



*Cultural and Creative
Industries: Key Economic
Metrics
2006 Census data update*

January 2008

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Innovation & Business Skills Australia Ltd

Level 2, 192B Burwood Road

Hawthorn, Victoria 3122

Tel: 03 9815 7000

Fax: 03 9815 7001

Email: reception@ibsa.org.au

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Summary

Evidence of the work of the cultural and creative industries can be found almost everywhere. It can be encountered in everyday life while listening to the radio, on television, reading a newspaper, or a book. People may also engage with the cultural and creative industries through theatre, opera, or a movie, and many others. While cultural and creative works and some workers, such as movie stars, and celebrities, command widespread attention, the underlying industries are less well known.

This study examines the statistics about the economic dimensions of the Australian cultural and creative industries that are available. It reviews what the available data collections can show about the size and nature of the cultural and creative industries. The study aims to provide the most timely and robust estimates about the key statistics that characterise the cultural and creative industries that are practical with the existing data.

This report updates the key economic metrics from a previous, more comprehensive report the CIE completed in January 2007.

A framework

The ubiquity and pervasive nature of cultural and creative industries can form a barrier to measurement. If culture and creativity underpins most activity, there is a considerable challenge in determining what is or is not a cultural and creative industry. The approach taken in the study is to include the range of activities that are about culture and creativity as well as those activities that add value to cultural and creative works.

The study concentrates upon four activities that are viewed as being components of the cultural and creative industries. They are as follows.

- Creation of cultural and creative works, goods and services.
- Reproduction of cultural and creative goods and services for sale.
- Distribution of cultural and creative goods and services.
- Embedded cultural and creative activities.

Activity under each of these components that is undertaken for economic reward is viewed as being part of the economic contribution of the cultural and creative activities. While noting that the cultural and creative activities make many contributions, including contributions to art culture, and society, this study's focus is exclusively upon economic contributions. In order to provide a robust estimate of economic contribution this is valued in terms of the price paid or obtained for works.

Other activities that may be creative but are not cultural are not included in the framework. Thus, activities such as scientific, engineering and business creativity, for example, are not included within the framework.

There may be some activities within the proposed framework that some readers do not view as being relevant. To facilitate readers forming their own views based on their own frameworks, data about the component parts has been provided wherever practical, allowing readers to delete or reshuffle components as they see fit.

There are different dimensions of industry that are of interest in this study. In one sense the focus is upon the cultural creative industries as a productive unit, using a common technology or producing similar products and services. Similarly to traditional industries such as manufacturing, or agriculture, the approach here is to assess how much output the industry as a whole produces and how many jobs are involved.

Another approach looks at an industry in terms of people with a similar set of skills and values. In this sense the focus is upon cultural and creative occupations. Measures of importance here are the numbers of people with cultural and creative occupations and the necessary skills.

Both of these approaches are valid. Both are probably important to different readers. Notably, however, they measure different aspects of the same thing and will produce different indicators and numbers.

One way of ensuring that the framework produces robust results is to compare the results using the framework with results for traditional industries and with reliable information that is available for all industries (that is, the economy as a whole). This has the added advantage of reducing the possibility of mistakes such as double counting and omission. This is very important for raising confidence in results for a sector (which is essentially a group of similar activities) that is not well understood or sometimes misunderstood.

Existing data review

A range of data sources have been examined in this study. This includes ABS publications, data produced by elements of the cultural and creative industries, studies prepared by academics and industry bodies, and others. These were assessed against a range of criteria to assess how robust the data was against the needs of the study. The key observations from this review are as follows.

- No single source of existing data is ideal for measuring and analysing the cultural and creative industries and occupations as defined for the purposes of this study. Every existing source reviewed was found to have some shortfalls.
- Only one of the data collections reviewed had the breadth of activities that matched the range of activities or were able to be added together to form a

reliable estimate of indicators for the cultural and creative industries at large. This is the Census results produced by the ABS regarding occupations reported using the Australian Standard Classification of Occupations (ASCO).

- The review identified a number of factors in the Census data that are limitations against the goals of this study in the Census data, including:
 - the potential for multiple occupations is not explored;
 - the occupation of volunteers is not recorded;
 - people with cultural and creative occupations that are ‘between’ cultural and creative employment may be classified as unemployed (essentially without occupation) or in an alternative occupation, even though this is merely temporary; and
 - a full Census is undertaken infrequently (at intervals of five years).
- Despite these limitations, the Census is still useful as it is the only data source available at a highly detailed level which covers all occupations and industries as well as covering the entire population.
- Only one existing data source was available regarding industry data (that is output and employment) that had the breadth required, or the consistency to enable adding up of various component industries. This is industry data published by IBISWorld. The follows standards for analysis of industry statistics using the Australian and New Zealand Standard Industry Classification (ANZSIC) framework established in 1993.
- The IBISWorld industry performance data has limitations regarding the aims of this study in the sense that it follows normal industry statistical conventions and provides data about employment reflecting performance in paid employment. Volunteers are not explicitly counted. In addition, the classification framework used was constructed in 1993 and therefore does not reflect the changes in industry structure and composition brought about by change such as the advent of the internet.
- Some of the existing and planned data sources that relate to limited components provide insight by providing the scope to cross-check findings and insights using the broader data. One example is the survey of professional artists in Australia that includes artists between projects that may otherwise appear to be unemployed, or employed in different industries in the Census data. Some additional insight is available about volunteer work that may not appear in the Census data.

On this basis, 30 ANZSIC classes (that is industries defined at the 4-digit level, the lowest level within the ANZSIC system) are viewed as falling as a whole within the cultural and creative industries. A proportion of four other ANZSIC classes are also viewed as being part of the cultural and creative industries. This compares with over 150 classes in the traditional manufacturing division, 38 in agriculture and fishing

and 31 in property and business services. Details are listed in Appendix B of this report.

Some 35 occupations from the nearly 1000 classified in ASCO are viewed as being cultural and creative occupations. These are listed in Appendix A of this report.

Industry performance

Using the data framework established for this study regarding the composition of the cultural and creative industries and the existing data, the CIE has provided estimates about industry performance that are robust. The cultural and creative industries as an industry at large:

- contributed about \$31.8 billion of Industry Gross Product in 2004-05 – this is equal to about 4 per cent of total IGP (akin to GDP);
- employed about 469 000 people in 2006 (including everybody engaged within cultural and creative enterprises, including for example clerks, receptionists and cleaners, that would not normally be viewed as being involved in cultural and creative activities – in much the same way that people in similar roles are included within traditional sectors such as manufacturing even though they do not make products);
- involves the efforts of over 102 000 enterprises;
- exhibits volatility, with strong growth in some years and contractions in others – they are more volatile than changes in the economy at large; and
- is spread unevenly between the Australian states with NSW and Victoria having a disproportionately higher share of cultural and creative industry activity and employment.

While the CIE views that the insights and figures reflected above are robust, they suffer from a range of limitations and there are caveats about the use of these figures. A key building block of the analysis is the use of ANZSIC 1993 classifications, which at face value entails a risk of misclassifying activities (including many cultural and creative activities) that have been impacted by recent structural change, especially change brought about by the internet. The CIE views that the risk of misrepresenting the overall figures for the cultural and creative industries is small because the major changes in the revised ANZSIC framework involve subdividing activities that have been fully accounted as being within the cultural and creative industries. This changes the composition of activity in some cases, but not the overall amount of employment in the industries.

The CIE views that the main area of uncertainty is in embedded activities. This is an area where allocation of activity and jobs to the cultural and creative industries is subject to significant measurement challenges. As this component represents a

relatively large proportion of the cultural and creative industries (37 per cent), changes in this area would have a material impact upon most of the indicators. While this component is difficult to estimate, the CIE views that dropping it would overlook a key aspect of the cultural and creative industries, that much of the activity happens inside enterprises that have a broader purpose than producing cultural and creative works alone.

Cultural and creative occupations

Analysis of the data in the 2006 Census indicates that:

- cultural and creative occupations employ about 276 000 people (this is smaller than the estimate about employment in cultural and creative industries because it only includes people with a cultural and creative role);
- most people with cultural and creative occupations are actually employed within the cultural and creative industries – accounting for 72 per cent of the total – while the remainder are employed outside of these industries;
- design-related occupations account for the single largest type of workers with cultural and creative occupations.

The above estimates do not include people whose second occupation is in the cultural or creative activities, or volunteers, or people who are unemployed, but are normally employed in a cultural and creative occupation. There is evidence to suggest that there may be a significant number of people with cultural and creative occupations who report themselves in the Census to have another role (their 'day job'). It is estimated that there may be around 10 000 artists not captured in the Census data for this reason. In addition, volunteers may account for the equivalent of 16 000 full-time jobs.

Similarly to the industry statistics, there are issues regarding revisions of occupational classifications. The ASCO 1997 classification used in forming the previous estimates is becoming dated and may lag the current structure of the labour market and not reflect 'real world' skill categories. Many such classification issues have been largely rectified in the new ANZSCO (2006) approach which has more occupations in areas such as the digital content sector. Census data under that framework is available from the ABS on request; however, this study uses the ASCO (1997) framework to facilitate comparison with the 2001 Census.

Changed perspectives

Comparison of the 2001 and 2006 Census data suggests that some complex changes are underway. A decline in employment in the cultural and creative industries of around 7000, or 1.4 per cent of total employment is evident between 2001 and 2006. As a result, the share of employment in the cultural and creative industries fell from

5.5 per cent in 2001, to 5.0 per cent in 2006. The overall decline was largely driven by a 12.0 per cent decline in employment in the distribution component of the cultural and creative industries. In particular, employment in the 'newspaper, books & stationery retailing' and libraries industries fell by more than 4000. This could reflect structural changes in the economy, as more people obtain information on-line.

In contrast to the decline in jobs in the cultural and creative industries, employment in creative and cultural occupations increased by more than 13 000, or 5.1 per cent. This means that people with creative and cultural occupations are engaging more in the wider economy. This is partly reflected by the increase in employment in embedded industries. The share of people in creative and cultural occupations employed outside the creative and cultural industries also increased from around 25 per cent in 2001, to around 27 per cent in 2006.

While employment in cultural and creative occupations increased over the five years to 2006, the pace was slower than for total employment, which increased by 9.7 per cent. Consequently, the share of total employment in cultural and creative occupations declined from 3.2 per cent in 2001, to 3.0 per cent in 2006.

This decline in the share of employment in cultural and creative occupations could reflect lower demand for people with cultural and creative skills, compared with other skills. Alternatively it could reflect a shortage of people with cultural and creative skills. This would be consistent with the skills shortages in some areas of the broader economy. It would also imply that creative and cultural skills are in even shorter supply than other skills. This question is of particular relevance to IBSA; however, it is beyond the scope of this report to provide an answer.

1 *This study*

In 2006, Innovation and Business Skills Australia (IBSA) commissioned the Centre for International Economics (CIE) to prepare a report on the cultural and creative industries. The report was completed in January 2007. IBSA subsequently asked the CIE to update the report to reflect the release of 2006 Census data (released towards the end of 2007). This report provides that update.

Project aims

The original report aimed to:

- capture and report on the most valid current statistics and information on the size and configuration of Australia's cultural industry workforce(s) through available contemporary data collections; and
- identify changes needed to contemporary data collection systems and processes to enable more effective identification of the size, configuration and future prospects for cultural and creative industries, their associated workforces and occupations and vocational education and training effort.

The main tasks to be undertaken in the study identified by IBSA are to:

- review and analyse relevant current industry, training and labour market data and sources of information for accuracy and completeness and identify significant anomalies, inaccuracies and inconsistencies;
- develop strategies and solutions for improving the accuracy and completeness of both public and non-public information about the economic contribution of cultural and creative industries, current employment, future trends and prospects in cultural and creative industries' workforces and occupations and related training effort;
- develop the 'most robust case' picture of the size, configuration and future impact of cultural and creative industries' workforces, occupations and related training effort; and
- research contemporary accuracy and develop recommendations for updating and changing official employment and industry categorisations and classifications in the cultural and creative industries to properly reflect real world position titles and occupational categories in the commercial world.

While there are many statistics about aspects of activity in many cultural and creative industries there is very little research and few statistics that look at them as a whole. That is, few take a perspective that reflects the increasingly interconnected and interdependent nature of the industries. IBSA and industry stakeholders have noted the need for a robust statistical base from which to operate. In addition it is necessary to provide a basic demonstration of industry economic performance, providing information for the purpose of articulating the cultural and creative industries relative importance against other industries, and to obtain a clearer view of potentially diverse learner targets for vocational education and training offerings through the national training system. The report endeavours to satisfy these needs.

Structure of the report

A key challenge to the analysis of the cultural and creative industries is in defining what the industry is. There is no official or widely agreed definition of cultural and creative activities as an industry. A contribution of this report is to propose frameworks for analysis that are broadly consistent with official statistical collections. These frameworks are developed in Chapter 2. More than one framework is required because it is necessary to look at different dimensions of cultural and creative industries.

The study reviews and assesses existing data sources that provide insight and information about the cultural and creative industries in Chapter 3.

Chapter 4 uses the frameworks to construct robust estimates about the size and composition of the cultural and creative industries.

Chapter 5 applies the framework to assess the number of people employed in cultural and creative occupations.

2 *Framework and concepts*

What is meant by 'culture' or 'creativity'? What really is an industry? This chapter reviews what others have said about these things and sets out the framework used in this study.

What is culture?

Culture is everything. Culture is the way we dress, the way we carry our heads, the way we walk, the way we tie our ties – it is not only the fact of writing books or building houses.' Aime Cesair.

The meaning of culture has changed over time. In the 1800s Matthew Arnold defined culture to be 'contact with the best which has been thought and said in the world'. That is, culture as a notion reserved for the elite.

Views about culture broadened in the twentieth century. This is reflected in a contribution from Raymond Williams in his essay entitled 'culture is ordinary'. In this, he described his belief that culture is present in every society and has two aspects, the first being the 'known meaning and directions' that members of a particular society are trained to and the second being the process by which new observations are tested. Williams saw culture as being part of every mind. The breadth of this approach would make it difficult in practice to determine where culture starts and finishes.

Contemporary views about the nature and meaning of culture suggest a broad range of ideas. Box 2.1 provides an example of definitions drawn from that most contemporary source, an online dictionary.

2.1 A contemporary view about culture

Dictionary.com is a multi-source dictionary search service produced by Lexico Publishing Group, LLC, a provider of language reference products and services on the internet. It draws together traditional dictionaries, as well as specialist dictionaries, including legal, medical and technical dictionaries.

One way of identifying a contemporary view about culture is to access the dictionary.com entry. This produces a large number of alternative meanings, including the following:

- The quality in a person or society that arises from a concern for what is regarded as excellent in arts, letters, manners, scholarly pursuits, etc.
- That which is excellent in the arts, manners, etc.
- A particular form or stage of civilisation, as that of a certain nation or period: *Greek culture*.
- Development or improvement of the mind by education or training.
- The behaviours and beliefs characteristic of a particular social, ethnic, or age group: the youth culture; the drug culture.
- Anthropology. The sum total of ways of living built up by a group of human beings and transmitted from one generation to another.
- The totality of socially transmitted behaviour patterns, arts, beliefs, institutions, and all other products of human work and thought.
- These patterns, traits, and products considered as the expression of a particular period, class, community, or population: *Edwardian culture; Japanese culture; the culture of poverty*.
- The predominating attitudes and behaviour that characterise the functioning of a group or organisation.
- Intellectual and artistic activity and the works produced by it.
- Development of the intellect through training or education.
- Enlightenment resulting from such training or education.
- A high degree of taste and refinement formed by aesthetic and intellectual training.
- Special training and development: *voice culture for singers and actors*.

Source: Dictionary.com.

From the list in Box 2.1, culture as 'Intellectual and artistic activity and the works produced by it' provides a perspective that is likely to be functional in the context of this study. It is consistent with the view of John H. Bodley, Chair, of the Department of Anthropology at Washington State University in the United States, that culture contains three components, 'what people think, what they do and the material products they produce'. This approach is functional because it throws attention upon 'works'. Works can be measured, quantified and valued.

What is creativity?

'Creativity, it has been said, consists of rearranging what we know in order to find out what we do not know.' George Keller.

The Australian Concise Oxford English Dictionary (1987) views that creativity involves invention, 'showing imagination as well as routine skill'. The common descriptors identified as important are that 'creativity involves toying with ideas and/or materials, originating concepts, experimenting, conceptualising, exploring, crossing boundaries usually done individually but also collectively and then communicating these' (IBSA, 2006).

Creativity and innovation

Creativity is closely linked to innovation. Creativity is central to the process of making something new and applying it. It is the spark that ignites change. There are many examples where cultural and creative ideas inspired imagination and research for technical solutions. The comic character Dick Tracy's wrist watch sized telephone, for example, inspired the eventual development of technologies that are commonplace today.

There is a symbiosis between innovation, technological change and the cultural and creative industries. The cultural and creative industries have been rapid adopters of some of the major technologies that have transformed lives, industry and the economy. Cultural and creative activities such as drama production quickly embraced film, radio and television technologies. The embrace was so close that it is difficult to discern if cultural activities supported these mass media or if it was the other way around. In any case, the two are now interconnected.

Continued technological change, especially the development of the internet and convergence of once separate activities is fuelling a further round of creativity and innovation. Film making today makes considerable use of IT technologies. IT activities such as games and other applications make use of film making skills. The widespread availability of true broadband internet access and content such as films and shows is blurring the distinction between broadcasting and the internet.

Broader impacts of creativity

Some new ideas are emerging about the social and economic role of creativity. Richard Florida (2003), for example, identified the emergence of a creative class. The distinguishing characteristics of the members of this class are that its members 'engage in work whose function is to create meaningful new forms'. Importantly Florida sees this class as a driver of wealth and prosperity. Attracting the class is important to accelerating economic growth in a region, while a loss in members would foreshadow decline. Essentially creativity is driven by the presence of people with creative skills and occupations.

John Howkins (2002) points to the emergence of a creative economy. This consists of transactions in creative products. They include the creative goods or services as well as the value added by carriers of those goods and services. That is, all of the different levels or links in the supply chain are important. Howkins presented evidence to suggest that the creative economy was already a relatively large and growing part of modern economies (although he did not provide figures for Australia).

This study seeks to follow these broad directions and look at creativity in terms of the people that are occupied in creative endeavours as well as examining trade in creative goods and services.

Culture and creativity

In the context of this study creativity is viewed as modifying the term 'culture'. The study is about activity that uses, adopts or modifies culture creatively.

This approach excludes many other areas of creative activity that are not about culture. Therefore activities such as science, engineering and business creativity are excluded.

Challenges presented by cultural and creative activities

Consultation with industry professionals and stakeholders made apparent many difficulties in defining the cultural and creative industries. Key factors often raised are as follows.

- *People in the cultural and creative industries can be hidden.* The cultural and creative industries are composed of a variety of industries and the people in them can often be hidden in other industries. An example is dance teachers who could be classified as being in the education industry, while these cultural workers should be viewed as forming part of the cultural and creative industries.
- *The cultural and creative industries have a high number of volunteers and workers who are unpaid.* Previous studies have shown that of the total population engaged in culture and leisure activities, 40 per cent were paid and 60 per cent were unpaid¹. It is expected that this attribute would carry over to the larger culture and creative industries.
- *Many people in the cultural industry have more than one occupation.* Reflecting the economics of work in cultural activities cultural workers often have a day job as well as their cultural occupation. Earlier research has identified that 63 per cent of artists have more than one job (Throsby and Hollister 2003).

¹ Australia Council for the Arts 2003, *Some Australian Arts Statistics*, Australia Council, Sydney.

- *Self identification is uncertain.* Many people who could be viewed as being employed in the cultural industry may not identify themselves as being part of that industry. Richard Florida states that '*members of the creative class do not see themselves as a class*'.²
- *The cultural and creative industries have a long time-line.* Those who have retired or no longer participate in the industry might still associate themselves with it.

Difficulties encountered in trying to define the cultural and creative industry include:

- *Rapid change.* Rapid change has probably always been a feature of cultural and creative activities, but it is possible that the pace of change is accelerating. Changes in technology shapes what products are in demand and how they are made. It also shapes the way that industries are structured and skills that are needed. In the music industry, for example, according to a recent industry report: 'Perhaps most dramatic of all technology developments is the 'do it yourself' revolution which enables emerging artists to get established without having to enter into costly contracts with record companies.'³
- *Convergence is changing definitions of industries and occupations.* Technological change, particularly digitisation and the almost universal access to a low cost communications platform provided by the internet is changing the way that people, organisations and industries work. Industries that were once distinct such as broadcasting, telecommunications and information technologies now overlap. The impact of convergence has been profound in the areas of communications and culture (Hartely 2002). As a result there is a wide range of the types of businesses (and skills) involved. Thus, the Australian Interactive Multimedia Industry Association (AIMIA) listed approximately 950 companies on its website in 2001. Their activities range widely over web design, activities related to script writing and games production, through to support services such as legal, marketing and education and training.'⁴
- *Hobbies and industry.* In some cases people with cultural and creative skills create or make cultural goods simply for their own enjoyment. They do not sell their output, although the cost of inputs, such as instruments and training, may be very high. This study seeks to focus upon cultural and creative goods and services that are provided by an industry and for sale.

The characteristics identified above suggest that it will be much harder to measure the cultural and creative industry than other industries.

² Florida, R., 2003, *The Rise of The Creative Class: and How It Is Transforming Work, Leisure, Community And Everyday Life*, Pluto Press, North Melbourne.

³ Hoegh-Guldberg, H., 2005, Statistical light dawns on the music sector, Music Council of Australia, <http://www.mca.org.au/index.php?id=38>.

⁴ Australian Government, Department of Communications, Information Technology and the Arts 2004, *Creative Industries Cluster Study, Volume 1*, Commonwealth of Australia.

Industries in perspective

While there are many types of cultural and creative activities, the focus of this study is upon cultural and creative *industries*. The thing that separates industry from other activities, such as a hobby or pastime, is that an industry is an organised activity that is for economic gain, or to provide a service that is of economic significance.

Volunteers are included in an industry whether paid or unpaid as they would form part of an industry's workforce. A person who creates art in their own home and then either sells it or exhibits it would also be included. The type of person that is not included is one who makes art in their own home for their enjoyment and that their work is never bought or sold or exhibited.

An industry can also be viewed as a grouping of organisations or individuals which carry out similar economic activities. Typically organisations include businesses, but they can have anybody that provides goods and services, including companies, non-profit organisations, government departments and enterprises (ABS 1993). Key facets of interest are groups of individuals and organisations that:

- use common production techniques;
- produce common products; and/or
- utilise common skills.

Contemporary government statistical frameworks used to categorise economic activity rely heavily upon the first two items in the above list to define industries. That is, industries are viewed as groups of organisations that do the same thing or make the same thing.

Focusing on common skills has been an important means of defining industries in the past. In medieval times, guilds were built around skills and the process of handing those skills onto future generations. In addition to representing the common interests of people in the guild, guilds also played a role in shaping social and cultural norms and conducted ceremonial activities, such as holidays of their patron saint, initiations, testimonials and even burials. Less emphasis is placed upon defining an industry (and social structures) around skills today reflecting economic and institutional arrangements, including contemporary approaches to industrial relations, that place a preference upon dealing with enterprises and collections of enterprises.

To capture information and obtain some insight about the cultural and creative industries it is useful to draw upon both basic dimensions of an industry or industrial activity. That is to focus upon i) common techniques/product and ii) common skills.

Industries and their component parts

While one definition of an industry focuses upon common products, it is clear that activities that produce a range of products are often bundled together in an industry. Agriculture, for example, spans diverse activities that includes raising animals, broadacre farming, such as wheat growing, and horticulture, which involves different products and skills. Is the same true for the cultural and creative industries?

In a recent research contribution the United Nations Education, Scientific and Cultural Organisation (UNESCO), defines the cultural industries as those that 'combine the creation, production and commercialisation of contents which are intangible and cultural in nature'. According to UNESCO:

Cultural goods generally refer to those consumer goods which convey ideas, symbols, and ways of life. They inform or entertain, contribute to build collective identity and influence cultural practices. The result of individual or collective creativity – thus copyright-based – cultural goods are reproduced and boosted by industrial processes and worldwide distribution. Books, magazines, multimedia products, software, records, films, videos, audio-visual programs, crafts and fashion design constitute plural and diversified cultural offerings for citizens at large.

Cultural services are those activities aimed at satisfying cultural interests or needs. Such activities do not represent material goods in themselves: they typically consist of the overall set of measures and supporting facilities for cultural practices that government, private and semi-public institutions or companies make available to the community. Examples of such services include the promotion of performances and cultural events as well as cultural information and preservation (libraries, documentation centres and museums). Cultural services may be offered for free or on a commercial basis.⁵

While the UNESCO approach has a somewhat circular logic (where cultural industries are cultural in nature) a key contribution is that it suggests that the industry is comprised of a number of component parts: it is a composite activity.

This study follows the lead of the UNESCO approach and views the Australian cultural and creative industries as a composite of a variety of activities. An activity is viewed as being a part of the cultural and creative industries where it undertakes or provides the following:

- *Creation of cultural and creative goods and services.* That is, those activities where an idea is captured in a cultural or creative work or service that is sold.⁶ In practice,

⁵ Refer to UNESCO website: <http://portal.unesco.org/en/>.

⁶ This includes cultural and creative activities where the price may be zero. In those cases the cost of producing the activity would be counted as the value. Thus cultural and creative products that are broadcast on free-to-air television or free Christmas concerts paid for by a government or community body are included. Activities that are associated with consumption of cultural and creative activities or 'final demand' are excluded. In many cases including a consumer's final demand costs when the product or industry has been accounted for would result in double counting of the same activity. In some cases, consumers can make and consume cultural and creative activities and products without purchasing them from the cultural and creative industries. These activities are counted

most of the activities in this category would be easily recognised as being cultural or creative because this is intrinsic to that good or service.

- *Reproduction of cultural and creative goods and services for sale.* Many cultural and creative goods need to be produced and reproduced before they can be used or consumed. This would include activity such as publishing which transforms the original text into the book, or music recording that captures and records musical performances suitable for reproduction. This generally involves skills and techniques that are different to the creation of the original idea or thing.
- *Distribution of cultural and creative goods and services.* This adds value to the earlier components of activity by making them available for sale where people know to buy them or wish to use them. The activity also plays a role by raising awareness or interest in the goods or services.
- *Embedded cultural and creative activities.* This is where people with cultural and creative skills are employed in organisations that make other (non-cultural) goods or services.

This approach is necessary to reflect fundamental characteristics of cultural and creative industries where creativity is added at many different stages – that is, the point of authorship of a work, or the design of an object, is not the only aspect of creativity. Furthermore, it is likely that the value of creative activity is increased in subsequent handling. A work that has been broadcast, for example, will be accessible to many more people. Without the embedded component there is a risk that analysis would overlook a possibly significant portion of activity people with cultural and creative skills that add value (and hold a potentially large number of jobs). While, for example, manufacturers are generally only found in manufacturing industries, cultural and creative activities are frequently absorbed within other industries. Naturally, only the proportion of an industry that use embedded cultural and creative skills would be counted as being part of the cultural and creative industry. It would be necessary to measure or estimate the relevant proportion which would generally be a smaller part of the overall industry.

Key points

A functional framework is proposed for identifying and measuring the economic attributes of the cultural and creative industries. The framework identifies four component parts of the cultural and creative industries:

- Creation of cultural and creative goods and services.

within the statistical framework for consumption and are not counted as being part of the output of the cultural and creative industries. The study of household production/consumption of cultural and creative goods and services may reveal some interesting aspects, but is outside the terms of reference of this study.

- Reproduction of cultural and creative goods and services for sale.
- Distribution of cultural and creative goods and services.
- Embedded cultural and creative activities.

A further dimension of the framework is that it is necessary and desirable to examine the cultural and creative industries from two perspectives. The first is from the perspective of enterprises and organisations that are engaged in similar activities in terms of productive technologies, or similar products or services. The second is from the perspective of identifying similar skills and occupations.

Identifying the data that can be used to populate this framework is reviewed in the next chapter.

3 *Review of existing data*

To estimate the size and configuration of the cultural and creative industries and occupations, data is required. This chapter reports on a review of the data that are available, with a view to developing a robust statistical picture of the cultural and creative industries and occupations.

What data is needed?

As discussed in the previous chapter, a more complete view of the cultural and creative economy is obtained by analysing it from both occupation and industry perspectives.

To develop a picture of the size and configuration of the cultural and creative industries and occupations, the study requires data measuring:

- output by industry;
- employment by industry; and
- employment by occupation.

Some may consider it inappropriate to judge the overall importance of the cultural and creative industries against purely economic criteria. In this context, there are many statistics that may be of interest, such as participation in cultural and creative activities as both a producer and consumer, the relationship between the cultural and creative industries and the rest of the economy and participation in indigenous cultural and creative activities. While these are important attributes, they are outside the scope of the terms of reference of this study.

What is meant by robust estimates?

To ensure the picture of the cultural and creative industries and occupations is as robust as possible, it is desirable for the data used to construct estimates to have certain characteristics. These are set out in the following points:

- *Appropriate.* The framework used should be consistent with the dimensions of the subject matter. Ideally the data would be collected and reported in a way that takes account of the specifics of the subject matter, while recognising that data collection is an activity that involves compromise, often balancing cost with the benefits of having more or better data.

- *Transparency.* What exactly is the data measuring and how it is collected? It is not feasible to have confidence in data where the basis of collection is not well understood.
- *Comparability.* Statistics have little meaning unless they can be compared. A good basis of comparison is between existing industries and the construct of the cultural and creative industries.
- *Detail.* There must be sufficient detail to distinguish between cultural and creative activities and other activities. There also needs to be sufficient detail so that practitioners can recognise their own activities and have confidence that it is reflected accurately in the data.
- *Comprehensive.* To obtain a complete picture of the cultural and creative industries and occupations, the data must cover all parts of the industry and all occupations.
- *Timely.* In order to be useful in relation to issues being considered today, it is preferable if the data is up to date and updated on a regular basis.

Primary data sources are assessed against the above criteria as a means of identifying strengths and weaknesses.

What data are available?

Various publications contain data on some or all of the cultural and creative industries and occupation. These publications and the source of the data used within them are shown in Table 3.1.

3.1 Publications reporting relevant data

<i>Publication</i>	<i>Year</i>	<i>Main data source</i>
<i>ABS Publications</i>		
Arts and Culture in Australia: A Statistical Overview (Cat No. 4172.0)	2004	<ul style="list-style-type: none"> ▪ ABS Census; ▪ ABS Survey of work in selected culture and leisure activities ▪ Australia's cultural volunteers
Employment in Culture in Australia (Cat No. 6273.0)	2001	ABS Census
Work in Selected Culture and Leisure Activities (Cat No. 6281.0)	2004	ABS Survey of work in selected culture and leisure activities.
Sound Recording Studios (Cat No. 8555.0)	1996-97	ABS Service industry surveys
Television Services (Catalogue No. 8559.0)		ABS Service industry surveys
Museums (Cat No. 8560.0)	2003-04	ABS Service industry surveys
Public Libraries (Cat No. 8561.0)	2003-04	ABS Service industry surveys
Video Hire Industry (Catalogue No. 8562.0)	1999-00	ABS Service industry surveys

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3.1 Publications reporting relevant data (continued)

Commercial Art Galleries (Cat No. 8561.0)	1999-00	ABS Service industry surveys
Motion Picture Exhibition (Cat No. 8654.0)	1999-00	ABS Service industry surveys
Television, Film and Video Production (Cat No. 8679.0)	2002-03	ABS Service industry surveys
Performing Arts (Cat No. 8697.0)	2002-03	ABS Service industry surveys
Libraries and Museums (Cat No. 8649.0)		ABS service industry surveys
Radio and Television Services (Cat No. 8680.0)	1996-97	ABS service industry surveys
Book Publishers Survey (Cat No. 1363.0)	2003-04	ABS service industry surveys
Voluntary Work (Cat No. 4441.0)	2000	ABS Survey of voluntary work
Australia's Cultural Volunteers (Cultural Minister's Council)	2000	ABS Survey of voluntary work
<i>Other</i>		
Artwork 2: A Report on Australians Working in the Arts (Australia Council)	2005	<ul style="list-style-type: none"> ▪ ABS Survey of Work in Selected Culture and Leisure Activities ▪ ABS Census
Don't Give Up Your Day Job: An Economic Study of Professional Artists in Australia	2003	<ul style="list-style-type: none"> ▪ ABS Census ▪ Survey of professional artists
The Arts Economy 1968-98: Three Decades of Growth in Australia	2000	<ul style="list-style-type: none"> ▪ ABS service industry surveys ▪ ABS Census ▪ ABS Survey of Work in Selected Culture and Leisure Activities (1997)
Get the Picture Online	2005	<ul style="list-style-type: none"> ▪ ABS Census ▪ ABS Service industry surveys ▪ ABS Survey of work in selected culture and leisure activities
Dance in Australia: a profile	2004	<ul style="list-style-type: none"> ▪ ABS Census ▪ Survey of professional artists
The Future of Work and Employment in the Media and Entertainment Industries	2005	<ul style="list-style-type: none"> ▪ ABS Labour force survey ▪ ABS Census

Source: CIE.

While there are quite a few publications that have published data relevant to this study, it seems that the data originate from relatively few sources.

These are summarised in Table 3.2. Employment and output by industry data is also available from IBISWorld.⁷

⁷ IBISWorld is a private company that compiles statistics on over 500 industries. See <http://www.ibisworld.com.au> for more information.

3.2 Sources of relevant data

<i>Employment by occupation</i>	<i>Employment by industry</i>	<i>Output by industry</i>
<ul style="list-style-type: none"> ▪ ABS Census of Population and Housing ▪ ABS Labour force survey ▪ Survey of professional artists (artists survey) 	<ul style="list-style-type: none"> ▪ ABS Census of Population and Housing ▪ ABS Labour force survey ▪ Various ABS service industry surveys ▪ ABS Voluntary work survey ▪ ABS Survey of work in selected culture and leisure activities ▪ IBISWorld 	<ul style="list-style-type: none"> ▪ National Accounts (ABS Catalogue No. 5206.0) ▪ IBISWorld

Assessing the data

Each of the broad categories of data have been assessed against the criteria introduced earlier in this chapter. The results of that assessment are discussed below.

Employment by occupation

Each of the data sources reviewed meets most of the robustness criteria, but every one has limitations. (See Table 3.3).

Overall, it is viewed that the *Census of Population and Housing* is the most useful sources of employment data disaggregated by occupation. The main point in favour of this source is that it is the most comprehensive. The data spans all of the occupations of interest; none are left out. Because it is collected and managed using a single classification system (the Australian Standard Classification of Occupations or ASCO) the data can be compared across occupation categories and with other industries. While data from the labour force survey is timelier, being published on a quarterly basis, compared with the Census which is published every five years, the Census data are available at a finer level of disaggregation. This is important to fit into the framework introduced in the previous chapter. Furthermore, the Census also seeks to directly obtain information from the entire population, while surveys infer information about the population based on a representative sample. Another advantage of Census data is that it can be cross-tabulated against industry classifications (that is, the Australian and New Zealand Standard Industrial Classification or ANZSIC).

3.3 Assessment of employment by occupation data

<i>Criteria</i>	<i>All Census materials</i>	<i>All labour force surveys</i>	<i>All artists surveys</i>
Appropriate	Limitations. No data for multiple occupations and volunteers.	Limitations. No data for multiple occupations and volunteers.	Yes. Addresses the target group well.
Transparent	Yes. Methodology is clearly defined.	Yes. Methodology is clearly defined.	Yes. Methodology is clearly defined.
Comparable	Yes. Able to make comparisons between industries and over time.	Yes.	No. Not comparable with data for other industries.
Detailed	Yes. Able to discern occupations with considerable detail.	Limited. Disaggregation by occupation is only available at the ASCO 4-digit level.	Yes. Splits professional artists into 120 artistic occupations. These are grouped into 8 generic categories.
Comprehensive	Yes. All of the cultural and creative industries are included.	Yes. Covers the entire economy. Therefore all of the cultural and creative industries are included.	No. Covers only professional artists and therefore excludes all other occupations that are defined as being cultural and creative.
Timely	No. Published every five years. The most recent data available relate to 2006.	Yes. Employment data by occupation are published quarterly.	No. The survey has been undertaken four times since 1983, but at irregular intervals.

Source: CIE.

While the Census is a useful source of data, the design of the Census means that:

- volunteers are not included in the occupation or industry classifications; and
- second jobs in a cultural and creative occupation are not captured (Box 3.4).

3.4 Occupation classifications in the Australian Census

The *Census of Population and Housing* is a comprehensive and detailed survey of all Australian households, undertaken every five years. The Census collects a wide range of information about each individual within a household, including the main occupation of individuals over the age of 15. Considerable effort is applied to ensure that the Census is comprehensive. Field officers contact every household within their region. They follow up lost or late responses. People travelling and foreign visitors are included. Special attention is paid to collect information from rural and regional Australia, new migrants and from Aboriginal and Torres Strait Islander people.

Question 34 of the 2006 Census asked:

- *Mark one box only.*
- A job means any type of work, including casual or temporary work or part-time work, if it was for an hour or more.
 1. *Yes, worked for payment or profit.*
 2. *Yes, but absent on holidays, on paid leave, on strike or temporarily stood down.*
 3. *Yes, unpaid work in a family business.*
 4. *Yes, other unpaid work.*
 5. *No, did not have a job.*

If the person marks either box four or five, they are asked to skip those questions relating to occupation. The occupation of volunteer workers will therefore not be recorded in the Census.

Subsequent questions in the Census ask about the main job held by the person, where the main job refers to the job in which the person usually works the most hours. As the key criterion is time spent rather than income received, artists who support themselves with alternative part-time work may list their cultural and creative occupation as their main occupation. However, if the person works more hours in the non-cultural and creative occupation, they will not be recorded by the Census as having a creative or cultural occupation.

Don't Give Up Your Day Job: An Economic Study of Professional Artists in Australia is an important source of data on professional artists. The definition of a professional artist used in this survey is somewhat broader than in the Census; essentially anyone who has made a serious commitment to the arts is included, including those with multiple occupations and artists between projects (Box 3.5). However, the survey does have some limitations. Aboriginal and Torres Strait Islander artists living in remote communities, artists involved primarily in the film industry, architects, and industrial, graphic and fashion designers are not included in the survey. Furthermore, the survey may include some people who are no longer active in the arts, as people can be included in the survey even if they indicate they no longer

consider themselves an artist. The survey also only covers a small sub-section of cultural and creative occupations and there is no basis for comparison with other groups of occupations. Nevertheless, these data provide a useful cross-check against the Census data.

3.5 Definitions from *Don't Give Up Your Day Job: An Economic Study of Professional Artists in Australia*.

The Department of Economics at Macquarie University, with funding from the Australia Council, periodically conducts a survey of Australian artists. The survey aims to compile a picture of the living and working conditions of professional artists in Australia.

A person is included in the survey if they have done any of the following:

- Had a work of creative fiction or imagination accepted for publication by a recognised publishing outlet or performed by a fully professional stage, radio, television or film company, for which a fee or royalties, in the last five years was received.
- Had a work, or works, shown at a professional gallery or exhibition, or has received a major public or private commission, in the last five years.
- Had a work or works shown or performed at a professional gallery or exhibition, or published by a recognised publishing outlet, or has received a major public or private commission, in the last five years.
- Has had an original composition, other than advertising jingles or other commercial music, performed under fully professional circumstances, either live, broadcast, recorded or filmed, in the last five years.
- Has had a professional engagement as a director or dramatic actor or performer with a fully professional stage, television or film company, in the last three years.
- Had a professional engagement as a choreographer or dancer in a fully professional capacity, in the last three years.
- Had a professional engagement as a musician or singer in the last three years.
- Have contributed to the development of a major community arts project, or played an important part in encouraging members of the community to create works of art, or had a substantial artistic role in a festival or other important community arts event in the last five years.
- Been engaged in creating a serious and substantial body of artistic work in the last five years.

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3.5 Definitions from *Don't Give Up Your Day Job: An Economic Study of Professional Artists in Australia* (continued)

- Undertaken full-time training or received a grant to work as an artist from a public or private grant-giving agency in the last five years.

This is a much broader definition of an artist than that used in the Census. It will capture those with multiple occupations as well as individuals who have made a serious commitment to the arts, but who may not necessarily expect to be paid for doing so. However, the survey could also include some individuals who are no longer active

To illustrate how the Census may not include some artists, consider Colin. Colin is an artist who occasionally sells his work at exhibitions. However, he needs to supplement his income by working behind the bar at the local pub. If during Census week, Colin spent more time working at the pub than producing artwork, his main occupation will be recorded as a bar attendant (ASCO code 632211). But as his work has been shown at a professional gallery or exhibition in the last five years, he could be included in the survey of professional artists.

Employment by industry

The most useful source of employment by industry data is the *Census of Population and Housing* undertaken by the ABS. This is because it is comprehensive, covering all parts of the cultural and creative industries and allows comparison against other industries. The ABS's labour force survey is less useful because it is not detailed enough for use in this study. IBISWorld is a useful source of employment by industry data. Indeed it has important advantages over the ABS data; it is more detailed than the data from the labour force survey and more timely than the Census data. However, since the most recent Census was completed in 2006, it is currently relatively up to date. As the Census data becomes less relevant, data from IBISWorld surpasses it in terms of usefulness. IBISWorld data also suffers from the same key limitations as the ABS data regarding multiple occupations and volunteers. (See analysis in Table 3.6.)

Another useful source of data is the ABS's service industry surveys. The ABS periodically surveys firms in a small number of service industries, including some cultural and creative industries. A key advantage of a firm survey, compared with a survey of individuals is that volunteer workers and employees with multiple jobs will be captured. However, these surveys can be quite costly so only a small number of industries are covered and only a small subset of these surveyed in any particular year. Consequently the data are not particularly timely. Different time periods also make it difficult to compare industries.

3.6 Assessment of employment by industry data

<i>Criteria</i>	<i>Census</i>	<i>Labour force survey</i>	<i>Industry survey</i>	<i>Voluntary work survey</i>	<i>Survey of work in selected culture and leisure activities</i>	<i>IBIS World</i>
Appropriate	Limitations	Limitations	Yes	Yes	Yes	Limitations. Does not include volunteers
Transparent	Yes. Methodology clearly defined	Yes. Methodology clearly defined	Yes. Methodology clearly defined	Yes. Methodology clearly defined	Yes. Methodology clearly defined	Yes. Based on ABS collections
Comparable	Yes. Data are comparable with other industries	Yes. Data are comparable with other industries	No. Only some industries are included. And each industry survey is not completed in the same year	Yes. All voluntary workers covered	No. Survey only covers selected activities. Also hard to compare with other data because ANZSIC codes are not used	Yes. Data are comparable with other industries
Detailed	Yes. Data are disaggregated at the ANZSIC 4-digit level	Data are disaggregated only at the 3-digit level	Yes. Industries are surveyed based on ANZSIC classification at the 4-digit level	No	No	Yes. Data are disaggregated at the ANZSIC 4-digit level
Comprehensive	Yes. All industries are covered	Yes. All industries are covered	No. Only selected industries are surveyed	No. Covers only voluntary workers	No. Only some cultural and creative activities are included	Data are available for all of the cultural and creative industries
Timely	Published every five years. The most data available are from 2001	Yes. Employment data by occupation are published quarterly	Surveys undertaken every few years on a rolling basis	No	Completed periodically	Available on an annual basis

Source: CIE.

Information on volunteer workers can be obtained from other ABS surveys.

In particular:

- the survey of work in selected culture and leisure activities; and
- the voluntary work survey.

Output by industry

Not surprisingly, given the difficulty and resources required to measure output, there are few alternatives for output by industry series. While national accounts measure has several advantages over the alternative from IBISWorld, it is not

sufficiently detailed to fit into the framework employed in this study. This study therefore uses industry gross product data obtained from IBISWorld.

3.7 Assessment of output by industry data

<i>Criteria</i>	<i>ABS – National Accounts</i>	<i>IBISWorld</i>
Transparent	Yes. Methodology is clearly defined. Widely recognised measure of output.	Yes.
Comparable	Yes. Data for all industries are available.	Yes. Data for all industries are available.
Detailed	No. Available at the ANZSIC 1-digit level of disaggregation.	Yes. Available at the ANZSIC 4-digit level of disaggregation.
Comprehensive	Yes. All cultural and creative industries are covered.	Yes. All cultural and creative industries are covered.
Timely	Yes. Published quarterly.	Published annually.

Source: CIE.

Listing cultural and creative industries and occupations

Based on the framework established in the previous chapter and data sets that are suitable for this study, it is feasible to list activities and occupations that are viewed as being the cultural and creative industries. Summary lists are provided in Table 3.8.

The table below sets out industries and occupations that are aligned with component parts of the cultural and creative industries. It is important to note that industries and occupations are not the same. It is useful to identify cultural and creative industries because economic contributions are assessed within an industry framework. It is useful to look at occupation classifications because this is oriented to the skills required to support cultural and creative activities.

3.8 The cultural and creative industries: summary lists

	<i>Industry classifications examples</i>	<i>Occupation classifications examples</i>
Creation	<ul style="list-style-type: none"> ▪ Creative Arts ▪ Commercial Art and Display Services ▪ Music and Theatre Productions ▪ Other Education ▪ Film and Video Production ▪ Photographic Studios ▪ Jewellery and Silverware Manufacturing 	<p>Includes for example:</p> <ul style="list-style-type: none"> ▪ Author ▪ Painter ▪ Actor ▪ Art director ▪ Make-up artist ▪ Stage manager ▪ Music professionals ▪ Photographers ▪ Visual arts and crafts professionals ▪ Jewellery designers

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3.8 The cultural and creative industries: summary lists (continued)

	<i>Industry classifications examples</i>	<i>Occupation classifications examples</i>
Reproduction	<ul style="list-style-type: none"> ▪ Printing ▪ Services to Printing ▪ Newspaper Printing or Publishing ▪ Other Periodical Publishing ▪ Book and Other Publishing ▪ Recorded Media Manufacturing and Publishing ▪ Sound Recording Studios ▪ Computer Consultancy Services ▪ Services to the Arts ▪ Other Recreation Services ▪ Photographic Film Processing 	For example: <ul style="list-style-type: none"> ▪ Camera operator ▪ Photographic developers and printers ▪ Print journalist ▪ Typesetter
Distribution	<ul style="list-style-type: none"> ▪ Radio Services ▪ Television Services ▪ Film and Video Distribution ▪ Motion Picture Exhibition ▪ Performing Arts Venues ▪ Libraries ▪ Museums ▪ Video Hire Outlets ▪ Recorded Music Retailing ▪ Newspaper, Book and Stationery Retailing ▪ Antique and Used Good Retailing ▪ Jewellery and Watch Retailing ▪ Jewellery and Watch Wholesaling ▪ Information Storage and Retrieval Services 	For example: <ul style="list-style-type: none"> ▪ Radio presenter ▪ Television presenter ▪ Technical director ▪ Stage manager ▪ Librarian ▪ Radio communication technician ▪ Museum or gallery attendant ▪ Museum or gallery curator ▪ Ticket seller
Embedded activities	A proportion of: <ul style="list-style-type: none"> ▪ Other Education ▪ Architectural Services ▪ Advertising Services ▪ Ceramic Product Manufacturing, nec ▪ Glass and Glass Product Manufacturing 	For example: <ul style="list-style-type: none"> ▪ Art teacher ▪ Music teacher ▪ Drama teacher ▪ Designer ▪ Graphic and web designers and illustrators

Source: CIE.

On this basis, 35 occupations from the nearly 1000 classified in ASCO are viewed as being cultural and creative occupations. These are listed in Appendix A of this report.

Some 30 ANZSIC classes (that is industries defined at the 4-digit level, the lowest level within the ANZSIC system) are viewed as falling as a whole within the cultural

and creative industries. A proportion of four other ANZSIC classes are also viewed as being part of the cultural and creative industries. This compares with over 150 classes in the traditional manufacturing division, 38 in agriculture and fishing and 31 in property and business services. Details are listed in Appendix B of this report.

Examination of the industries listed may suggest the absence of some new and emerging activities such as cultural and creative activities in the digital content industry. This would include internet publishers and others that do not appear to be mentioned in the framework. This is because internet publishers are not given a specific classification in ANZSIC 1993. Internet publishers are split between the 'other periodical publishing' and 'book and other publishing' classifications. This means that although they are not specifically identified in the framework, they are still included in other categories. This is true of many of the digital content industries.⁸

It is notable that ANZSIC 2006 has improved transparency by introducing a new classification specifically designed to identify those in the internet and digital industries.

Some background points about the occupational and industry classifications that underpin much of the analysis in this chapter are provided in the following boxes.

3.9 Occupational classifications

ASCO (Australian Standard Classification of Occupations) 1997 is a skills-based classification used to classify all occupations and jobs in the Australian labour market. To do this, ASCO identifies a set of occupations according to their attributes and groups them on the basis of their similarity into successively broader categories for statistical and other types of analysis. ASCO is used in all ABS censuses and surveys where occupation data are collected. In ASCO, occupations are classified according to two main criteria – skill level and skill specialisation. ASCO incorporates 9 different occupation groups ranging from managers and administrators to labourers. It also has 5 different skill levels simply ranked 1-5.

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⁸ The CIE is conscious of the contribution made by the Digital Content industries and related activities. It recently prepared a report for the Australian Government's Department of Communications, Information Technology and the Arts (DoCITA) about Australian Digital Content Industry Futures (CIE, 2005). This provides a framework about measuring the contributions of these activities, estimates and forecasts. The current framework draws extensively upon the framework developed for the Digital Content report. The report can be downloaded from http://www.dcita.gov.au/__data/assets/pdf_file/37474/Appendix_C.2_Australian_digital_content_futures.pdf.

3.9 Occupational classifications (continued)

In 2006 ASCO was revised and combined with NZSCO (New Zealand Standard Classification of Occupations) to create ANZSCO (2006). Currently ASCO is still in use for statistical analysis. Data from the 2006 Census classified using the ANZSCO framework is available from the ABS by request. However, the ASCO (1997) framework has been used in this study to enable comparison with the 2001 Census.

The selection criteria for ASCO and ANZSCO are the same, so the two classifications are very similar. ANZSCO, however, contains more groups and sub-groups than ASCO allowing easier identification of certain occupations. For example, as a response to the growth in the ICT sector, ANZSCO has 13 ICT groups and 36 ICT occupations compared with just 3 unit groups and 9 occupations in ASCO. ANZSCO contains only 8 major groups compared with 9 in ASCO but it has more sub-major groups with 43 compared with ASCO's 35.

The implications of ANZSCO for the cultural and creative industries are that it should now be easier to identify cultural and creative occupations as they have been better described in ANZSCO than they were in ASCO. However, this conclusion would have to be confirmed by looking at the ANZSCO data once it becomes available.

Source: Australian Standard Classification of Occupations (ASCO), 1997, <http://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/220.01997?OpenDocument> Australian Standard Classification of Occupations (ASCO), 1997. Available at: <http://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/1220.01997?OpenDocument>

3.10 The Australian and New Zealand Standard Industrial Classification

ANZSIC provides the basis for standardised collection, analysis and dissemination of economic data on an industry basis in Australia and New Zealand. The current framework was published in 1993.

The objective when developing an industrial classification is to identify groupings of businesses which carry out similar economic activities. Industries initially split into 17 major divisions, these divisions are then split into groups and each group is then split into classes (the highest level of disaggregation, sometimes referred to as the 4th digit classification).

The ANZSIC classifications have been redeveloped in 2006. The aim was to give a more contemporary industrial classification system to reflect the changes in the Australian and New Zealand economies. The 2006 classification will eventually replace that of 1993, but it takes time for data to be collected using the new classification. Census data classified using the ANZSIC 2006 framework is available from the ABS by request; however, this study uses the ANZSIC framework to enable comparison with 2001 Census data.

There are some key differences between the two classifications:

- ANZSIC 2006 separately identifies 19 divisions, compared with 17 in ANZSIC 1993.
- A new information, media and telecommunications division has been introduced as this has been identified as a rapidly growing sector in the Australian and New Zealand economies.
- The old property and business services division from ANSZIC 1993 has been replaced with three separate divisions in ANZSIC 2006: rental hiring and real estate services; professional, scientific and technical services; and administrative support services.
- ANZSIC 2006 identifies 86 subdivisions compared with 53 in ANZSIC 1993.

The new classification will have an impact on the data collected for the cultural and creative industries. In the 1993 classification many cultural and creative industries were captured under the broad category 'cultural and recreational services'. This category has now been changed to 'arts and recreational services' in ANZSIC 2006.

Classification units involved in the production and distribution of motion pictures, videos, television programs or television and video commercials were included in the cultural and recreational services in ANZSIC 1993. In ANZSIC 2006, these units have been moved to the newly created 'information media and telecommunications' division.

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3.10 The Australian and New Zealand Standard Industrial Classification (cont)

In ANZSIC 1993 the 'cultural and recreational services' comprised 10 groups and 21 sub-classes. This has changed to 6 groups and 14 sub-classes in ANZSIC 2006. The main reason for the reduced size is the removal of the 'film and video services' and 'radio and television services' groups.

It remains the case that there is no longer one single classification that captures all the cultural and creative industries. They are now spread over two main classifications one being 'arts and recreation services' the other being 'information, media and telecommunications'. However, this does not mean that it will be harder to identify the cultural and creative industries once ANZSIC 2006 comes into use. The sub-classes in 2006 are better defined than those in 1993. For example there is now a new class for 'creative artists, musicians, writers and performers' which was not there in 1993. It will now be easier to identify the people in the cultural and creative industries by their sub-class and then add them together.

Source: Australian and New Zealand Standard Industrial Classification (ANZSIC) 1993, <http://www.abs.gov.au/AUSSTATS/abs@.nsf/66f306f503e529a5ca25697e0017661f/7cd8aebba7225c4eca25697e0018faf3!OpenDocument>.

Key points

No single source of data is ideal for measuring the cultural and creative industries and occupations. Every existing source reviewed was found to have some shortfalls.

Only one existing data source was available regarding industry data (that is output and employment) that had the breadth required, or the consistency to enable adding up of various component industries. This is industry data published by IBISWorld. This follows standards for analysis of industry statistics using the Australian and New Zealand Standard Industry Classification (ANZSIC) framework established in 1993.

The Census is a generally useful source of data regarding occupations because it is extremely detailed and all occupations and industries are covered, so all cultural and creative occupations and industries are included and the data is comparable against other industries and groups of occupations.

Nevertheless, there are some important limitations regarding the Census data:

- Only a single occupation is recorded.
- Volunteers are not included.
- Artists and other cultural and creative workers currently between projects may not be included.

Where possible, it is therefore important to cross-check the Census data with other sources.

On this basis, 30 ANZSIC classes (that is industries defined at the 4-digit level, the lowest level within the ANZSIC system) are viewed as falling as a whole within the cultural and creative industries.

Some 35 occupations from the nearly 1000 classified in ASCO are viewed as being cultural and creative occupations.

It is important to reiterate at this point that occupations and industries are not the same. Occupations encompass those who work in a cultural or creative occupation but may or may not work in the cultural and creative industries. For example, a dance teacher is in a cultural and creative occupation but in the education industry, not the cultural and creative industry. Industry encompasses all those who work in the cultural and creative industries, irrespective of whether they work in a cultural and creative occupation. This means that an accountant who works in a museum is not in a cultural and creative occupation (as accounting is not classified as such) but as this accountant works in a museum he or she forms part of the cultural and creative industry.

Addressing the limitations of the available data sources is the subject of the final chapter of this study.

4 Contributions to the economy

Cultural and creative industries are comparable in size to traditional industries and are a significant source of employment. While they have sustained growth over recent years, they have grown at a slower rate than the economy at large. This chapter reports on what is able to be discerned about the size and nature of the cultural and creative industries using the data that is available.

Economic output

The cultural and creative industries contributed some \$32 billion to Australia's national economic output in 2004-05 (summarised as '2005').

The estimated industry gross product (IGP) of each industry is listed in the table below. This breaks the industry down into the component parts developed from the framework laid out in Chapter 2 as well as showing the total so that readers can remove components if they disagree with their inclusion. (See table 4.1).

4.1 Cultural and creative industries IGP in 2004-05

<i>Industries</i>	<i>Output (\$ billion)</i>	<i>Output (% of CCI)</i>
Creation	1 917	6.3
Commercial art display services	257	0.8
Film and video production	698	2.3
Music and theatre productions	237	0.8
Creative arts	520	1.7
Photographic studios	205	0.7
Reproduction	11 717	38.6
Services to printing	351	1.2
Newspaper printing or publishing	3 574	11.8
Other periodical publishing	541	1.8
Book and other publishing	511	1.7
Recorded media manufacturing and publishing	456	1.5
Computer consultancy services	5 232	17.2
Sound recording studios	26	0.1
Services to the arts nec	109	0.4

(Continued on next page)

4.1 Cultural and creative industries IGP in 2004-05 (continued)

<i>Industries</i>	<i>Output(\$ billion)</i>	<i>Output (%of CCI)</i>
Other recreation services	365	1.2
Photographic film processing	347	1.1
Printing	205	0.7
Distribution	6 897	22.7
Recorded music retailing	144	0.5
Newspaper, book and stationary retailing	1 091	3.6
Antique and used good retailing	179	0.6
Film and video distribution	416	1.4
Motion picture exhibition	474	1.6
Radio services	390	1.3
Libraries	580	1.9
Museums	509	1.7
Performing arts venues	128	0.4
Video hire outlets	261	0.9
Information storage and retrieval services	298	1.0
Free to air television	2,565	8.4
Pay television	-138 ^a	-0.4
Embedded activities	11 249	37.0
Architectural services	1 321	4.3
Advertising services	800	2.6
Education	2 263	7.4
Government administration and defence	683	2.2
Property and business services	6 182	20.4
Total	31 780	100

^a Pay TV has a negative IGP as the industry made an economic loss in 2004-05.

Sources: IBISWorld; CIE.

Details about the approach used to form these estimates are provided in Appendix B of this report. Comments about the data used in this chapter are provided in Box 4.2.

4.2 Notes on the data used in this chapter

The data used in this chapter relate to measurements made about the cultural and creative industries. It is based upon industry statistics classified under the ANZSIC system of industry classifications used by the ABS and IBISWorld. A key point is that industries are viewed as being collections of organisations that carry out similar economic activities. The statistics therefore focus on the enterprises and industry as an entity, at large, not what happens within them.

The data in this chapter suffers from many of the same statistical shortfalls and limitations that afflict the measurements of most other industries. The ABS provides full details about the strengths and weaknesses of the indicators and estimates in the national accounts (ABS, 2000).

There are limitations in the use of the data and the resulting estimates when looking at cultural and creative industries. One point is that estimates prepared regarding the cultural and creative industries at large is reliant upon the activities included. Dropping activities or adding additional activities based on different views about what really is a cultural and creative activity can have a material impact on the total.

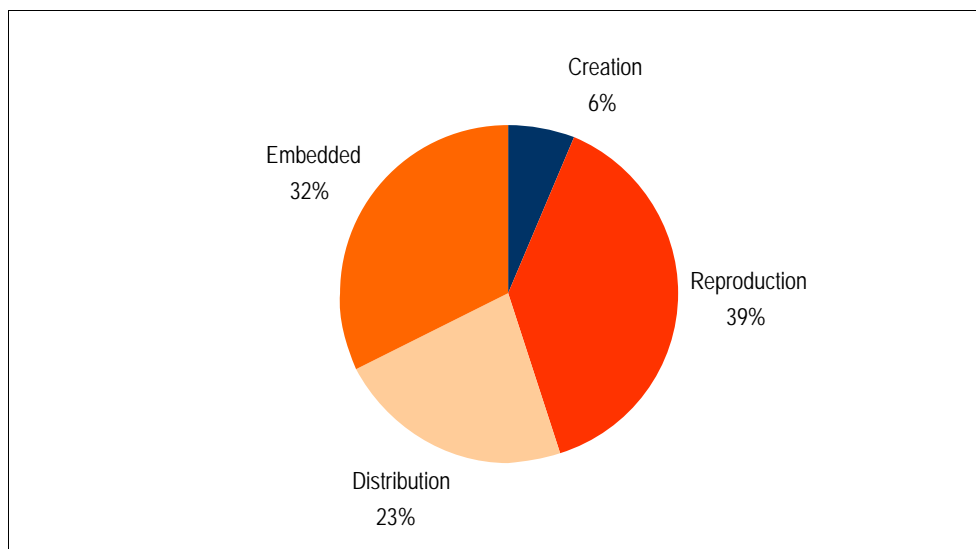
A further area where there is uncertainty is in the use and calculation of embedded activities. This is an area where allocation of activity and jobs to the cultural and creative industries is subject to significant measurement challenges. As this component represents a relatively large proportion of the cultural and creative industries (37 per cent), changes in this area would have a material impact upon most of the indicators. While this component is difficult to estimate, the CIE views that dropping it would overlook a key aspect of the cultural and creative industries, that much of the activity happens inside enterprises that have a broader purpose than producing cultural and creative works alone.

Overall, however, the CIE reports these estimates on the basis that they are as robust as the estimates provided in the official national accounts for other industries. It is not feasible to produce estimates that are better than Australia's system of national accounts. It is feasible, however, to make comparisons between the cultural and creative industries and other industries using the framework adopted in the study.

It should be noted that some of the facets of the cultural and creative industries measured in this chapter are different from those analysed in the next chapter, even though they may at first glance seem to be the same. This is particularly so for differences between occupations and industry employment. The numbers of people in an occupation and employment in an industry (even one that seems similar to the occupation) are different things. The differences reflect important facets of the real world. It is useful to look at both.

Chart 4.3 illustrates the relative contribution of the four component parts of the cultural and creative industries.

4.3 The relative value of the components of the cultural and creative industries



Data sources: IBISWorld and CIE.

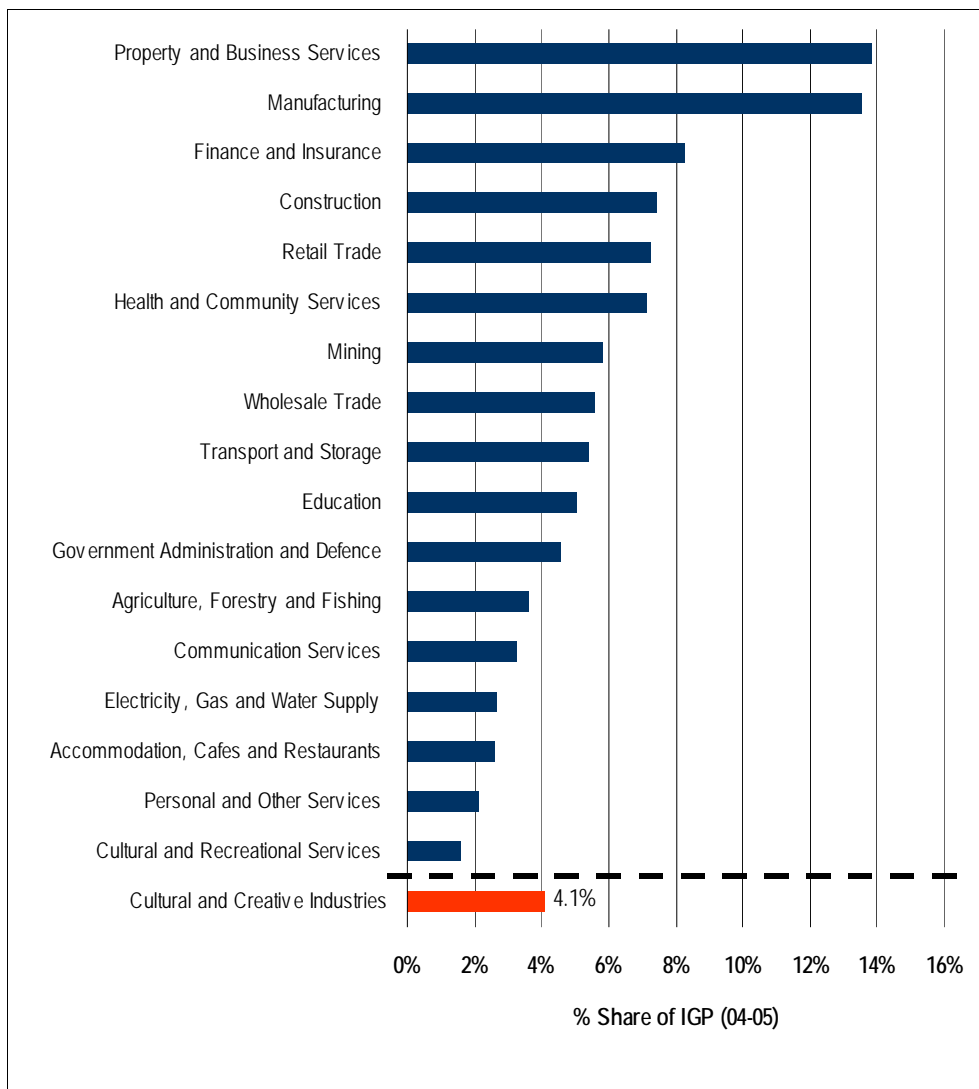
Output is not spread evenly between the component parts of the cultural and creative industries. The creation component accounts for a relatively small proportion of total activity in the cultural and creative industries, while the largest component, accounting for 39 per cent of industry output, is reproduction. The second largest component is embedded activities. Thus 32 per cent of activity in the cultural and creative industries comes from individuals whose contribution is enclosed within other industries. This indicates the potential to alter understating about the size of the cultural and creative industries depending upon inclusion or exclusion of this component. Distribution makes up 23 per cent of the industry's contribution to IGP. The large reproduction component reflects the global business environment involving the distribution of products from overseas as well as Australian production.

The cultural and creative industries are already a substantial part of the Australian economy. Chart 4.4 shows the share of Australian industry gross product contributed by every industry (by ANZSIC division) for the year 2004-05 compared with the estimate for the cultural and creative industries.

There are two parts to Chart 4.4. The first part (above the dotted line) shows the share of IGP of each industry using the ANZSIC classification. The sum of these equals 100 per cent and represents the entire Australian economy. The ANZSIC classification contains an industry division known as cultural and recreational services. This industry classification does not provide an accurate measure of the size of the cultural industry as it contains many leisure activities which are not

necessarily cultural and also fails to count the output of activities that are cultural and creative. For this reason the study has created a specific measure of the cultural and creative industries, as described in Chapter 2.

4.4 Cultural and creative industries compared with other sectors (% of total IGP 2004-05)



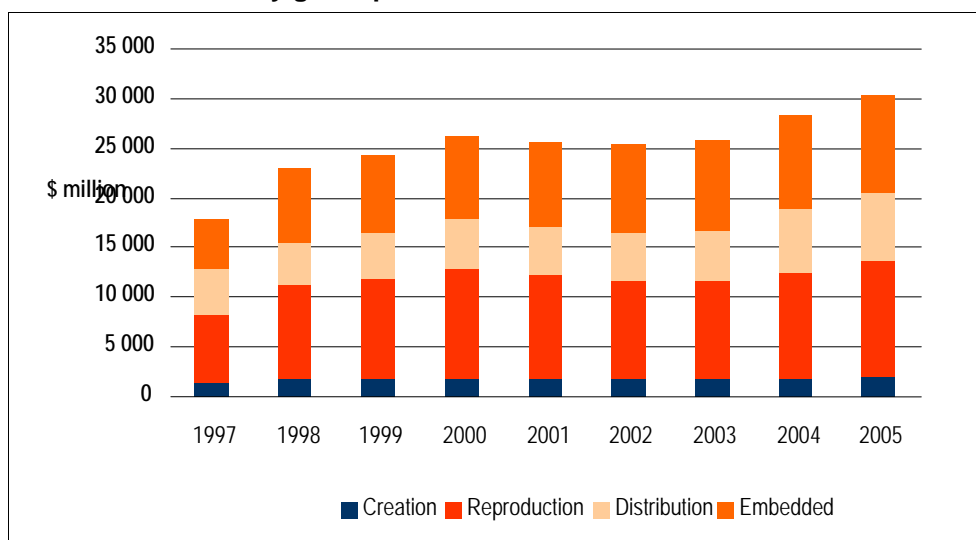
Data sources: IBISWorld and CIE.

The second part of the chart (below the dotted line) shows the new measure of the cultural and creative industries and compares it to the ANZSIC classifications. The comparison shows that in 2004-05 the cultural and creative industries contributed 4 per cent to Australia’s IGP. This would place the industry between agriculture forestry and fishing and government administration and defence.

Growth in the cultural and creative industries

The industry gross product of the cultural and creative industries has grown over time (in real or inflation adjusted terms), increasing from \$18 billion in 1996-97 to \$30 billion in 2004-05, an expansion of 68.9 per cent over the period. (See Chart 4.5).

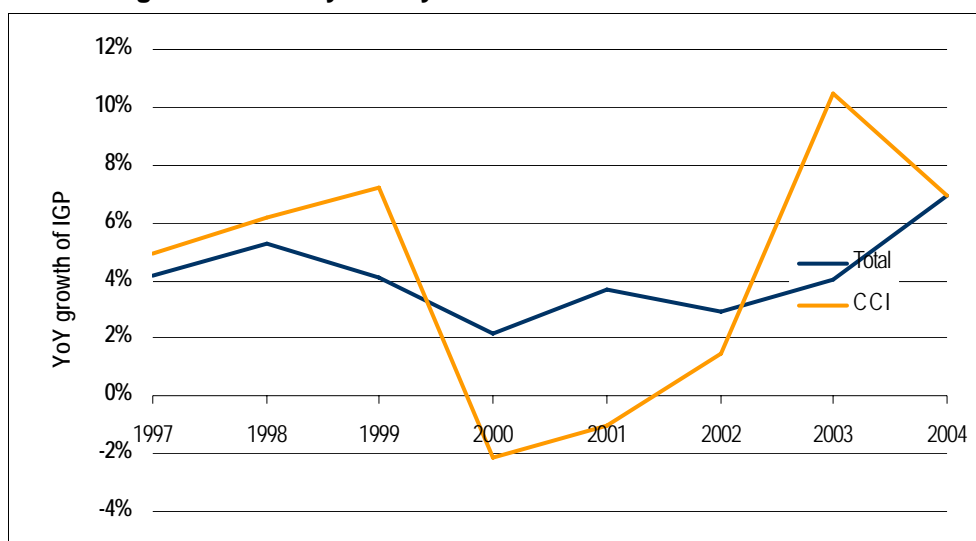
4.5 Value of industry gross product over time



Data sources: IBISWorld and CIE.

The output of the cultural and creative industries appears to be relatively volatile. Chart 4.6 shows the annual change (that is, year on year) in Australian output compared with the year-on-year changes of output in the cultural and creative industries over the 1997 to 2005 period.

4.6 Change in IGP from year to year



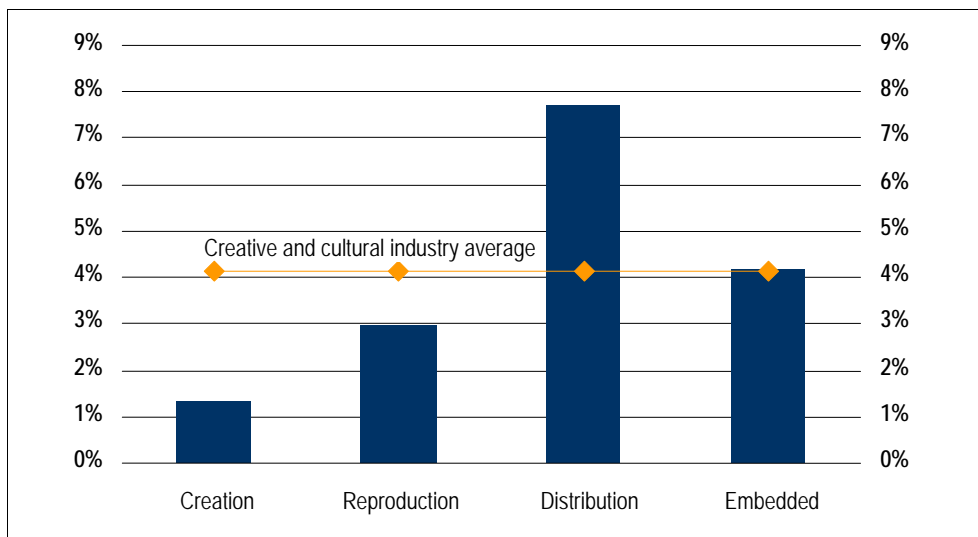
Data source: IBISWorld, ABS and CIE.

The chart shows that growth in the cultural and creative industries is more volatile than for the economy as a whole. The cultural and creative industries grew much faster than the economy from 1997 until 1999, but it then contracted in 2000. The industries then rebounded from 2000 to 2003 with the rate of growth beginning to decline in 2004, although still staying positive and slightly higher than the Australian economy growth rate. The average of the annual rates of growth for overall period for the cultural and creative industries was 4.12 per cent compared with 4.16 per cent for the Australian economy. The higher volatility in the cultural and creative industries seems to result in slower growth over the long run, but the impact is marginal.

The contributions of each component to industry gross product have remained fairly stable over time with the only noticeable change being an increase in the proportion of output of the distribution industries in 2003-04 and 2004-05.

The fastest growing component of the cultural and creative industries is the distribution component, which had an average year-on-year growth rate of 7.7 per cent over the period 1997-2004. Creation was the slowest growing component with only 2.97 per cent growth over this period. Reproduction also had a growth rate below the average of the cultural and creative industries at 1.1 per cent, while the embedded industries grew slightly above the average at 4.19 per cent (Chart 4.7)

4.7 Growth in the cultural and creative industry components (2000-05)



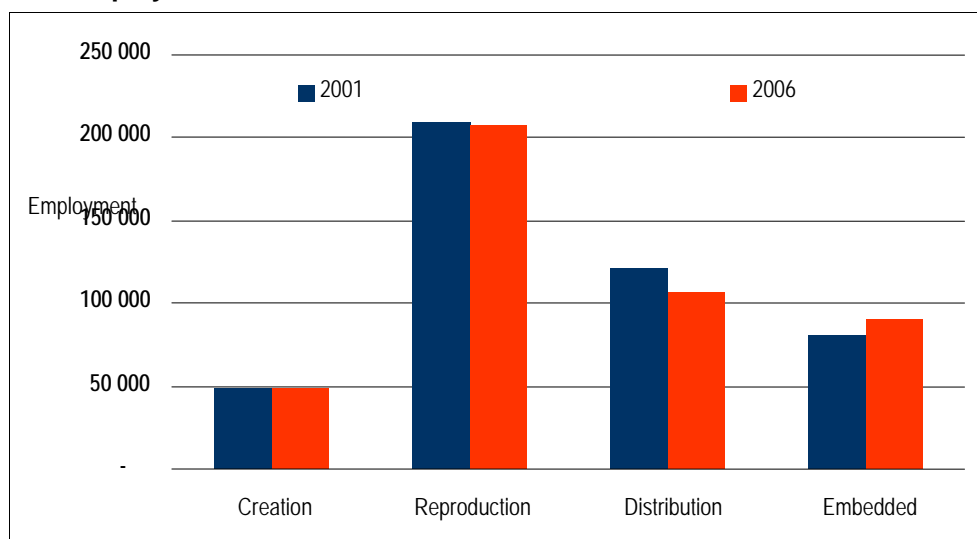
Data sources: Australian Bureau of Statistics, IBISWorld and CIE.

Employment in the cultural and creative industries

According to the 2006 Census, around 453 000 people were employed in cultural and creative industries.⁹ This was around 5.0 per cent of total employment. Every employed person working in the industries listed in Appendix B is included in this estimate. This includes people working in every role within enterprises inside all four of the identified components of the cultural and creative industries.

The reproduction component of the cultural and creative industries is the largest. More than 207 000 people were employed in this component of the cultural and creative industries in 2006. More than 106 000 people were employed in the distribution component of the cultural and creative industries, while around 91 000 were employed in embedded industries. Around 49 000 people were employed in enterprises involved in creating cultural and creative goods and services.

4.8 Employment in the cultural and creative industries



Data source: Australian Bureau of Statistics, IBISWorld, CIE.

⁹ Employment estimates reported in this chapter differ from those reported in the chapter relating to occupations because of the different basis of classification adopted in each chapter. Employment here is based upon definitions used in the ABS Labour Force Survey. Essentially it relates to the number of working proprietors, working partners, permanent, part-time, temporary and casual employees, and managerial and executive employees working for an establishment during the last pay period in the financial year each year. Employees absent on paid or prepaid leave are included. Sole proprietors and partnerships not employing others are excluded. Unpaid volunteers are included in the Labour Force Survey statistics. It is also important to note that the estimates for industry employment do not distinguish between types of work. Thus the estimates relate to employment including 'non-creative' employees such as management or cleaning staff, as well as those that could be viewed as being 'creative' employees in the industries that are viewed as being cultural and creative industries. This is consistent with official estimates of employment in say manufacturing which includes many more people beyond those actually making products on the factory floor.

In 2006, nearly 7000 fewer people were employed in cultural and creative industries compared with 2001. In 2001, there were around 460 000 employed in cultural and creative industries. This represents a decline of 1.4 per cent over five years. By contrast, total employment increased by 9.7 per cent. As a result, the share of total employment in cultural and creative industries declined from 5.5 per cent in 2001 to 5.0 per cent in 2006.

The overall fall in employment in cultural and creative industries was largely confined to the distribution component, which fell by 12.0 per cent between 2001 and 2006. In particular, employment in the 'newspaper, book & stationery retailing' and libraries industries both fell by more than 4000. This could reflect structural change in the economy with more people obtaining information electronically. By contrast, employment in the embedded industries increased by 12.1 per cent over the same period. Employment in the creation and reproduction components of the cultural and creative industries was little changed from the 2001 Census.

Enterprises

There may be some 94 000 establishments in the cultural and creative industries by CIE estimates (see Table 4.9).

4.9 Number of establishments in the cultural and creative industries in 2005

<i>Industries</i>	<i>Establishments</i>	
	No.	% of CCI
Creation	8 791	9.3
Commercial art display services	2 725	2.9
Film and Video production	2 090	2.2
Music and theatre productions	1 015	1.1
Creative arts	990	1.0
Photographic studios	1 971	2.1
Reproduction	21 611	22.9
Services to printing	727	0.8
Newspaper printing or publishing	515	0.5
Other periodical publishing	314	0.3
Book and other publishing	240	0.2
Recorded media manufacturing and publishing	1 279	1.3
Computer consultancy services	15 335	16.2
Sound recording studios	207	0.2
Services to the arts nec	432	0.4
Other recreation services	812	0.08
Photographic film processing	1 750	1.8
Printing	n/a	

(Continued on next page)

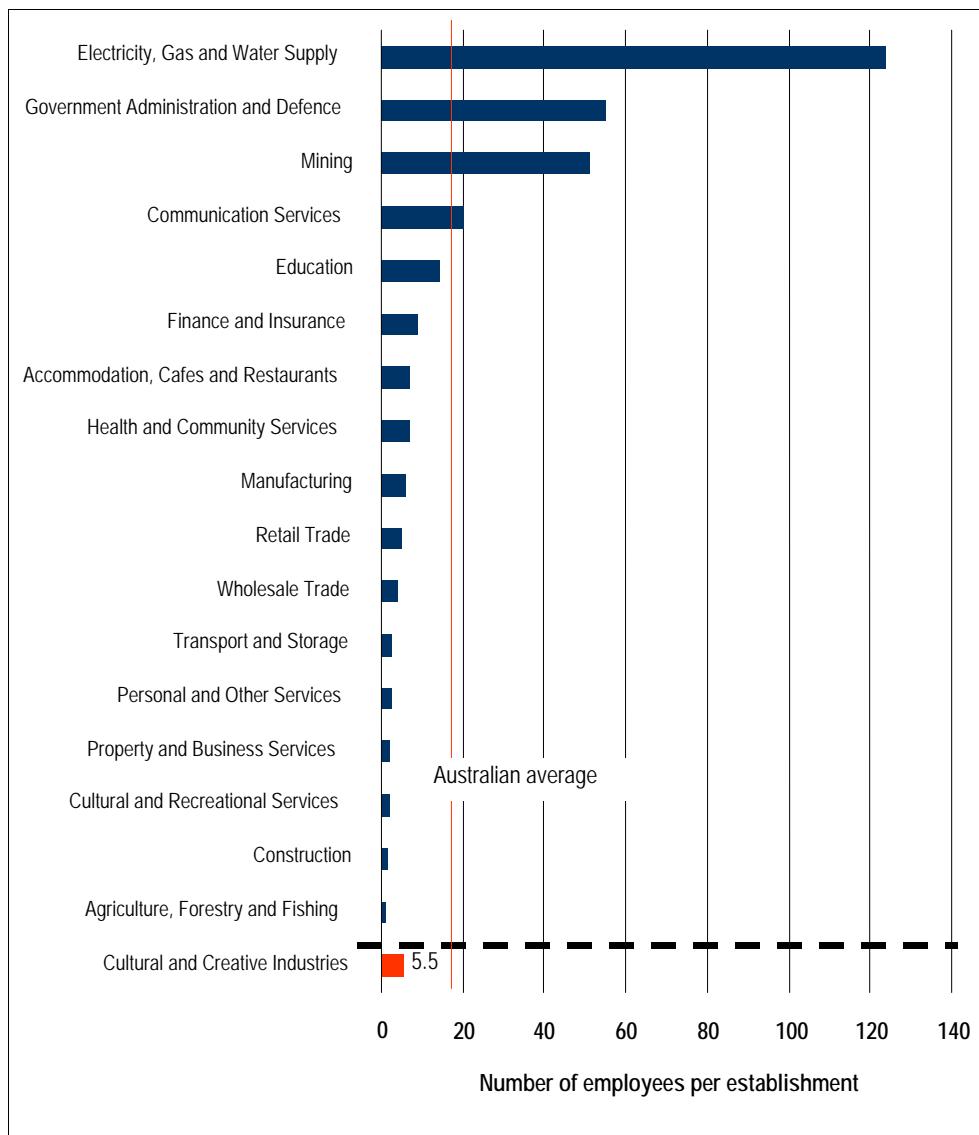
4.9 Number of establishments in the cultural and creative industries in 2005 (continued)

<i>Industries</i>	<i>Establishments</i>	<i>Share</i>
Distribution	23 898	25.3
Recorded music retailing	1 916	2.02
Newspaper, book and stationary retailing	11 104	11.7
Antique and used good retailing	4 509	4.8
Film and video distribution	55	0.05
Motion picture exhibition	305	0.3
Radio services	352	0.4
Libraries	1 755	1.8
Museums	1 384	1.5
Performing arts venues	249	0.3
Video hire outlets	1 445	1.5
Information storage and retrieval services	375	0.4
Free to air television	443	0.5
Pay television	6	0.0
Embedded activities	40 171	42.5
Architectural services	5 913	6.2
Advertising services	281	0.3
Education	3 246	3.4
Government administration and defence	156	0.2
Property and business services	30 575	32.4
Total	94 471	100

Data source: IBIS World.

Possibly a more meaningful approach to compare the size of the cultural and creative industries with other sectors is to look at the numbers of employees per enterprise. The available data shows that the industries with the largest number of employees per establishment are electricity, government and mining. The cultural and creative industry ranks roughly in the middle, between retail trade and manufacturing on the chart.

4.10 Number of employees per establishment



Data source: Australian Bureau of Statistics, IBISWorld, the CIE.

The data suggests that the cultural and creative industries have an average of 5.5 workers per establishment. This is lower than the Australian average of 18.4 but is higher than other industries such as construction and agriculture.

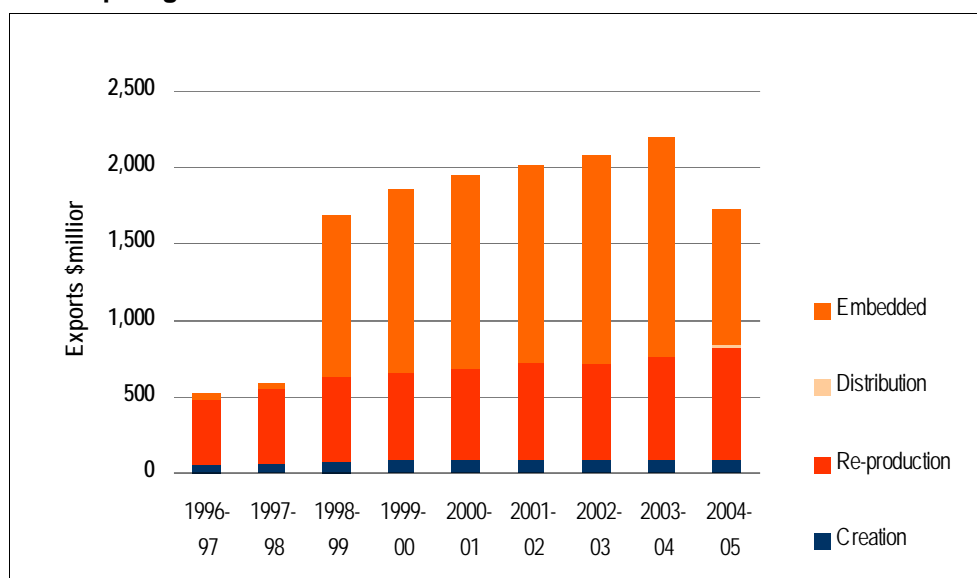
There are some issues that may obscure insights able to be derived from the data about enterprises. It is difficult to discern active enterprises from enterprises that are established for a variety of other reasons, say for taxation purposes. It may be the case that the motives for setting up an establishment (a company, a partnership or sole trader) arrangement may differ in the cultural and creative industries compared with other industries. It is not clear if these factors prompt a bias towards overestimation or underestimation of the size of the cultural and creative industries relative to the rest of the economy. It is likely that the least reliable estimate in regard to the number of cultural and creative industry enterprises relates to embedded

activities. Unlike the other components where specific data is collected, this estimate is reliant upon some additional assumptions. In particular, the number of establishments viewed as being cultural and creative is assumed to be linked to the proportion of employees within the industries that have cultural and creative occupations. In fact, very little is known about the distribution of employees and the size of employment, so the estimates reported should be viewed as being, at best, a rough approximation.

Imports and exports of the cultural and creative industries

Exports from the cultural and creative industries have shown an uptrend over time. (Chart 4.11).

4.11 Export growth of the cultural and creative industries



Data sources: Australian Bureau of statistics, IBISWorld, CIE.

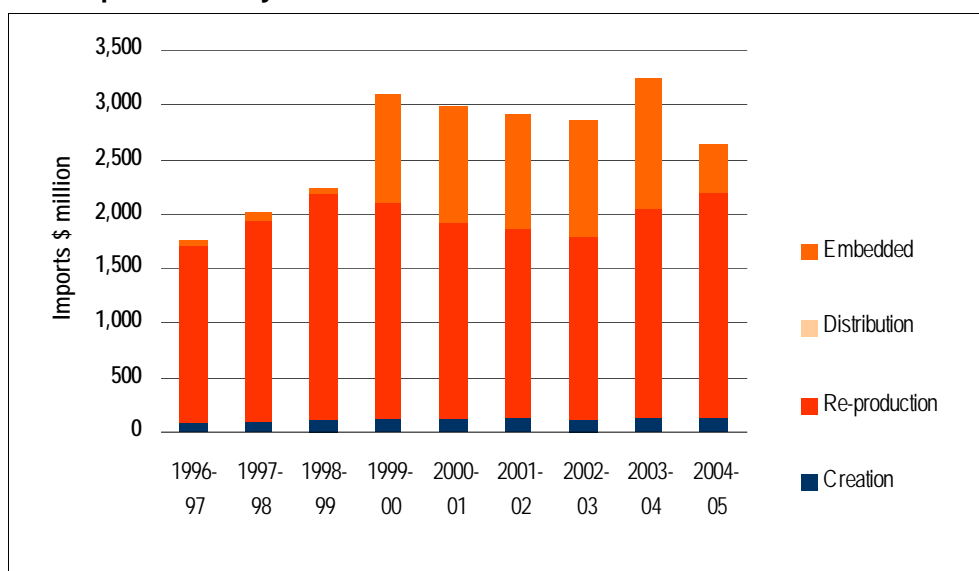
The data suggests that the largest source of exports in the cultural and creative industries is from the embedded activities, but that there are large changes over time with a rapid increase from 1997-98 to 1998-99, and then a large decrease from 2003-04 to 2004-05. Reproduction is also a relatively large source of exports. Creation maintains a small proportion of the cultural and creative industries' exports throughout the period reviewed.

There are many issues relating to exports (and import data) that can obscure insights. The figures reported here relate to merchandise trade. Merchandise includes goods that are sent out of Australia permanently. There are some goods that are not counted in the data including small parcels valued at less than \$2 000 (which could include books and CDs and many other cultural and creative goods that were retailed from Australia). Importantly this data excludes royalties and other

remittances. Thus merchandise exports do not include income from overseas sales of Australian distribution activities.

Chart 4.12 shows the imports used by cultural and creative industries (in terms of millions of dollars) over the period 1996-97 to 2004-05. The chart shows that the largest import component is reproduction with embedded following closely behind. Creation accounts for a small part of exports. Distribution has no recorded merchandise imports (with the cost of many of the services that originate from overseas being and counted in other statistics that are not disaggregated by industry in this level of detail). The same caveats apply to the import data as to the export data.

4.12 Imports used by the cultural and creative industries



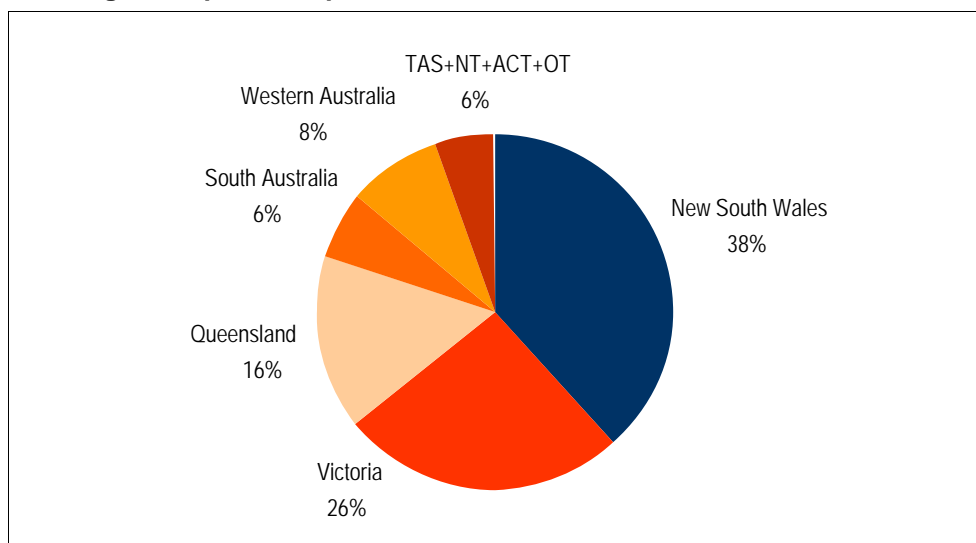
Data sources: Australian Bureau of statistics, IBISWorld, CIE.

It is notable that cultural and creative industry imports exceed exports and that there is a net deficit for merchandise trade for the sector. This may reflect complexities in the data that obscures contributions from services and other flows of value (such as remittances and royalties).

Regional differences

The share of cultural and creative industries varies by state as is shown in Chart 4.13. The distribution of activity in the cultural and creative industries is not very meaningful by itself. Much of the variation is likely to reflect factors such as the distribution of population and economic activity in general, so that the largest state would be expected to be the largest state in the cultural and creative industries (which is reflected in Chart 4.13).

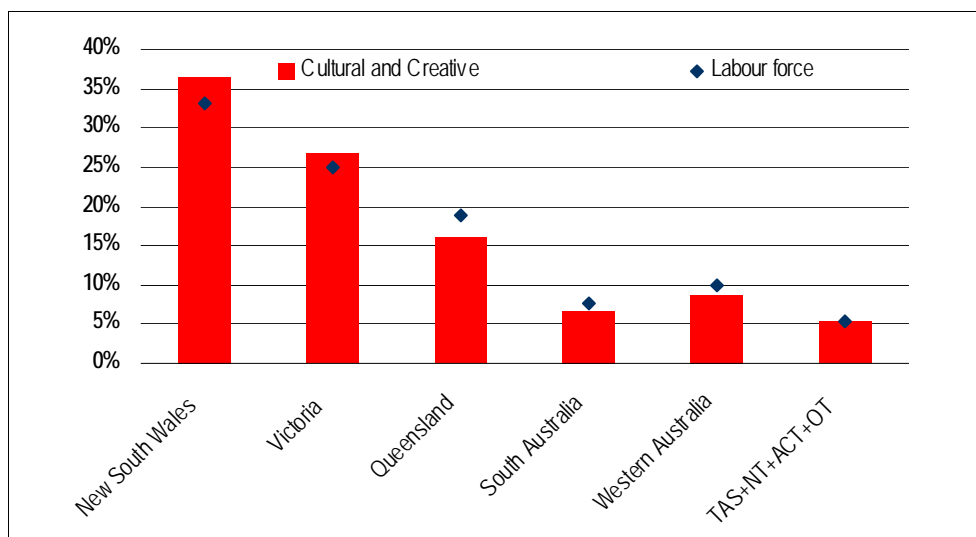
4.13 Regional split of output from the cultural and creative industries in 2005



Data sources: CIE, IBISWorld, Australian Bureau of Statistics.

However, by comparing the share of cultural and creative industry employment in each state with their share of the total labour force then it is easier to make conclusions as to whether a particular state has a larger or smaller proportion of cultural and creative workers than it does other types of workers. This is shown in Chart 4.14.

4.14 Distribution of employment between the Australian states



Data sources: Australian Bureau of Statistics, IBISWorld, CIE.

The chart depicts the share of cultural and creative employees in each state of Australia compared with each state's share of the labour force. The chart shows that for most states the cultural and creative industries have similar shares of total employment and employment in the cultural and creative industries. The states with large differences are Queensland and New South Wales. New South Wales has

36 per cent of Australia's cultural and creative employees compared with 33 per cent of the Australian workforce and therefore has a proportionately large share of cultural and creative workers. The reverse is shown in Queensland, which has 18 per cent of the Australian workforce but 15 per cent of the cultural and creative workforce. South Australia and Western Australia also have higher shares of the Australian labour force than they do of the cultural and creative labour force, whereas Victoria has a slightly larger share of cultural and creative employees.

4.15 Components of the cultural and creative industries by state in 2005



Data sources: Australian Bureau of Statistics, CIE.

Key points

Using the framework established earlier in the study key attributes of the economic contribution of the cultural and creative industries have been identified. The cultural and creative industries have been found to make a significant economic contribution. They:

- contribute about \$31.8 billion of industry gross product (IGP) in 2004-05 – this is equal to about 4 per cent of total IGP (akin to GDP);
- depend upon reproduction activities to make the largest contribution to that output (accounting for 39 per cent) while creation is the smallest component part (6 per cent of the total);
- exhibit volatility with strong growth in some years and contractions in others, but nevertheless averaging growth of about 4 per cent per annum over the period studied;
- employed about 453 000 people in 2006 (including people in cultural and creative occupations as well as managers and people in support roles);
- involve the efforts of over 102 000 enterprises; and

- are distributed unevenly over Australia, with NSW and Victoria having a disproportionately higher share of cultural and creative industry activity measured in terms of the value of output (IGP) and employment.

Employment in the cultural and creative industries declined by nearly 6000 people between 2001 and 2006. This was despite a 9.7 per cent increase in total employment. Consequently, the share of total employment in cultural and creative industries declined from 5.7 per cent in 2001 to 5.2 per cent in 2006.

The overall decline was largely driven by a 12.0 per cent decline in the distribution component of the creative and cultural industries. By contrast, there was a 12.1 per cent increase in employment in embedded industries. Employment in the creation and reproduction components of the cultural and creative industries was little changed from the 2001 Census.

5 *Cultural and creative occupations*

The number of people occupied in cultural and creative endeavours is large and growing. The ABS (2006) defines a job as a set of tasks designed to be performed by one person for an employer (including self-employment) in return for payment or profit. An occupation is defined as a set of jobs that require the performance of similar sets of tasks. Occupations are therefore about common skills and are a completely different concept to industries, which are groups of businesses that carry out similar economic activities. This chapter deals with occupations.

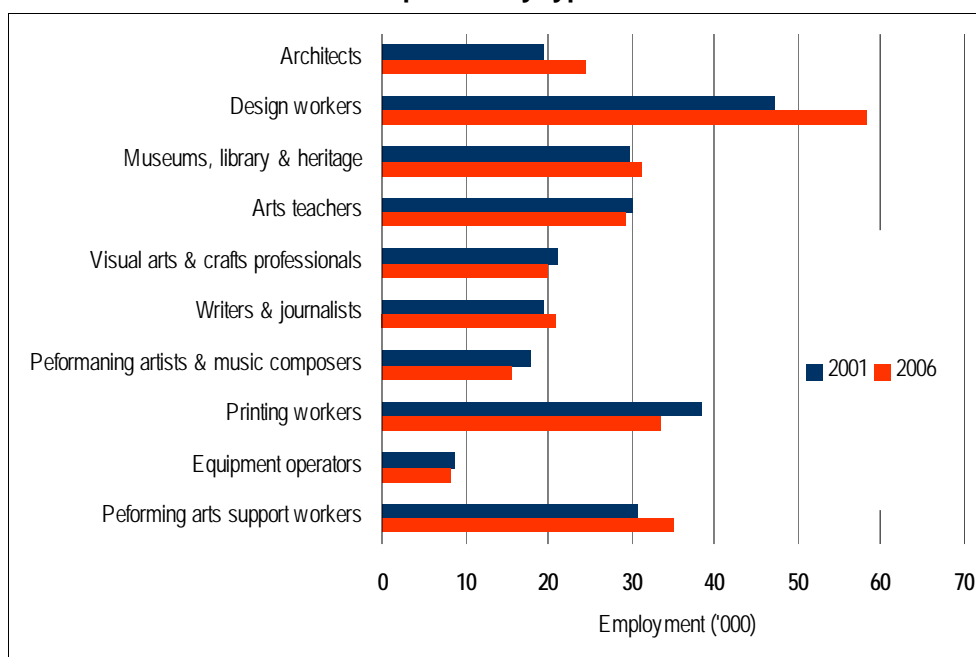
Employment in cultural and creative occupations

Around 276 000 people were in paid employment in cultural and creative occupations based on estimates obtained from the 2006 Census. This estimate is considerably less than the estimate of employment in cultural and creative industries. This is because many people employed in the cultural and creative industries do not have cultural and creative occupations. Consider the example of Sally. Sally is an accountant working for a museum. She would be included in the cultural and creative industries discussed in the previous chapter because the business she works for provides a cultural and creative service. Her occupation, however, is not considered to be cultural and creative.

Likewise, people in cultural and creative occupations do not necessarily work in cultural and creative industries. For example, Ricky is an art teacher at a prison. His occupation is considered to be cultural and creative. However, the organisation that employs him is not considered to provide cultural and creative goods or services. Nevertheless, many of these types of workers will have been captured in the industry estimate through the inclusion of embedded industries. These examples highlight the importance of looking at both industries and occupations.

For illustrative purposes, the occupations that are considered to be cultural and creative, as defined in Appendix A, are grouped into 10 broad categories (Chart 5.1). Over 58 000 people were employed in design-related occupations; this was around 21 per cent of total employment in cultural and creative occupations. Web designers and multimedia designers are classified under graphic designers in the ASCO classifications and are therefore included in this category. These occupations have their own code in the ANZSCO classifications, which have not yet been fully adopted. Design workers are the single largest type of worker in creative and cultural occupations.

5.1 Cultural and creative occupations by type



Data source: ABS Census (2001a).

Employment in cultural and creative occupations increased by more than 13 000 people between 2001 and 2006. This is an increase of 5.1 per cent overall at an average annual rate of around 1.0 per cent. This was a slower pace than growth in total employment, which increased by 9.7 per cent over the five-year period, or by 1.9 per cent annually. As a result, the share of employment in cultural and creative occupations fell from 3.2 per cent in 2001 to 3.0 per cent in 2006. This decline in the share of employment in cultural and creative occupations could reflect lower demand for people with cultural and creative skills, compared with other skills. Alternatively this could reflect a shortage of people with cultural and creative skills. This would be consistent with the skills shortages in some areas of the broader economy. This question is of particular relevance to IBSA; however, it is beyond the scope of this report to attempt to provide an answer.

Employment in design-related occupations grew strongly. In the five years to 2006, employment in design-related occupations increased at an average annual rate of 4.2 per cent. The number of architects also increased relatively rapidly. By contrast, the number of arts teachers, visual arts & craft professionals, performing artists & music composers, printing workers and broadcasting, film & recorded media equipment operators declined over the same period (See Chart 5.1).

The modest growth in employment in creative and cultural occupations over the five years to 2006 was in contrast to the fall in employment in cultural and creative industries. This implies that people in creative and cultural and cultural occupations are becoming more engaged in the broader economy. This is partly reflected by the relatively large increase in employment in the embedded cultural and creative

industries. It should also be noted that the decline in employment in cultural and creative industries was largely confined to the distribution component of the industries, which could reflect structural change in the economy. In particular, employment in the 'newspaper, book & stationery retailing' industry fell by more than 4000, with most of the job losses in non-creative and cultural occupations.

Occupation types in the cultural and creative industries

The cultural and creative industries appear to have a different mix of occupations than the rest of the workforce. Nearly 40 per cent of people employed in the cultural and creative industries are classified as professionals' (Chart 5.2). This compares with less than 20 per cent for the other industries. Correspondingly, the share of 'labourers & related workers' and 'intermediate clerical, sales & service workers' is much lower in the cultural and creative industries.

5.2 The cultural and creative industries by major group, 2006



Data source: ABS (unpublished Census data).

Inside/outside industry employment

Around 73 per cent of the 276 000 people employed in cultural and creative occupations work in cultural and creative industries (as defined in this study). Some 27 per cent of people in cultural and creative occupations therefore worked outside of cultural and creative industries. The largest numbers of people in activities outside of cultural and creative industries are in the manufacturing sector. Creative and cultural occupations are spread widely across all manufacturing industries. Some examples include graphic designers, visual arts and craft professionals and printers (See Table 5.3).

The estimates of people with cultural and creative occupations inside and outside of the cultural and creative industries is shaped fundamentally by the definition of the embedded component. Thus Guldberg's study of *The Arts Economy* (2000) found that there were as many artists and cultural workers outside the industry as there were inside the industry. A broadly similar result can be seen in the data reported above if embedded activities are viewed as being outside the industry (with the inside/outside ratio moving to 40:60).

5.3 Employment in cultural and creative occupations

	2001	Share	2006	Share
	Number	%	Number	%
Cultural and Creative Industries	198 476	75.5	200 933	72.7
▪ Creation	36 084	13.7	36 530	13.2
▪ Reproduction	50 109	19.1	47 276	17.1
▪ Distribution	30 955	11.8	25 971	9.4
▪ Embedded	81 328	30.9	91 156	33.0
Other Industries (a)	64 470	24.5	75,441	27.3
▪ Agriculture, Forestry and Fishing	447	0.2	278	0.1
▪ Mining	223	0.1	240	0.1
▪ Manufacturing	21 912	8.3	20 458	7.4
▪ Electricity, Gas and Water Supply	208	0.1	302	0.1
▪ Construction	3 640	1.4	6 403	2.3
▪ Wholesale Trade	3 563	1.4	4 903	1.8
▪ Retail Trade	8 321	3.2	9 810	3.5
▪ Accommodation, Cafes and Restaurants	3 181	1.2	3 786	1.4
▪ Transport and Storage	7 854	3.0	9 199	3.3
▪ Communications Services	1 159	0.4	1 739	0.6
▪ Finance and Insurance	1 215	0.5	1 514	0.5
▪ Health and Community Services	2 884	1.1	3 666	1.3
▪ Recreation Services	3 658	1.4	4 196	1.5
▪ Personal and Other Services	3 189	1.2	3 226	1.2
▪ Other	3 016	1.1	5 721	2.1
Total	262 946	100.0	276 374	100.0

^a These industries are as defined at the ANZSIC 1-digit level less those industries previously defined as cultural and creative.

Source: ABS (unpublished Census data).

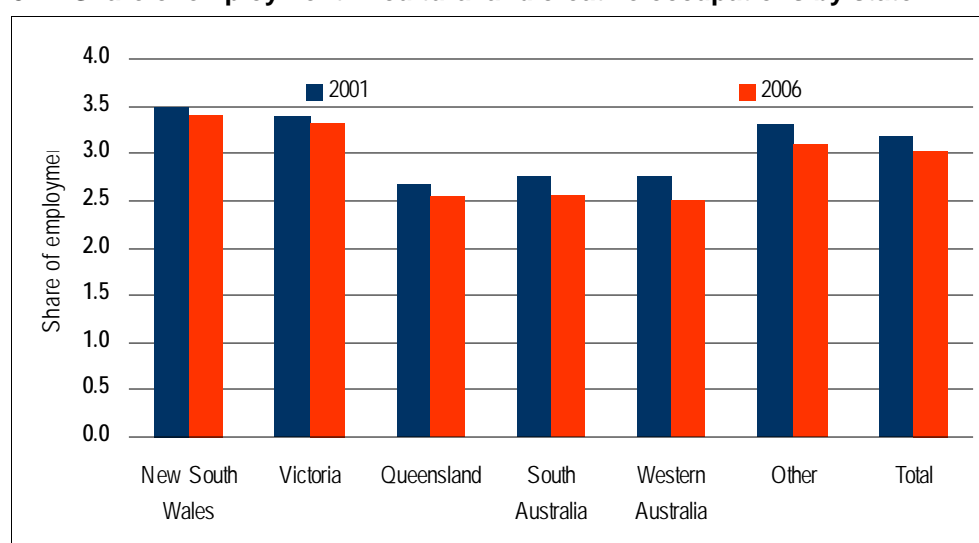
Compared with 2001, a lower share of people employed in cultural and creative occupations were in cultural and creative industries. Consequently, more people in creative and cultural occupations are employed outside the cultural and creative industries. The number of people employed in creative and cultural occupations increased in most industries outside the creative and cultural industries, except manufacturing and agriculture.

Cultural and creative occupations by state

The distribution of people in cultural and creative occupations differs between the Australian states although the degree of difference is modest. In 2006, New South Wales had the highest share of employment in cultural and creative occupations, at

3.4 per cent, followed by Victoria at 3.3 per cent. Around 3.1 per cent of people in Tasmania, the ACT and the Northern Territory combined were employed in cultural and creative occupations.¹⁰ Queensland, South Australia and Western Australia all had around 2.5 per cent of employment in cultural and creative occupations. The share of total employment in cultural and creative occupations fell slightly in all States in the 2006 Census, compared with the 2001 Census.

5.4 Share of employment in cultural and creative occupations by state



Data source: ABS (unpublished Census data).

Notes on data limitations and robustness

The strengths and limitations of the data may shape the confidence that can be held in these findings.

As noted in earlier chapters when seeking to identify robust data, the data set at the foundation of this chapter, the 2001 Census, involves some constraints. A theme that was also echoed in discussions with industry stakeholders was that the traditional approach used in official statistics (such as the Census) tended to overlook or understate the numbers of people engaged in cultural and creative occupations, reflecting special characteristics of the cultural and creative industries. Thus the number of people with cultural and creative skills may be understated because many people in these industries would report their 'day job' in the Census or not note that they had a second occupation that was part of the cultural and creative industries. It was also felt that the data may also understate people with cultural and creative skills because volunteers with these skills are dropped out.

¹⁰ Data disaggregated by ASCO at the 6-digit level and ANZSIC at the 4-digit level are not available individually for Tasmania, the ACT and the Northern Territory due to confidentiality restrictions.

The question is: how material are these constraints in practice?

Multiple occupations

It is possible to compare results obtained using Census data with specific survey data in some areas of the cultural and creative industries that have already been studied. Throsby and Hollister (2003) surveyed artists occupied in writing, visual arts, craft, acting, dance, music and composition. (Notably this is a subset of the people occupied in cultural and creative occupations as defined in this study). Throsby and Hollister have also reconciled their survey estimate with data obtained from the Census (See Table 5.6).

5.5 Reconciliation of Census data with survey population estimates

	<i>2001 Census data</i>	<i>Throsby & Hollister</i>	<i>Difference</i>
	'000	'000	'000
Writers	4.0	7.3	3.3
Visual artists	5.0	9.3	4.3
Craft practitioners	1.5	4.3	2.8
Actors	3.6	6.5	2.9
Dancers	1.4	1.3	-0.1
Musicians	8.4	12.5	4.1
Composers	0.3	1.5	1.2
All artists	24.1	45.0	20.9
Artists & related professionals nfd	4.0		
Visual arts & craft professionals nfd	0.4		
Visual arts & craft professionals nec	4.5		
Actors, dancers & related professionals nfd	0.1		
Actors, dancer & related professionals nec	2.7		
Total	35.7	45.0	9.3

Source: Throsby and Hollister (2003); CIE.

Throsby and Hollister's central estimate of the number of 'all artists' was almost double those who declared the relevant occupations were their main job in the 2001 Census.¹¹ Importantly, Throsby and Hollister's reconciliation did not include the 'not elsewhere classified' or 'not further defined' categories for visual artists and craft practitioners or for actors and dancers, because of difficulties in allocating them to specific occupations. Over 11 000 people were classified to these categories in the Census and they are included in the estimates produced in this study. This narrows the discrepancy to around 9000 people. While this is only around 0.1 per cent of total employment, as recorded by the 2001 Census and 3.5 per cent of total employment in

¹¹ While 2006 Census data is now available, it is more relevant to reconcile Throsby and Hollister's estimates to 2001 Census, since their survey was undertaken in early 2002, only around six months after the 2001 Census was completed.

cultural and creative occupations, this is still regarded as being significant. This is because it represents around a quarter of the subset of cultural and creative occupations included in the artists survey. If this discrepancy was consistent across all cultural and creative occupations, the total number of people in cultural and creative occupations in 2001 could be inflated from 262 000 to around 330 000. If the degree of under-reporting of cultural and creative occupations was similar in the 2006 Census, the total number of people in cultural and creative occupations could be inflated from 276 000 to around 348 000. However, it is highly unlikely that people employed in the reproduction and distribution occupations are under-represented to the same extent as artists.

Furthermore, Aboriginal and Torres Strait Islander artists living in remote communities are not included in the Artists' survey, but are included in the Census. This means that the under-reporting of artists in the Census could be greater than implied by the discrepancy between the artists survey and the Census.

It is feasible to test if the differential is due to artists holding multiple jobs. Throsby and Hollister classified jobs as being as the artists' principal artistic occupation (PAO), other arts-related work and non-arts work. Based on survey responses Throsby and Hollister estimate that, consistent with anecdotal evidence, 63 per cent of artists have multiple occupations. Many artists do other arts-related work in addition to their PAO. However, about a third of all artists do some non-arts-related work. It is these artists that are at risk of nominating another a non-artistic occupation in the Census when they are in fact an artist. (See Table 5.7).

5.6 Artists' involvement in arts, arts-related and non-arts work

	<i>Proportion of all artists</i>	<i>Implied number^a</i>
	%	'000
One job:		
PAO only	32	14.4
Arts-related work only	2	0.9
Non-arts work only	3	1.4
<i>Sub-total</i>	<i>37</i>	<i>16.7</i>
Two jobs		
PAO and arts-related work	34	15.3
PAO and non-arts work	21	9.5
Arts-related and non-arts work	1	0.5
<i>Sub-total</i>	<i>56</i>	<i>25.2</i>
Three jobs		
PAO, arts-related and non-arts work	7	3.2
Total	100	45.0

^a Assuming 45 000 artists.

Source: Throsby and Hollister (2003); CIE.

Differences in the treatment of multiple occupations is likely to explain a large portion of the observed discrepancy between Throsby and Hollister's estimate of the numbers of artists and values obtained from the Census.

As a result of the single occupation framework in the Census, some artists will not have been recorded as being employed in a cultural and creative occupation. The survey undertaken by Throsby and Hollister suggests the Census data may understate the number of artists by up to 10 000.

Volunteers

A further concern of industry stakeholders is that there are problems in overlooking volunteers.

Table 5.7 reports findings from various studies regarding specific industries within the wider cultural and creative industries where there are estimates of the numbers of people employed and where volunteers are engaged. This is compared with the 2001 and 2006 Census estimates of employment in those industries.

The data shows that the overall result for the estimate of total employment using these two data sources is materially different. There is a gap of nearly 40 000 people between estimates that include and exclude volunteers.

In many cases the Census data is similar to the number of people identified in the industry surveys as being in paid employment. The data also shows that, as expected, the Census does not capture those who have been identified as in unpaid employment. For example, the industry survey for museums suggests that there were 7624 paid and 28 067 unpaid employees in 2003-04. The Census only identifies 5424 employees in the same industry. This means that for museums, the Census has undervalued the number of people employed in the industry. There are also occasions where the Census overvalues the number of people in the industry. One example of this is sound recording studios where the industry survey estimates 499 employees whereas the Census data produces an estimate of 896.

From the above analysis the areas of the cultural and creative industries that appear to be most reliant upon volunteers are:

- museums;
- radio services; and
- performing arts festivals.

According to *Australia's Cultural Volunteer 2000*,¹² there around 280 000 volunteers with cultural involvement in 2000. In the year before the survey these people spent

¹² This publication was produced by the ABS for the Cultural Minister's Council Statistics Working Group based on data from the Voluntary Work Survey.

an average of 112 hours or a little over two hours per week volunteering. This is equivalent to over 16 000 full-time equivalent employees. The median hours worked per year was 60 (or a little over one hour per week). The discrepancy between the mean and the median hours spent volunteering implies a relatively small number of people are spending a large number of hours volunteering.

5.7 Comparison of Census data to the industry surveys

Publication	Cat. no.	Year	ANZSIC code	Description	Employment			2001 Census	2006 Census
					Paid	Unpaid	Total		
Museums	8560.0	2003-04	9220	Museums	7 624	20 443	28 067	5 424	6 205
Video Hire Industry	8562.0	1999-00	9511	Video Hire Outlet	11 034	0	11 034	10 794	10 913
Motion picture exhibition	8654.0	1999-00	9113	Motion Picture Exhibition	9 282	0	9 282	10 100	8 853
Radio and television services	8680.0	1996-97	9121	Radio Services	5 064	11 203	16 267	5 876	5 230
			9122	Television services (public)	8 873	289	14 400	17 416	15 836
Television, film and video	8679.0	2002-03	9111	Film and video production	16 427	0	16 427	7 685	8 216
			9122	Television services	9 094	0	9 094	17 416	5 836
Performing arts	8697.0	2002-03	9241	Music and theatre production	7 824	0	7 824	10 833	8 620
Performing arts festivals					1 272	15 728	17 000	0	0
Book publisher	1363.0	2003-04	2423	Book publishers	5 300	0	5 300	8 933	6 915
Sound recording studios	8555.0	1996-97	9251	Sound recording studios	499	0	499	896	657
Total					87 541	47 663	135 204		95 373

Source: Australian Bureau of Statistics.

While IBSA is fundamentally interested in skills formation quite broadly, there is a necessary emphasis on employment outcomes. The broader effort undertaken by persons undertaking work is of some interest; however the target must be those currently employed or seeking paid employment in cultural and creative occupations and industries.

Key points

The study has provided robust estimates of the number of people with cultural and creative occupations using current data collections and the framework set out earlier in the study. Key findings are that:

- around 276 000 people were employed in cultural and creative occupations based on estimates from the 2006 Census (notably people with cultural and creative occupations differ from the number of people employed in cultural and creative industries which includes non-cultural and creative roles);

- most people with cultural and creative occupations are employed within the cultural and creative industries, but many are employed outside of these industries;
- design-related occupations account for the single largest type of workers in the cultural and creative industries (with 21 per cent of the total).

Compared with the 2001 Census, employment in cultural and creative occupations increased by more than 13 000, or 5.1 per cent. This was in contrast to the decline in employment in cultural and creative industries. Nevertheless, the share of total employment in cultural and creative occupations fell from 3.2 per cent in 2001 to 3.0 per cent in 2006. This could reflect weaker demand for people with cultural and creative skills than for other occupations. Alternatively, it could mean that there is a shortage of people with creative and cultural skills.

The above estimates do not include people whose second occupation is in the cultural or creative activities or volunteers. A comparison with other available data suggests that there may be around 10 000 artists not captured by the Census because they have other non-arts-related jobs. Furthermore, volunteers could contribute the equivalent of around 16 000 full-time jobs. This suggests that the Census could underestimate the number of people in cultural and creative occupations by around 26 000. This is equivalent to less than half a per cent of total employment, as measured by the 2006 Census. However, these estimates are only indicative and should be treated with caution. Only by periodic targeted surveying can the level of effort provided by including second occupations and volunteer workforces be accounted for. Surveying is a costly activity and may effectively add little value to the existing data sets in respect of the focus and targeting of vocational education and training.

As with industry classifications, there are issues regarding revisions of occupational classifications. The ASCO 1997 classification used in forming the previous estimates has limitations where it lags the current structure of the labour market and actual skill categories. It does not, for example, explicitly identify many of the occupations in the digital content industry. This may not be a material problem in the estimates reported above, however, because people with these occupations have probably been counted within other occupations that were viewed as being within the cultural and creative industries. Many such classification issues have been largely rectified in the new ANZSCO (2006) approach which has more occupations in areas such as the digital content sector. While 2006 Census data using the ANZSCO framework is available, ASCO codes were used in this study to allow comparison between 2001 and 2006 Census data.

A Cultural and creative occupations

This appendix lists occupations by ASCO code that are considered to be cultural and creative.

A.1 Cultural and creative occupations

<i>ASCO code</i>	<i>Description</i>
<i>Creation</i>	
129611	Media Producer
129613	Artistic Director
212111	Architect
212113	Landscape Architect
222117	Advertising Specialist
252911	Historian
252979	Social Professionals, nec
253111	Painter (Visual Arts)
253113	Sculptor
253115	Potter or Ceramic Artist
253179	Visual Arts and Crafts Professionals, nec
253211	Photographer
253311	Fashion Designer
253313	Graphic Designer
253315	Industrial Designer
253317	Interior Designer
253319	Illustrator
253411	Editor
253413	Print Journalist
253415	Television Journalist
253417	Radio Journalist
253419	Copywriter
253479	Journalists and Related Professionals nec
253511	Author
253513	Book Editor
253515	Script Editor
253611	Art Director (Film, Television or Stage)
253613	Director (Film, Television, Radio or Stage)
253615	Director of Photography
253617	Film and Video Editor
253711	Music Director
253713	Singer
253715	Instrumental Musician
253717	Composer
253811	Actor
253813	Dancer or Choreographer

(Continued on next page)

A.1 Cultural and creative occupations (continued)

ASCO code	Description
<i>Creation</i>	
253879	Actors, Dancers and Related Professionals, nec
253911	Radio Presenter
253913	Television Presenter
399911	Interior Decorator
442201	Supervisor, Signwriters
442211	Signwriter
442281	Apprentice Signwriter
492911	Picture Framer
492981	Apprentice Picture Framer
499227	Make Up Artist
599915	Visual Merchandiser
599917	Photographer's Assistant
619911	Proof Reader
<i>Reproduction</i>	
491111	Graphic Pre-Press Tradesperson
491181	Apprentice Graphic Pre-Press Tradesperson
491211	Printing Machinist
491213	Small Offset Printer
491281	Apprentice Printing Machinist
491283	Apprentice Small Offset Printer
491311	Binder and Finisher
491381	Apprentice Binder and Finisher
491411	Screen Printer
491481	Apprentice Screen Printer
499213	Camera Operator (Film, Television or Video)
499215	Television Equipment Operator
499217	Broadcast Transmitter Operator
499917	Piano Tuner
599511	Desktop Publishing Operator
799611	Printing Table Hand
799613	Printer's Assistant
<i>Distribution</i>	
229211	Librarian
229915	Archivist
253619	Stage Manager
253621	Program Director (Radio or Television)
253623	Technical Director
253679	Film, Television, Radio and Stage Directors, nec
254911	Conservator
254921	Museum or Gallery Curator
312113	Architectural Associate
339927	Theatre or Cinema Manager
399711	Library Technician
399913	Museum or Art Gallery Technician
499211	Sound Technician
499219	Motion Picture Projectionist
499221	Light Technician
499223	Production Assistant (Film, Television or Radio)
499225	Production Assistant (Theatre)
499279	Performing Arts Support Workers, nec

(Continued on next page)

A.1 Cultural and creative occupations (continued)

<i>ASCO code</i>	<i>Description</i>
619211	Library Assistant
639911	Museum or Gallery Attendant
829211	Ticket Seller
<i>Creation</i>	
831211	Ticket Collector or Usher
<i>Embedded</i>	
249111	Art Teacher (Private)
249113	Music Teacher (Private)
249115	Dance Teacher (Private)
249117	Drama Teacher (Private)
249179	Extra-Systemic Teachers, nec

Source: CIE.

It is notable from this table that there are no internet-related occupations such as multimedia designer or web designer. This could lead to the assumption that these occupations are not captured under the framework. However, these occupations are included in the graphic designer category. The reason for this is that multimedia and web designer are new categories included in the 2006 ANZSCO classification but did not exist in the 1997 classification.

B Cultural and creative industries by ANZSIC classification

In order to analyse the cultural and creative industries this report created a new definition of what is contained in them. This appendix will describe how this definition was made and then list the components contained within it.

Cultural and creative industries definition

In order to differentiate between the cultural and non-cultural industries the analysis looked at the four digit ANZSIC classification which gives industry descriptions at a fairly narrow level. We were then able to identify which industries could be defined as cultural and creative and which could not. We also identified certain industries, which, although not entirely cultural, did have a cultural component. The industries with a cultural component were labelled embedded industries and work was undertaken to decipher what proportion of these industries could be defined as cultural. This was done by comparing the industry classifications with the ASCO occupation codes.

Consultation was then sought from cultural industry professionals and the outcome was a list of ANZSIC classification codes for industries that were agreed upon by all as being either entirely cultural or having a cultural component.

Table B.1 lists the industries used to form the cultural and creative industries as defined in this report. The first column shows the ANZSIC code associated with each industry followed by its description (second column). The third column shows what share of the industry was assumed to be cultural and creative.

B.1 Definition of cultural and creative industries

ANZSIC	Description	Share
C2412	Printing	100%
C2413	Services to printing	100%
C2421	Newspaper printing or publishing	100%
C2422	Other periodical publishing	100%
C2423	Book and other publishing	100%
C2430	Recorded media manufacturing and publishing	100%
G5235	Recorded music retailing	100%
G5243	Newspaper book and stationary retailing	100%
G5252	Antique and used good retailing	100%
L7821	Architectural services	60.5%
L7832	Information storage and retrieval services	100%
L7834	Computer consultancy services	100%
L7851	Advertising services	30.6%
L7852	Commercial art display services	100%
P9111	Film and video production	100%
P9112	Film and video distribution	100
P9113	Motion picture exhibition	100%
P9121	Radio services	100%
P9123	Free to air television	100%
P9124	Pay television	100%
P9210	Libraries	100%
P9220	Museums	100%
P9241	Music and theatre productions	100%
P9242	Creative arts	100%
P9251	Sound recording studios	100%
P9252	Performing arts venues	100%
P9259	Services to the arts nec	100%
P9330	Other recreation services	100%
Q9511	Video hire outlets	100%
Q9522	Photographic film processing	100%
Q9523	Photographic studios	100%
L	Property and business services	5.6%
M	Government administration and defence	1.9%
N	Education	6.4%

Source: CIE.

It is worth noting again at this point that this list does have limitations. It does not contain some of the newer classifications that have been developed for ANZSIC 2006 such as *J Information media and telecommunication services*. The data in this table comes from the ANZSIC 1993 classification as data is not yet available using the 2006 classification.

From this table it would seem that the framework has not accounted for the internet publishing and broadcasting industry as captured by category J57 in ANZSIC 2006, but this is because there is no such classification in ANZSIC 1993. The internet publishers are simply captured with printed publishers in categories 2422 other periodical publishing and 2423 Book and other publishing. There is no distinction between internet and other types of publishing in ANZSIC 1993, this is an identified weakness that has already been rectified with the development of ANZSIC 2006.

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