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Developing an Integrated Point of Contact Coding Service for Industry Classification

Introduction

All Australian businesses are required to register for an Australian Business Number (ABN). These registrations form the Australian Business Register (ABR) which is administered by the Australian Taxation Office. Business registrations through the ABR are the primary source for identifying new or cancelled businesses for the Australian Bureau of Statistics (ABS) Business Register. Businesses on the ABS Business Register form the basis for the majority of ABS business survey frames and the business demography program.

High quality industry activity data sourced from the ABR is critical for producing national economic statistics, including the Australian National Accounts. Registrants are required to self-code their intended industry activity to the Australian and New Zealand Standard Industrial Classification (ANZSIC) at the point of registration. Until recently, this had been exclusively facilitated through a single, online portal using an ANZSIC Point of Contact Coder (PoCC) owned and maintained by the ABR. Over many years the ABS and the ABR have worked collaboratively to ensure the ABR ANZSIC PoCC functioned effectively and was maintained to ensure high quality industry coding.

As part of a government initiative, there are now several registration options in addition to the ABR business registration portal, including the Australian Government business portal and portals from various accounting software vendors. Under this arrangement, participating organisations could potentially develop and maintain their own ANZSIC coding solutions. The use of multiple ANZSIC coding solutions presented a risk to the quality of industry activity data which could undermine important national economic statistics, including the Australian National Accounts.

This paper describes the risks to important ABS economic statistics from the whole of government initiative, the strategy implemented by the ABS (including working collaboratively with other government agencies) and the industry coding solution developed to ensure industry information remains high quality.

Australian and New Zealand Standard Industrial Classification

1. ANZSIC is the standard classification used by the Australian Bureau of Statistics and Statistics New Zealand for classifying statistical units by industry for data collection and dissemination. ANZSIC is a core variable that is attached to every unit on the ABS Business Register.
2. A wide range of users from government, academia and the private sector also use ANZSIC for financial, administrative, analytical and statistical purposes.
3. The structure of ANZSIC used by the ABS is as follows:
 - a. Division
 - b. Subdivision
 - c. Group
 - d. Class
4. The ABS requires data sourced from administrative datasets to be coded to the 4 digit Class level.

ANZSIC Coding Example

The example below shows how a business that manufactures alcoholic beer is classified according to ANZSIC.

Division	C	Manufacturing
Subdivision	12	Beverage and Tobacco Product Manufacturing
Group	121	Beverage Manufacturing
Class	1212	Beer Manufacturing

ABN Registration using the ABR ANZSIC Point of Contact Coder

5. ABS use Australian Business Number (ABN) registration data from the Australian Business Register (ABR) (which is managed by the Australian Taxation Office (ATO)) to update and maintain the ABS Business Register. Registrants apply for an ABN using an online form.
6. The ABR ANZSIC POCC is called upon during the registration process to assist the registrant in selecting the most appropriate description of their intended business activity. It is essentially an index file with a list of predetermined text responses, each with corresponding ANZSIC codes. It accepts input (the description of the main business activity entered by the registrant) through a user interface and searches the expanded list of industry descriptions on the index file. It uses inbuilt logic to return a range of ranked, probable (industry description) matches which are presented to the registrant in a drop-down list. Once the registrant selects the most appropriate description on the drop-down list, an ANZSIC code is allocated to the registration. Figure 1 shows the online ABN registration form through the ABR portal.

Figure 1: Online ABN Registration Page

Australian Government
Australian Business Register



Accessibility A A


Apply for Australian Business Number



ABN entitlement **Application detail** **Business information** Associate details Reason for application Declaration


Taxation information » Applicant information » **Business activity details**

Business activity details



From what date does the Individual/Sole Trader require its ABN? / /  


 For a new ABN registration, this date cannot be more than 6 months in the future. If the date provided is a date in the future, the ABN will not be issued until that date.
For the reapplication of a cancelled ABN, this date cannot be in the future.


If you intend for this business activity to be less than 3 months, on what date do you expect to cease business? / /  



 If you register for GST, you will be required to complete business activity statements monthly.

Main business activity

Describe the Individual/Sole Trader's main business activity:   PoCC Interface - Description field

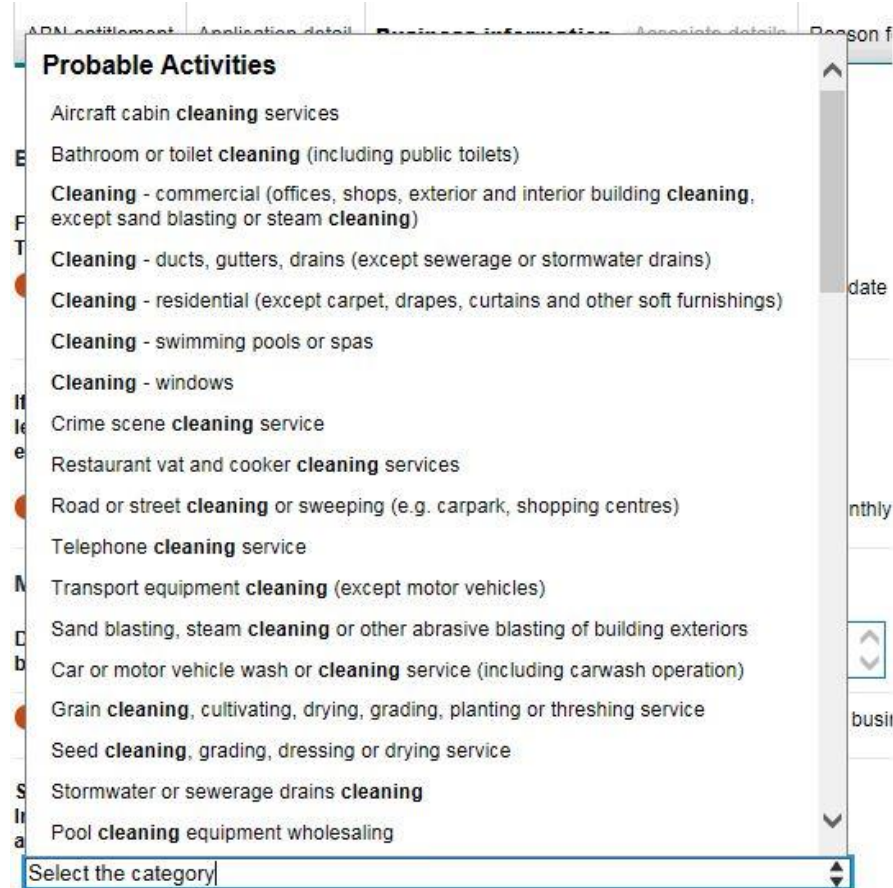
 Government agencies may contact you regarding important information relevant to your business activity.

Select the category which best matches the Individual/Sole Trader's main business activity: 

Select the category   PoCC Interface - Selection field

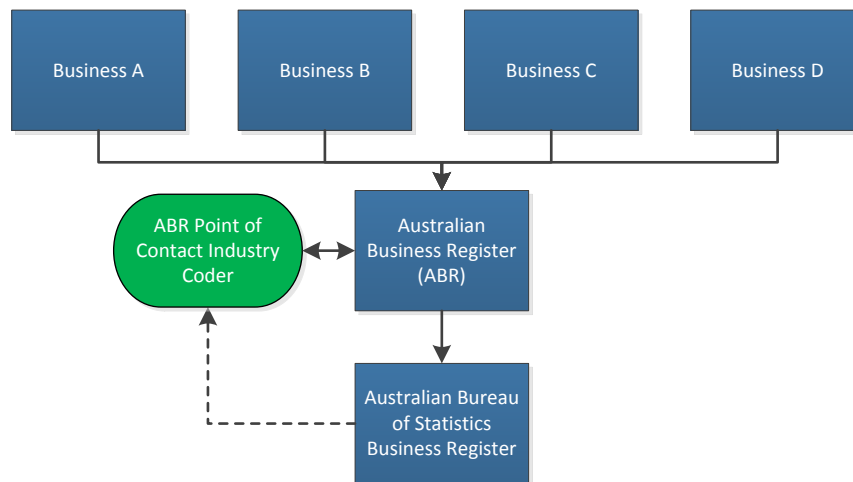
- In the example below, if a registrant enters 'cleaning' in the text field, the ABR ANZSIC PoCC will return the range of options associated with cleaning (see Figure 2). If the registrant selects 'Cleaning – windows', then that registration will be allocated an ANZSIC code of 7311 – Building and Other Industrial Cleaning Services.

Figure 2: Selection options for 'Cleaning'



- Until recently, when an Australian business wanted to register for an ABN, it did so through the ABR portal (shown above). The ABR also owned and maintained the ABR ANZSIC PoCC which was accessed through the portal at the time of registration. The industry activity ABN data received by the ABS from the ABR was exclusively the result of registrant selections from the ABR ANZSIC PoCC. The relevant registration data was provided to the ABS which then became the main source for the ABS Business Register. The ABS worked collaboratively with the ABR to ensure the coder was 'fit for purpose' through the provision of aggregate feedback. The data flow model from ABN registration to the ABS Business Register is provided in Figure 3.

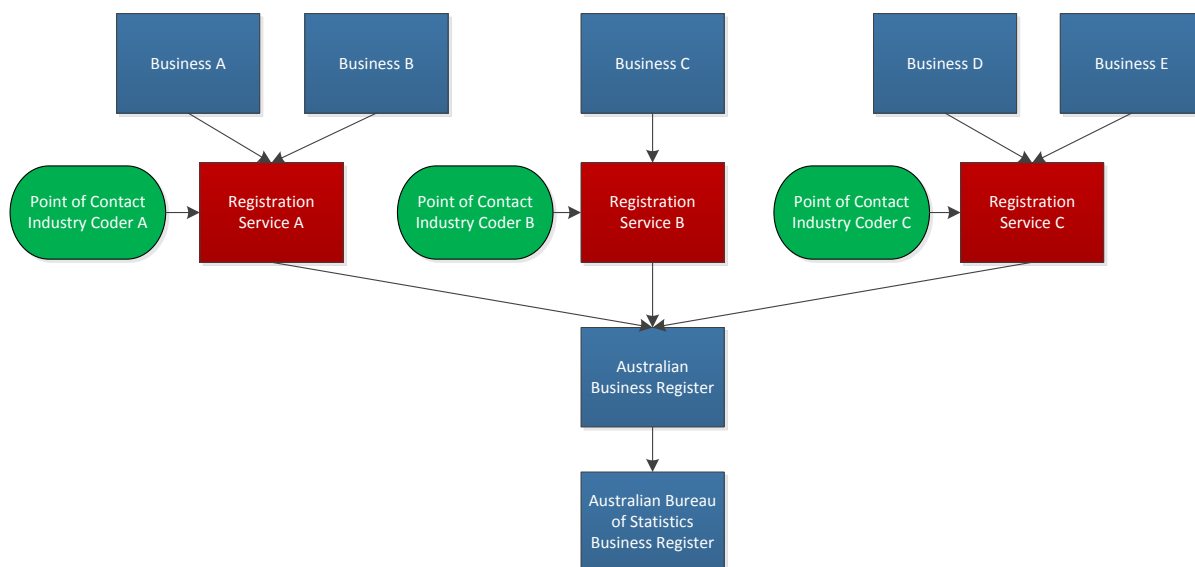
Figure 3: Data Flow Model to ABS Business Register using Previous ABN Registration Model



New Business Registration Services

9. The Australian Government is investing \$AU254.7 million in the Digital Transformation Agenda to drive innovation and make it easier for individuals and businesses to access government services. As part of the agenda, the Australian Government has launched a streamlined Business Registration Service to offer a seamless online service experience. It is part of a wider plan by the Australian Government to use an online portal to simplify business registration and licensing services.
10. The Whole-of-Government registration service, is a joint initiative of the Australian Taxation Office (ATO), Department of Industry, Innovation and Science (DIIS) and the Australian Securities and Investments Commission, and allows businesses to apply for multiple business, licensing and tax registrations at the same time without having to contact agencies individually. A pilot scheme indicated that the average time to register a business decreased from an average of just over one hour to approximately fifteen minutes using a single portal. The service:
 - is simple to use and provides all relevant information clearly in one place
 - allows applicants to save and resume an application
 - checks the availability of a proposed business or company name, and
 - includes customer support.
11. The move to integrate business registration is designed around the needs of businesses and particularly around life events in business such as starting a business, running a business and ending a business. Streamlined business registration benefits people wanting to start a business as well as existing businesses that may want to modify their registration.
12. The service allows for integration through Application Programming Interface (API) which is a software intermediary that allows two applications to talk to each other. It provides an entry point for the third party providers in the private sector including software developers wanting to offer alternative online registration services. It also includes government agencies that may wish to consume other government agency services. Businesses benefit from a wider choice of registration services.
13. The existing ABR ANZSIC POCC is housed in internal ABR systems, so it cannot be accessed by software companies under the new ABN registration arrangements. A consequence of the Australian Government initiative to have multiple business registration portals is the likely proliferation of multiple PoCCs to service these portals (see Figure 4). These PoCCs could potentially be developed and maintained independently by the various organisations that own the portals.

Figure 4: Data Flow Model to ABS Business Register using New ABN Registration and multiple PoCCs



Risks associated with multiple Point of Contact Coders

14. The ABS identified the following risks associated with using multiple PoCCs to classify businesses through alternate online ABN registration portals.

Accuracy of industry coding (quality)

15. The design and methodology (including the index) used to develop PoCCs impact on the accuracy of the industry coding results. Where the design of PoCCs differ, it may be possible that category descriptions appear to applicants in a different order despite the same main business activity being entered by applicants. The inconsistent manner in which category descriptions may be presented to applicants, may result in errors or bias in the way businesses are coded.

Maintenance of industry coders

16. To produce high quality industry data, it is important to keep PoCCs up to date and consistent through classification reviews. This would require incorporating real world changes (eg. emergence of the sharing economy) and fixing known issues in a timely manner. If there are multiple PoCCs, managing the content and frequency of changes to each would be challenging. Ideally the introduction of changes would need to be made simultaneously. In a multiple PoCC environment, the application of changes may be delayed or not applied at all. If updates are not applied, remedial action on resulting data may be required. There is also a risk that “unauthorised” changes or different interpretations may be applied without consulting the ABS (eg. a software provider could make their own interpretation as to which category an activity description should be coded).

Use of industry data

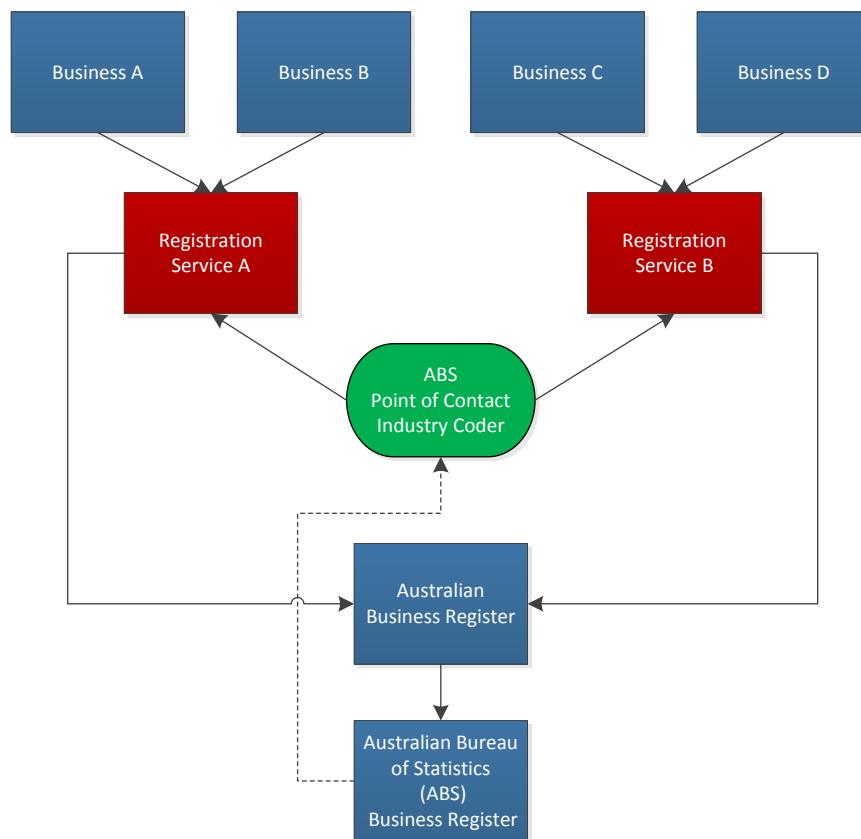
17. ABS industry data is widely used by government to understand and form policy on the Australian economy. It is also widely used by the private sector, the community and academia for research, analysis and decision making. Multiple PoCCs would likely be developed and maintained independently by the various organisations that own the portals. An inconsistent approach by different organisations to ensure the quality of industry data would have a direct impact on economic measures. For instance, if the count of construction businesses on the ABS Business Register is inaccurate (because PoCCs produce incorrect results), the measure of construction

activity in the economy would be inaccurate. This could potentially affect important government economic decisions and policy development.

ABS ANZSIC Point of Contact Coder

18. To mitigate the risks identified above, the ABS approved a business case in March 2017 for an industry coder (referred to as the ABS ANZSIC PoCC) using a Windows application developed by Statistics Canada called G-Code. G-Code is a configurable coding solution that provides flexibility in the way it matches responses to indexes.
19. The ABS ANZSIC PoCC was moved into production in May 2018. It is hosted by the ABS and is accessible via an API. The ABR have committed to make it compulsory for all ABN registration services to implement this API. It facilitates both whole-of-government and external use and ensures that the quality of industry data is maintained in a timely and consistent manner. Its availability to all users enables a consistent application of industry coding at the point of ABN registration. It also enables effective and efficient management of maintenance, improvements and changes to the industry classification as needed. The data flow under this model is in Figure 5. It shows that there is only one point of contact coder used by multiple registration portals. Through exclusive ownership, the ABS has direct control of the quality and integrity of the industry codes it receives which then flow through to the ABS Business Register.

Figure 5: Data Flow to ABS Business Register using New ABN Registration and ABS PoCC



Quality Assurance of the ABS ANZSIC Point of Contact Coder

20. The success of the ABS ANZSIC PoCC implementation is largely dependent on the quality of ANZSIC codes being allocated to business registrations against the description they provide about their intended business activity. Ongoing monitoring is critical to ensure data quality

remains at optimum levels. An ABS ANZSIC PoCC Quality Assurance Strategy has been developed and is currently being implemented by the ABS. This process:

- is conducted on a quarterly basis
- provides regular 'point in time' performance analysis of the ABS ANZSIC PoCC
- measures performance over time using time series data
- determines whether the quality of ANZSIC is fit for purpose
- informs PoCC maintenance (as required) including the remediation of the coder and/or data if the quality of ANZSIC codes is not fit for purpose, and
- provides opportunities for updates to the ABS ANZSIC PoCC (twice a year) – including the addition of new and emerging industry activity descriptions to the coder so that they are available for selection e.g. ride sharing.

The ABS has also developed a maintenance strategy that will include twice yearly updates through appropriate consultation and governance arrangements.

Conclusion

21. The need for the ABS to respond to a change in government policy and the risks associated with the potential proliferation of multiple PoCCs has resulted in the development of an ABS ANZSIC PoCC that will be available through a publically accessible API. The implementation of this outcome was achieved by working closely with the relevant Australian Government agencies. The ABS ANZSIC PoCC will bring the following benefits:

- Risk mitigation for industry coding solutions as an input to important economic statistics.
- Online registration portal owners do not need to develop their own PoCCs. Time and effort is saved by using the ABS ANZSIC PoCC. It also means that Digital Service Providers do not need to regularly monitor performance, update nor maintain their own PoCCs.
- The ABS is the co-custodian of ANZSIC (with Statistics New Zealand) and therefore updates to ANZSIC are reflected in the ABS ANZSIC PoCC in a consistent and timely manner.
- The benefits of ensuring quality economic statistics outweigh the costs associated with maintaining the ABS ANZSIC PoCC.
- The ABS ANZSIC PoCC can easily be incorporated into business applications of other government agencies or businesses where industry coding is required
- There is potential to expand the ABS ANZSIC PoCC service to other topics beyond industry (e.g. occupation).