through lower future incomes.

Our analysis of the geographic pattern of poverty effects that is based on almost real-time mobility data is one example of how targeted interventions that are less fiscally costly might be developed. Such interventions should pose less of a burden to future growth and so may help to reduce the indirect effects of the Covid-19 shock. We also find that the effects of Covid-19 on poverty is spatially heterogeneous in Indonesia and the increase in poverty is especially higher in provinces that had lower initial poverty rates. This finding suggesting there is a need to broadening social assistance programs to cover not only the existing poor but also the new poor. While the Government of Indonesia has taken steps to mitigate the effects of Covid-19 on the poor, a lack of reliable data has caused the risk of mis-targeting as well as delays in the distribution of social assistance to eligible. The implication is that now may be an opportune time for government to evaluate the need to update and invest in innovative data collection methods on the poor for targeting purposes.
Waikato Projections in light of COVID

Michael Cameron, Associate Professor in Economics – WMS, one of New Zealand’s leading experts in population projections methodology, was sponsored by three local councils to investigate the projected demographic impact of the COVID-19 pandemic on the future populations of Hamilton City, Waikato District, and Waipā District.

The results provided an important input into the Long-Term Plan processes for each council, involving millions of dollars in council budgets.

AProf. Cameron found that the effect of the pandemic would be modest. There was little evidence of an impact (either upward or downward) on fertility, and New Zealand’s successful approach had prevented any discernible impact on mortality.

The main impact would arise from a lack of international migration flows in both directions. Over the previous few years prior to the pandemic, New Zealand had experienced among the highest net international migration flows on record, and migration has fallen by around 90 percent. However, once international borders re-open, a backlog of visa holders will likely want to come to New Zealand, and New Zealand has lost none of its attractiveness as a migrant destination. Coupled with a robust economy, it seems likely that New Zealand will return to high net international migration, albeit unlikely to be as high as before.

The net outcome on the populations of Hamilton, Waikato, and Waipā is somewhat slower population growth in the near term. More recent work of AProf. Cameron, based on 2018 Census data and a newly-developed population projections model, appears to corroborate this result.

Water consumption analysis in Italy: An in-depth survey on HERA SpA customers

HERA SpA is an Italian company engaged in the energy, water and environmental sectors. The company’s core activity in the energy sector is distribution and sale of methane gas.

Riccardo Scarpa, Professor in Environmental Economics - WMS, cooperated with REF-Ricerche, a Milan-based consultancy specialising in water utility analysis, to develop a nation-wide survey to study water customer satisfaction across Italy.

The survey employed methods inspired by behavioural economics and elicited consumer preferences to obtain estimates of willingness to pay for service improvement and willingness to accept compensation for service worsening.
This study will inform Italian policymakers in tailoring policies to the effect of making water services level converge across water service districts. The results of the survey were very well received as this was the first nation-wide exploration of this type.

As a secondary goal, the survey also explored the depth of understanding Italian water customers have of the recent system of governance of the residential water supply system. Levels of perceived satisfaction were then crossed with the internal water industry performance indicators, to explore whether they correlate in a meaningful manner. Finally, the components behind the construction of a sustainable tariff (environmental, social and economic) were explored.

Unsurprisingly, gain-loss asymmetry was confirmed by the data. Furthermore, a low level of information about the local water service management companies was uncovered, thereby motivating the strong need for an information campaign at the district level.

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**Social-oriented language on Artificial Intelligence Research**

The importance of social enterprises for addressing grand challenges is receiving increased recognition. Yet little is known about how to measure an enterprise’s level of social and environmental orientation from their communication, nor when such language helps or harms social enterprise performance.

Professor Bifet, established a collaboration between the AI Institute and Waikato Management School to begin shedding new light on this topic through the application of AI, with support of a competitive Entrepreneurial Universities funded summer internship.

Summer Intern and Graduate student, Eve Mann, with the supervision of Dr Amanda J Williamson, Professor Albert Bifet and assistance from Dr Heitor Murilo Gomes, drew on artificial intelligence to design an initial measure of socially and environmentally oriented language.

The measure employs 12,000 pages of text on social-environment topics, to classify how close this language matches the “about us” pages of corporate websites. The results of the research are being processed, and are poised to open many opportunities for its application. The team plans to utilize the measure to examine under what conditions socio-ecological language positively (and negatively) relates to firm performance. This research has the potential to break important ground in ecological and social enterprise research, by providing scholars with a state-of-the-art natural language processing tool for measuring social and environmental language that cannot be measured with traditional approaches. The team welcomes expressions of interest to extend this methodology into different contexts.
Externally-funded research and training programmes

In 2020, NZIBR generated total revenue of $240K\(^1\) from externally-funded projects and short-term training programmes. A brief overview of each project and programme is listed below.

### EXTERNALLY FUNDED PROJECTS

#### INTERNATIONAL PROJECTS

<table>
<thead>
<tr>
<th>Project Period</th>
<th>Principal Investigator</th>
<th>Name of Project</th>
<th>Sponsor</th>
<th>Revenue in 2020 (NZ$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>Professor Ric Scarpa</td>
<td>Peer Review – Australian Building Codes Board stated preference research</td>
<td>Centre for International Economics (CIE)</td>
<td>$6,250</td>
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<tr>
<td>2020</td>
<td>Professor John Gibson &amp; Dr Susan Olivia</td>
<td>Research article on the economic dimensions of COVID-19 in Indonesia</td>
<td>The Australian National University (ANU)</td>
<td>$10,800</td>
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#### DOMESTIC PROJECTS

<table>
<thead>
<tr>
<th>Project Period</th>
<th>Principal Investigator</th>
<th>Name of Project</th>
<th>Sponsor</th>
<th>Revenue in 2020 (NZ$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017 - 2020</td>
<td>Professor Riccardo Scarpa</td>
<td>Waikato and Waipā River Catchments submissions and hearing process – Healthy Rivers</td>
<td>Waikato Regional Council</td>
<td>$30,400</td>
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<tr>
<td>2020</td>
<td>Professor Frank Scrimgeour</td>
<td>New Zealand Operator Comparison</td>
<td>Road Transport Forum NZ</td>
<td>$26,000</td>
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<tr>
<td>2020</td>
<td>Professor Les Oxley</td>
<td>Ageing Well</td>
<td>Otago University</td>
<td>$3118</td>
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<tr>
<td>2020</td>
<td>Assoc. Professor Michael Cameron</td>
<td>Population projections post COVID-19</td>
<td>Hamilton City Council</td>
<td>$4,500</td>
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<tr>
<td>2020</td>
<td>Assoc. Professor Michael Cameron</td>
<td>Interim update to Waipā population</td>
<td>Waipā District Council</td>
<td>$4,500</td>
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<tr>
<td>2020</td>
<td>Assoc. Professor Michael Cameron</td>
<td>Interim update to Waikato population</td>
<td>Waikato District Council</td>
<td>$4,500</td>
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<td>2020</td>
<td>Professor Frank Scrimgeour</td>
<td>Rural Zone Technical Expert – Agri Economist</td>
<td>Waikato District Council</td>
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<td>2020</td>
<td>Professor Riccardo Scarpa</td>
<td>Peer Review of scenario work for Healthy Rivers</td>
<td>Waikato Regional Council</td>
<td>$1,200</td>
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</table>

\(^1\) The total revenue will not match the total revenue of listed projects as some projects are confidential.
SHORT-TERM TRAINING PROGRAMMES

In 2020 NZIBR conducted the following short-term training programme over 8 months and generated an overall revenue of approximately $75k.

<table>
<thead>
<tr>
<th>Year</th>
<th>Programme Director</th>
<th>Name of Project</th>
<th>Sponsor</th>
<th>Revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>Assoc. Professor Maree Roche</td>
<td>Totora Rangitaria Leadership Development Webinar</td>
<td>NZ Defence Force</td>
<td>$1,980</td>
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<td>2020</td>
<td>Professor Frank Scrimgeour</td>
<td>Peer review of survey module *Financial services: Conduct and culture survey</td>
<td>AskYourTeam</td>
<td>$1,500</td>
</tr>
</tbody>
</table>
Examples of research publications


ROCHE M; GOOD D; LYDDY C; TUCKEY M; GRAZIER M; LEROY H; HULSHEGER U (2020) A Swiss army knife? How science challenges our understanding of mindfulness in the workplace, *Organizational Dynamics*, online, 9pgs. DOI: [10.1016/j.orgdyn.2020.100766](https://doi.org/10.1016/j.orgdyn.2020.100766)


WEBB M; STRUTT A; GIBSON J; WALMSLEY T (2020) Modelling the impact of non-tariff measures on supply chains in ASEAN, World Economy, 43(8): 2172-2198. DOI: 10.1111/twec.12955