E. AQ initiative evaluations

This appendix provides an overview of key findings from the 2 macro-level evaluations of the Advance Queensland (AQ) initiative commissioned by the Queensland Government.

First macro-level evaluation

An external firm (the evaluator) was engaged by the Department of Innovation and Tourism Industry Development (DITID) in 2019 to conduct the first macro-level evaluation of the AQ initiative. This evaluation considered all programs and activities between 2015–16 and 2017–18.

The evaluation assessed the extent to which the AQ initiative was:

- implemented as intended to successfully reach its target audience, with governance arrangements to support implementation (process)
- responsible for particular outcomes (effectiveness)
- delivered at the lowest possible cost, to the areas of greatest need, with improvement over time by finding better or lower costs for delivering outcomes (efficiency).

Key findings

The evaluation found evidence that the AQ initiative was being delivered according to its strategies and objectives. It also identified that the AQ initiative was addressing weaknesses and capitalising on opportunities in the innovation system as recommended in the Lerner report.

The evaluation findings were based on various data sources, including program data provided by AQ implementing departments, survey responses from AQ funding recipients, consultations with AQ implementing departments and subject matter experts, and analysis conducted and provided by Queensland University of Technology.

Figure E1 provides a summary of key findings against the AQ strategic objectives.

Figure E1
Advance Queensland first macro-level evaluation findings

Objective	Evaluator finding
Supporting culture	
Increase innovation awareness and engagement	A reported increase in innovation awareness and engagement
Increase entrepreneurialism	A reported increase in entrepreneurialism
Building capability	
Increase innovation capability	A reported increase in innovation capability
Develop, attract, and retain talented people (including STEM skills)	A reported increase in STEM subject uptake in schools and universities Some success regarding AQ's performance in developing, attracting, and retaining talented people

Objective	Evaluator finding
Fostering collaboration	
Build sustainable partnerships to deliver outcomes	Some sustainable partnerships facilitated by AQ
Increase local and international networks	A reported increase in the development of local and international networks
Increasing investment	
Grow pipeline of investable products and services	A reported improvement in the pipeline of investable products
Build access to capital	Queensland's share of national investment (venture capital) increased in terms of value from 13.5% in 2015–16 to 15.3% in 2017–18
Scaling for jobs and growth	
Expedite commercialisation	Organisations receiving AQ funding experienced more business growth events compared to organisations without AQ funding
Increase economic benefits from innovation (including jobs)	A reported increase in economic benefits from innovation As of 30 June 2018, AQ supported 12,568 jobs, including actual new jobs reported and additional new jobs forecast to be created in Queensland within 5 years as a direct result of AQ investment

Note: STEM – science, technology, engineering, and mathematics.

Source: Advance Queensland: First Macro-Level Evaluation (Term 1) – Evaluation Report.

The evaluation also found that AQ funding had a relatively high leverage ratio when compared to other programs that aim to promote research and development. This ratio compares the funding provided by non-government AQ initiative partners to the committed funding provided by government entities under AQ programs.

Feedback from participants and implementing departments in the evaluation report noted that AQ programs were:

- delivered with low administrative costs
- generally of high quality
- largely implemented as planned and delivered as intended.

Challenges and limitations

The evaluation report outlined several challenges and limitations to be noted when interpreting its findings. These included:

- the evaluation focused on the impacts at the whole-of-initiative level, considering all AQ programs; as such, the reported results were overall indicators of AQ and did not account for the specific achievements of individual programs
- the reported survey results were based on 229 responses from AQ participants out of approximately 3,600 AQ participants to whom the surveys were sent
- the evaluation analysis was limited by data availability, including the unavailability of data related to other similar innovation programs; this limited the analysis in benchmarking and assessing the technical efficiency of the AQ initiative
- as system-level indicators were impacted by many factors beyond the AQ initiative, the evaluation acknowledged that changes may not be directly attributable to the AQ initiative
- the evaluation report recognised that the AQ initiative was still in its early stages and that it would take time to achieve the full extent of impacts on innovation and the economy.

Second macro-level evaluation

A second firm (the second evaluator) was engaged by the Department of Tourism, Innovation and Sport (DTIS) to conduct a second macro-level evaluation of the AQ initiative. This evaluation assessed the AQ initiative from its inception to March 2021. This second evaluation was conducted between July 2021 and January 2022.

This evaluation focused on the extent to which the AQ initiative:

- was adopted by key stakeholders (reach)
- delivered on its stated objectives (effectiveness)
- provided value for money (efficiency).

The scope for this macro-level evaluation focused on the overall impact of the AQ initiative, not the individual outcomes of AQ programs. The evaluation report included a summary of key findings, opportunities, and lessons learned, and highlighted selected activities or programs to illustrate key findings.

Key findings

The second evaluator developed its findings and opportunities based on a literature review, analysis of various datasets – including program data, publicly available and restricted data, and survey results – and stakeholder engagement through interviews and focus groups.

Figure E2 provides a summary of the key findings outlined in the evaluation report.

Figure E2
Advance Queensland second macro-level evaluation findings

Area	Evaluator finding
Reach	
To what extent was the AQ initiative adopted by key stakeholders	AQ reached all intended key stakeholder categories Participation was highest amongst those identifying as start-ups and small to medium enterprises (SMEs) Participation from innovators and entrepreneurs in priority cohorts – female, First Nations, and regional and rural – was strong and increased over time
Effectiveness (strategy and objective)	
Supporting culture • Increase innovation awareness and engagement • Increase entrepreneurialism	AQ's programs appear to have been successful in increasing exposure to science, innovation, and entrepreneurship, raising their profile across a broad section of Queenslanders; however, it appeared this interest was not sustained AQ was one factor contributing to a more favourable business environment, but this lagged behind New South Wales and Victoria

Area	Evaluator finding
Building capability • Increase innovation capability • Develop, attract, and retain talented people (including STEM skills)	Despite some progress against objectives, more challenges remained under the building capability strategy than other strategies Queensland's pipeline of future capabilities and talent remained insecure When compared to other states, Queensland's performance on key enrolment and academic performance STEM (science, technology, engineering, and mathematics) metrics was mixed Queensland experienced a significant upswing in using digital and technology solutions; COVID-19 acted as a trigger for change, and AQ played a significant role in enabling the uptake Queensland lagged other states in digital readiness, driven by a lack of appropriate infrastructure, capability, confidence using technologies, and awareness of benefits and opportunities offered by greater use of digital technologies
Fostering collaboration • Build sustainable partnerships to deliver outcomes • Increase local and international networks	Queensland businesses mirrored the Australian trend of low collaboration on innovation. However, businesses recognised the importance of innovation and sought support through AQ and similar initiatives to overcome factors preventing them from collaborating, including lack of time or funding One of participants' most praised achievements of AQ was the initiative's facilitation of connections between AQ participants leading to positive outcomes Results were mixed for collaboration in research on a macro level. While Queensland's researchers appeared as collaborative as their interstate colleagues, there was an opportunity to further incentivise collaboration between research and industry
Increase investment • Grow pipeline of investable products and services • Build access to capital	Queensland's businesses and government demonstrated strong commitment to increasing investment in research and development (R&D), as shown by Queensland outperforming comparison states across government and business R&D investment metrics and attracting external R&D investments The higher number of patent applications compared to other states suggests high productivity from the research conducted in Queensland Venture capital grew more slowly than in comparison states. AQ participants enjoyed greater access to capital and reported stronger commercialisation outcomes. However, there was an opportunity to explore how AQ funding could be further leveraged to address gaps in commercial funding for innovation, for better innovation outcomes
Scaling for jobs and growth • Expedite commercialisation • Increase economic benefits from innovation (including jobs)	AQ played a part in Queensland displaying strong performance across key economic metrics including job creation, increase in exports, and business productivity Scale-ups had a much higher growth rate after AQ started, based on analysis of Queensland payroll tax data, developed by the second evaluator for this evaluation Queensland was outperforming comparison states in multifactor productivity and export growth, showing that strong jobs, revenue, and productivity outcomes reported by AQ participants was likely translating to the wider economy
Efficiency	
To what extent has the AQ initiative provided value for money	Early indications showed that AQ provided a healthy return on investment based on a cost benefit analysis. AQ likely delivered more benefits to Queenslanders than it cost by a ratio of at least 1.6 to 1 Many effects (both positive and negative) were likely to emerge over the next 5 years, some of which may be unpredictable. The cost benefit analysis should be taken as an illustrative estimate and was limited by several factors, such as COVID-19 and a lack of data points that would allow the second evaluator to account for other external factors

Source: Macro-level Evaluation 2 of Advance Queensland: Final Report – 31 January 2022.

Challenges and limitations

The evaluation report outlined several challenges and limitations that should be noted when interpreting the findings including:

- numerous external factors influenced the initiative's outcomes and examining them was largely out of scope for the evaluation; the second evaluator noted it was near impossible to fully attribute all benefits to the AQ initiative
- administrative program data collected for monitoring and reporting of AQ presented challenges for the economic assessment; most program data focused on selected metrics to meet reporting requirements, but did not cover the breadth needed for economic analysis
- to address data limitations, the second evaluator used other data sources and made appropriate assumptions where no datasets were available; the cost–benefit analysis included several assumptions that increased the margin of error
- due to lag times, some of AQ's impacts would not have been fully realised at the time the second evaluator performed their evaluation.

Continuous improvement in program design and reporting

The evaluation report identified opportunities for continuous improvement in program design and reporting based on lessons learned from its implementation and evaluation. These opportunities included:

- embedding outcome measurement and reporting to demonstrate the value of each program, especially those attracting greater public or political scrutiny
- ensuring grants recipients are accountable and can demonstrate outcomes for government money received
- defining key terms, measures, and indicators, and calculating baselines of key metrics before expending funding
- annually updating and monitoring measures developed by the second evaluator to track innovation performance.