



12 June 2020

Kevin Bolt  
A/g Assistant Director, Business Characteristics Research and Engagement  
Technology, Innovation and Business Characteristics Statistics  
Australian Bureau of Statistics

Dear Kevin

**Re: Business Characteristics Survey collection redevelopment proposal**

Thank you for your email inviting submissions on the Australian Bureau of Statistics' proposal to redevelop the collection approach of the Business Characteristics Survey (BCS). The Australian Academy of Technology and Engineering (ATSE)<sup>1</sup> welcomes the opportunity to provide feedback.

The BCS is a valuable tool for providing insight into the activities of Australian businesses, and for evaluating innovation. ATSE supports the proposal to transition the BCS collection approach from an omnibus style collection to a subject specific approach, with some additional improvements, specifically the inclusion of indicators for digital readiness, and diversity and inclusion.

ATSE suggests the use of forward-facing indicators to reflect future data requirements of businesses of the future, which may include use of automation, the Internet of Things, and big data analytics. The BCS in its current form relies on backwards-facing indicators, which do not consider how well business is meeting the challenges of the future, or leading indicators. In particular, ATSE suggests that survey questions covering the Business Use of Information Technology (BUIIT) be expanded to reflect a greater focus on digital technology readiness, which may include assessing engagement or adoption of Industry 4.0 principles, or the application of the Internet of Things, sensor technology, automation and big data analytics. Other indicators of digital readiness may include 5G networks, cognitive enterprise and process automation. The use of technology-based indicators would allow a more forward-looking approach to characterising how Australian businesses are future-proofing and meeting strategic challenges.

Australian businesses are operating in an increasingly complex economic environment, and leveraging greater digitisation and automation. They are increasingly reliant on automation to scale their capabilities, and the digital transformation associated with automation in Australia is likely to be highly disruptive. Collection of more complex, granular data on the activities of businesses in this area will be very important to measuring innovation, productivity and workforce disruption, and will enable more

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<sup>1</sup> The Australian Academy of Technology and Engineering is a Learned Academy of independent, non-political experts helping Australians understand and use technology to solve complex problems. Bringing together Australia's leading thinkers in applied science, technology and engineering, ATSE provides impartial, practical and evidence-based advice on how to achieve sustainable solutions and advance prosperity.

appropriate planning for infrastructure, skills development, and other capacity-building investments, mechanisms and policies.

By 2030, it predicted that up to 5 million people in Australia will need to switch occupational categories due to the automation of up to 46% of workforce activities.<sup>2</sup> Assessing automation is therefore an important indicator of both business innovation and skills distribution.

With an increase in digitisation, businesses are also facing increasing cybersecurity challenges. Assessment of digital readiness should therefore also include consideration of cybersecurity capabilities.

ATSE recommends that measurement of diversity and inclusion is also included in the new survey, as diversity demonstrably improves innovation.<sup>3</sup> For example it has been demonstrated that women enable teams to perform more effectively,<sup>4</sup> and organisations with larger numbers of women in leadership positions yield better economic performance and outcomes.<sup>5</sup>

ATSE is currently working on a toolkit for small and medium sized enterprises (SMEs) to support and encourage diversity and inclusion, and would be pleased to assist the ABS with measurement indices if that would be helpful.

ATSE also recommends that the ABS consider enquiring with the Department of Industry, Science, Energy and Resources on the current status of the Innovation Metrics Review that was conducted over 2018-19 and nearing completion at the beginning of 2020. ATSE understands that the Innovation Metrics Review intends to recommend changes to innovation measurement in Australia that may interact with the ABS' proposed changes to the BCS.

Finally, ATSE recommends replacing the tick the box indicators, which give limited information, to a categorical response, and retaining the annual reference period (as opposed to changing it to every two years) to avoid affecting the time series.

ATSE would be pleased to further assist with this inquiry as appropriate. For further information, please feel welcome to contact Alix Ziebell, Director of Policy and Government Relations on (03) 9864 0909 or [alix.Ziebell@atse.org.au](mailto:alix.Ziebell@atse.org.au).

Kind Regards



Professor Hugh Bradlow FTSE  
President



Kylie Walker  
CEO

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<sup>2</sup> McKinsey 2019, *Australia's automation opportunity: Reigniting productivity and inclusive income growth*.

<sup>3</sup> KPMG 2014, *National Collaborative Research Infrastructure Strategy project reviews: overarching report*, p. 81.

<sup>4</sup> Woolley AW, Chabris CF, Pentland A, Hashmi N, Malone TW. Evidence for a collective intelligence factor in the performance of human groups. *Science* (80- ). 2010;330:686–8

<sup>5</sup> Dezsö CL, Ross DG. Does female representation in top management improve firm performance? A panel data investigation. *Strateg Manag J*. 2012;33(9):1072–89.