Title of Paper: **Australian Creative Employment in 2011 - applying the NESTA Dynamic Mapping definition methodology**

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Abstract

Creative employment in all of its complexity and variations is a critical component of a vibrant society and economy. In the UK, the body charged with overseeing its innovation system, the National Endowment for Education, Science, Technology and the Arts (NESTA) continues to research and publish on the creative industries. NESTA's research paper "A Dynamic Mapping of the UK's Creative Industries" elaborates on an improved 'evidenced based' methodology for determining what can be defined as creative occupations and creative industries.

NESTA has defined creative occupations by assessing each occupation under a five-point scale of factors that are indicative or predictive of creative roles. Rather than the previous approach of selecting industry classifications on the basis of their perceived correctness, the NESTA methodology looks at every industry's 'creative intensity'- the share of the industry's employment held by creative occupations. Industries with creative intensities above a threshold, set in the UK context at 35%, are deemed creative. Elements of the methodology have now been applied by the UK's Department of Culture, Media and Sport in a consultation report to re-define the official methodology for measuring creative employment in the UK.

The objective of this paper is to apply the UK methodology to the Australian system of industry and occupation classifications (as defined by the Australian Bureau of Statistics), to establish whether the creative intensity threshold would be the same as the UK's and to determine if the employment results are an improvement on the previous definition methodology used in Australia - the CCI spine.

Application of the NESTA methodology to the Australian system of industry and occupation classifications resulted in a reduction in the number of creative occupations by 18 through the elimination of 20 technician roles, but the addition of two occupations related to public relations. The number of creative industries decreased in net terms by one classification.

The changes in the definitions reduced the level of creative employment in Australia (in 2011) by 24,052 from 554,996 to 530,944 people, a reduction of 4.3% when compared to the previous definition. Interestingly, the change in definition actually increased the average annual growth rate in creative employment between 2006 and 2011 from 2.62% to 2.76%, an increase of 5.2%.

Based on the evidence, the authors find that NESTA's Dynamic Mapping definition methodology provides a tighter, more focussed selection of creative industries and occupations that will improve the ability of researchers and policy-makers to measure and better understand creative employment in Australia.

Research objective

The recent NESTA research paper "A Dynamic Mapping of the UK's Creative Industries"[1] elaborates on an improved 'evidenced-based' methodology for determining what can be defined as creative occupations and creative industries. Creative occupations are defined by assessing each occupation under a five-point scale of factors that are indicative or predictive of creative roles. Rather than the previous approach of selecting industry classifications on the basis of their perceived correctness, the NESTA methodology looks at every industry's 'creative intensity'- the share of the industry's employment held by creative occupations. Industries with creative intensities above a threshold, set in the UK context at 35%, are deemed creative.

Elements of the methodology have now been applied by the UK's Department of Culture, Media and Sport in a consultation report to re-define the official methodology for measuring creative employment in the UK.

The objective of this paper is to apply the NESTA methodology to the Australian system of industry and occupation classifications as defined by the Australian Bureau of Statistics (ABS), to establish whether the creative intensity threshold would be the same as the UK's and to determine if the employment results are an improvement on the previous definition methodology used throughout Australia - the CCI spine.[2]

Selecting the Creative Occupations

The Dynamic Mapping report defined creative occupations as "those roles that utilise a range of 'creative and design skills' to create new or significantly different or enhanced services, artefacts and products of value, irrespective of the industries in which they do this. These creative skills involve a combination of original thought – with the most creative skills involving inspired problem-solving – within defined processes to deliver or realise the output. This combination of inspiration and implementation, we argue, also makes these roles more resistant to mechanisation."

This definition was constructed not on the basis of some abstract schema but by looking at how creatives actually functioned in the creative economy. It is based, in short, on an economic model. The analysis focuses on the activities that define core creative production capacity and thereby excludes those manufacturing, distribution and retailing functions where these are able to be separated from the core creative industries and occupations. Hence, for example, the analysis counts employment in publishing businesses but not printers nor book stores; it also counts employment in post-production services and TV broadcasters but not providers of television transmission towers, and so on.

Importantly, using the NESTA methodology, creative employment includes both 'specialist' creative activity and 'creatives' employed in other (non-creative) sectors of the economy. To capture the full range of employment types the 'Creative Trident' has been developed. It includes three categories:

1. Creative occupations within the core creative industries (what we term 'specialists');
2. Creative occupations employed in other (non-creative) industries (termed 'embedded' creatives); and
3. Non-creative occupations ('support staff') employed in the creative industries.

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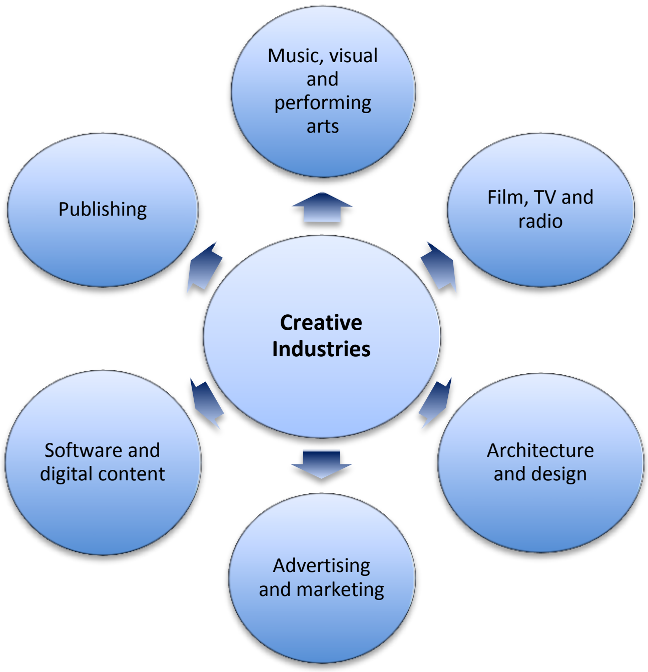
[1] Bakhshi, H., Freeman, A. and Higgs, P. (2012) The Dynamic Mapping of the UK's Creative Industries, NESTA, London, <http://www.nesta.org.uk/about_us/assets/documents/dynamic_mapping> last accessed 15/1/2013
[2] Higgs, Peter L. & Cunningham, Stuart D. (2007) Australia's Creative Economy: Mapping Methodologies. QUT <http://eprints.qut.edu.au/6228/> last accessed 25/5/2013

In Australia, the accepted definition of 'creative segments' (or what are sometimes more simply referred to as creative industries), at least for the purpose of statistical analysis, consists of:

- Music, visual and performing arts;
- Film, TV and radio;
- Advertising and marketing;
- Architecture and design;
- Software and digital content; and
- Publishing.

This is a widely-accepted grouping which has improved upon earlier iterations by more accurately categorising industry sectors according to the role of 'creativity' as their primary source of value.

Figure 1: Creative Segments



The NESTA definition of 'creatives' – the specialists working in the core creative segments and the 'embedded' creatives in other (non-creative) industries - was operationalised into five criteria:

1. **Non-Uniformity** – Is the 'output' associated with the occupation likely to vary each time it is created because of the interplay of factors, skills, creative impulse and learning? A journalist's stories are never the same while a printer on a newspaper press is producing the 100,000 copies of the same product within every print run.
2. **Creative Output** – Is the output of the occupation mostly perceived as novel or creative irrespective of the context in which it is produced - one such context being the industry (and its standard classification) of the organisational unit that hosts or employs the role? For example, a musician working on a cruise ship (a transport industry) is still considered creative while a printer working within a bank is probably operating printing technology and hence would be considered mechanistic and not creative.
3. **Not mere transformation** – Does the role merely 'shift' the service or artefact's form or place or time? For instance, a draftsperson/CAD technician takes an architect's series of

2D sketches or perspective drawings and renders them into a 3D model of the building. While great skill and a degree of creative judgement is involved in this task, arguably the bulk of the novel output is generated by the architect and not by the draftperson. Similarly a cinema operator is responsible for operating a machine to convert images on film or hard disk, through a projector, on to a screen. Both occupations are important in their respective ecosystems - but they are shifting the format if you will and not making crucial creative decisions.

4. **Novel process** – Does the role most commonly solve a problem or achieve a goal, even one that has been established by others, in novel ways? Even if there exists a well-defined process for achieving a solution, is creativity exhibited at many stages of the process? So not only is the output novel (point 1), but also the process that is gone through is very often novel.
5. **Mechanisation-resistant** – Creative occupations are arguably less exposed to substitution through mechanisation.

The NESTA definition and the principles which drive it, is not unlike that used in previous research in Australia. For example, the 2005 CCI report “Mapping Queensland’s Creative Industries: Economic Fundamentals” says of what were then more simply referred to as ‘creative industries’, “highly dependent on creative talent, their economic value lies in their intellectual property”.[3] While the definition used in Australia has since advanced to embrace ‘creative’ employment in both the creative and other non-creative sectors of the economy, the underlying principle - that creativity is their primary source of value - remains the same.

With the experience gained in scoring each of the UK classifications on the five criteria described above, we undertook the same exercise for the Australia and New Zealand Standard Classification of Occupations (ANZSCO) that was released in 2006.

The ANZSCO specification has 998 classifications at the 6-digit level – that is, the most fine-grained classification of occupations - but the data from the most recent ABS Census of Population and Housing (2011) has 1,534 unique occupation classifications. This is the difference resulting from the ABS’s strategy for managing the uncertainty in how a job description on a specific Census form should be classified if it doesn’t clearly fit an established 6-digit occupation.

In practice the ABS has created some 500 broader classifications (coding bins) by adding trailing zeros at the Major Group, Sub-Major Group, Minor Group and Unit Group levels of occupation classification to bring the number of digits to 6. All occupations that were likely to be within the scope of the grid scoring criteria were analysed and the total score calculated. Occupations with a grid score of 4 or 5 were deemed creative.

The main difference between the creative occupations calculated this way (using the NESTA methodology) from the previous definition is that a number of technician and other creative support roles - 231 in all - have been deemed not creative. These occupations include Architectural Draftsperson, Web Administrator, Gallery, Library and Museum Technicians, Performing Arts Technicians, Broadcast Transmitter Operator, Camera Operator (Film, Television or Video), Light Technician, Sound Technician, Television Equipment Operator, Performing Arts Technicians n.e.c (not elsewhere classified), Photographer's Assistant, Library Assistants and Proof Reader. Conversely, applying the NESTA methodology, three occupations related to Public Relations were added as they met or exceeded the minimum grid score criteria to be deemed creative.

[3] Lennon, Sasha, Hearn, Gregory N., Higgs, Peter L., & Ninan, Abraham (2005) *Mapping Queensland’s Creative Industries: Economic Fundamentals.* Queensland University of Technology.

Table 1: Number of Australian creative and non-creative occupations in 2011 as determined with the definitions established by the Dynamic Mapping methodology

	Previous Creative Definition		
Grid Definition Filter	**Creative Occupation**	**Not considered creative**	**Total**
Creative Occupation under Grid definition	92	3	95
Not Creative under Grid	21	1,418	1,439
Total	**113**	**1,421**	**1,534**

Source: ABS Census of Population and Housing (2011) customised tables with analysis by the authors

The creative intensities of Industries

Following the methodology developed for the NESTA project, the employment results from the 2011 and 2006 ABS Census were analysed to determine, for each industry of employment in Australia, the proportion that was held by people working in creative occupations - the industry's creative intensity. These 641 industries were then ranked in decreasing intensity with the detailed results as shown in Appendix 2. The highest intensity was 78% (6991 Professional Photographic Services) and obviously the lowest being an intensity of "0" with 199 industries in Australia employing 3,584,310 people in total in 2011.

Table 2: Australian employment creative intensity thresholds (2011) as determined with the definitions established by the Dynamic Mapping methodology

Intensity threshold (binned)	Number of Industries	Employed in Creative Occupations within this intensity bin	Total Employment within this Intensity bin	Cumulative employment in Creative industries at this threshold	Number of distinct occupations employed within the industries
75 -78%	2	22,996	29,987	29,987	116
60%	2	19,254	31,152	61,139	102
55%	3	11,542	20,738	81,877	128
50%	3	23,003	43,179	125,056	102
45%	4	5,382	11,816	136,872	81
40%	1	12,945	30,472	167,344	124
35%	3	10,949	28,100	195,444	116
30%	3	3,477	10,433	205,877	47
25%	5	4,872	17,747	223,624	120
20%	7	36,263	153,888	377,512	227
15%	4	575	3,352	380,864	25
10%	9	5,357	47,699	428,563	147
5%	39	45,748	677,753	1,106,316	658
0 - 5%	556	107,693	8,950,829	10,057,145	1,181
Total	**641**	**310,056**	**10,057,145**	**Not applicable**	**1,224**

Source: ABS Census of Population and Housing (2011) customised tables with analysis by the authors

Establishing the correct threshold

The following diagram shows the trade-off between setting the intensity threshold too high or too low. Whatever the threshold level the number of people employed in creative occupations is unchanged at 310,056 people - but changing the threshold results in shifts in the split between specialists and embedded creatives.

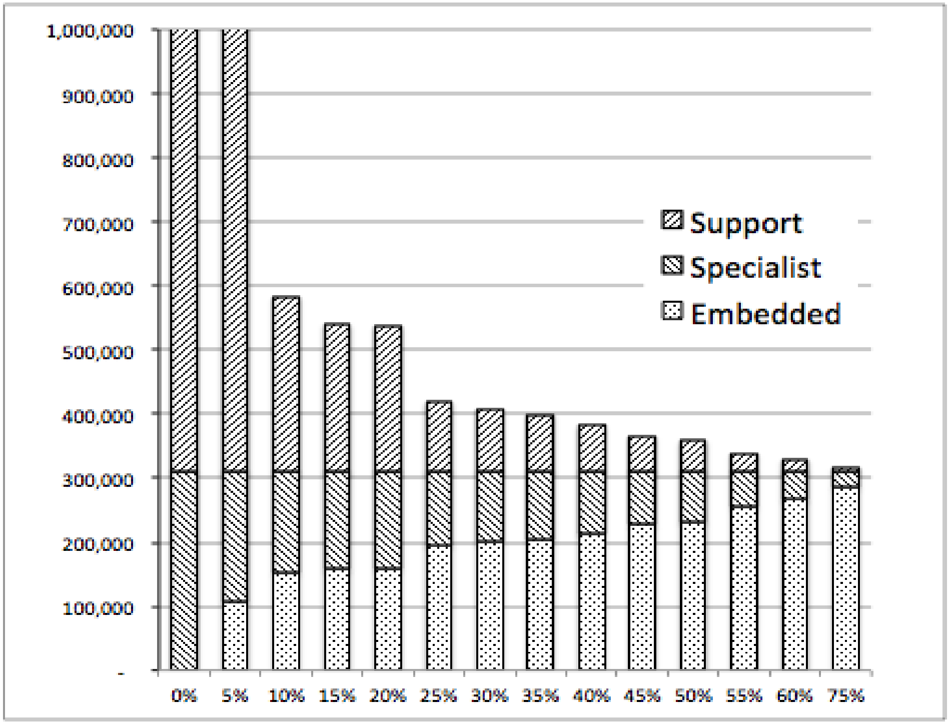
At a high threshold, there are fewer deemed creative industries and therefore, there are more creatives employed outside of them - in embedded roles in other non-creative sectors of the economy. Set the intensity threshold too low and the level of embedded employment all but disappears as every industry is 'creative'.

The real impact of varying the threshold is on the level of 'support' employment - the series at the top of the three series in the chart. Industries with high intensities such as 75% obviously have lower levels of support staff (25% of employment within two industry classifications. Conversely, setting the threshold too low leads to an almost exponential increase in support employment.

The threshold in the UK study was established using labour force survey data and classification systems that were not as detailed as the Australian and New Zealand ones. Purely on the basis of a richer classification system and therefore, more 'pots' for creatives to be counted into, it would be logical that the threshold in Australia would be lower than the UK and this certainly seems to be the case.

A threshold of 20% intensity provides the closest fit - minimising false positives and negatives - to the previous definition. The few exceptions can be re-evaluated because of either a low employment count or high volatility when comparing the intensities from the 2006 and 2011 Census.

Figure 2: Illustrated impact on the distribution of 'creative' employment from varying the creative intensity threshold



Source: ABS Census of Population and Housing (2011) customised tables with analysis by the authors

Table 3: Creative intensities by selected industries in Australia, 2006 and 2011 as determined with the definitions established by the Dynamic Mapping methodology

Industry Code and Name		Intensity			Employed		Relevance
		2006	2011	Ave.	2006	2011	
5600	Broadcasting (except Internet)	25%	27%	26%	514	497	Above threshold, coding bin, include
8910	Museum Operation	25%	27%	26%	6,416	7,522	Above threshold
2020	Ceramic Product Manufacturing	35%	15%	26%	225	181	Volatile, low count, exclude
5900	Internet Service Providers, Web Search Portals and Data Processing Services	19%	31%	25%	113	105	Low count, coding bin, include
7000	Computer System Design and Related Services	25%	25%	25%	106,029	139,391	Above threshold, coding bin, include
5622	Cable and Other Subscription Broadcasting	19%	25%	22%	2,922	3,237	Above threshold
1891	Photographic Chemical Product Manufacturing	0%	40%	21%	14	15	Volatile, low count, exclude
5414	Directory and Mailing List Publishing	19%	23%	21%	3,584	4,004	Volatile exclude
9003	Performing Arts Venue Operation	19%	21%	20%	2,682	3,371	On threshold, include
7551	Domestic Government Representation	20%	18%	19%	333	409	Low count, below threshold exclude
9532	Photographic Film Processing	16%	21%	18%	3,830	2,050	Volatile, exclude
5512	Motion Picture and Video Distribution	17%	19%	18%	862	660	Below threshold, low count, exclude
5522	Music and Other Sound Recording Activities	20%	16%	18%	808	846	On threshold in 2006, low count, include
5921	Data Processing and Web Hosting Services	17%	16%	17%	1,565	1,227	Below threshold, exclude
2590	Other Manufacturing	7%	24%	15%	46	42	Volatile, exclude
5922	Electronic Information Storage Services	19%	11%	15%	1,439	1,490	Volatile, exclude

Source: ABS Census of Population and Housing (2011) customised tables with analysis by the authors

The creative industries definition when selected under intensity is very similar to the previously developed definition as the following table shows.

Table 4: Creative intensities by selected industries in Australia, 2006 and 2011 as determined with the definitions established by the CCI Spine methodology

Number of classifications	**First generation definition**		
	Creative	**Not creative**	**Total**
Grid intensive creative industries	32	4	36
Not creative	5	677	681
Total	**37**	**680**	**717**

Source: ABS Census of Population and Housing (2011) customised tables with analysis by the authors

Four industries have been added as their intensities are clearly above the threshold:

- J000 Information Media and Telecommunications, nfd (37%);
- 5600 Broadcasting (except Internet) (27%);
- R000 Arts and Recreation Services, nfd (27%); and
- 1612 Printing Support Services (33%).

Five industries previously considered ‘creative’ have not reached the intensity threshold and are therefore excluded:

- 2020 Ceramic Product Manufacturing (average intensity of 26% but 15% in 2011);
- 5521 Music Publishing (14% intensity in 2011);
- 5910 Internet Service Providers and Web Search Portals (10% intensity);
- 5920 Data Processing, Web Hosting and Electronic Information Storage Services (10%); and
- 5921 Data Processing and Web Hosting Services (17%).

While these industries remain an important part of the creative ecosystem, under the NESTA methodology they are not considered ‘creative’. However, it is possible that their creative intensity in the up-coming 2016 Census could be high enough for this to be re-evaluated.

Australian creative employment

Using the trident method of analysis, according to the 2011 Census of Population and Housing, across Australia 5.23% of the workforce are employed in creative occupations.

In total, 530,944 workers are employed in creative occupations in Australia. Of those, 369,872 or over two-thirds (70%) are employed in the creative industries while 30% or 161,072 are ‘embedded’ creatives working in other (non-creative) industry sectors. Specialist creatives account for 48% of the total of all creative workers in Australia.

The breakdown of employment in Australia across specialist creatives, embedded creatives and support staff reveals that across all industries and occupations, Australia has a creative intensity of 40%.

Applying the NESTA methodology, between 2006 and 2011 Australia’s creative employment grew, on average, by 2.7% per annum, which was higher than Australia’s total average annual workforce growth of 2% over the same period.

The highest rate of average annual growth in employment was in Australia’s specialist creative occupations, at 3.8% per annum while creative employment in other (non-creative) industry sectors – the embedded creatives – grew by 1.8% per annum over the five years to 2011.

Table 5: Total Australian employment within the Creative Economy determined with the definitions established by the Dynamic Mapping methodology

Australian Census 2011		**Industry of employment**			
Creative employment	530,944	Within Creative Industries	Within other industries	Total employed	Specialist share
Occupation of Employment	Employed in Creative Occupations	148,984	161,072	310,056	48%
	Other Occupations Employed	220,888	9,526,201	9,747,089	
	Total employed	369,872	9,687,273	10,057,145	
	Creative intensity	40%	Creative share	5.23%	

Source: ABS Census of Population and Housing (2011) customised tables with analysis by the authors

Table 6: Average Annual growth in Australian employment within the Creative Economy determined with the definitions established by the Dynamic Mapping methodology

Employment growth, 2006 - 2011		**Industry of employment**		
Creative employment		Within Creative Industries	Within other industries	Total employed
Occupation of Employment	Employed in Creative Occupations	3.8%	1.8%	2.7%
	Other Occupations Employed	2.8%		
	Total employed	3.2%		2%

Source: ABS Census of Population and Housing (2006 and 2011) customised tables with analysis by the authors

Creative services and cultural production

Broadly speaking, the six creative segments fall into one of two sub-groups. One is the ‘creative services’ segments which include: architecture and design; advertising and marketing; and software and digital content. Creative services enterprises and creative entrepreneurs provide inputs that are central to businesses across many industries, from manufacturing and construction to retailing and entertainment. Representing what is in effect, a ‘creative services economy’, creative enterprises add value to production through design, technical performance, packaging and branding.

The ‘cultural production’ segments on the other hand include: film, TV and radio; music, visual and performing arts; and publishing. These sectors embody the role of arts and cultural assets as contributors to quality of life and community well-being and as important contributors to economic activity and economic development in their own right.

Approximately 71% of all creative occupations in Australia are in the creative services economy with 29% in the cultural production segments. This national split is typical of most of Australia's states and territories with the exception of Tasmania and the Northern Territory, where the cultural production segments account for as much as 57% of creative occupations. This is partly a reflection of the small numbers of creative services workers in Tasmania and the Northern Territory, particularly in Advertising and marketing and Architecture and design.

Table 7: Australian employment within the creative services and cultural production segments determined with the definitions established by the Dynamic Mapping methodology

Employment in 2011		**In Creative Industries**				
		Cultural Production	**Creative Services**	**Total Creative Industries**	**Embedded/ other industries**	**Total**
Creative Occupations	Cultural Production occupations	51,906	4,873	56,779	31,593	88,372
	Creative Services occupations	9,895	82,310	92,205	129,479	221,684
	Total creative occupations	61,801	87,183	148,984	161,072	310,056
Support occupations		67,189	153,699	220,888	**Total Trident =**	
Total		**128,990**	**240,882**	**369,872**		**530,944**

Source: ABS Census of Population and Housing (2011) customised tables with analysis by the authors

Applying the NESTA methodology, support staff account for the largest share of Australia's creative industries employment, in both the cultural production and the creative services sectors, at 52% and 64% of their employment respectively and 60% of total creative employment. The cultural production segments however, employ a proportionally larger number of specialists (34% of its total employment) than the creative services sectors (22%).

As shown in Table 8, over the five year period to 2011, creative employment growth in Australia has been strongest in the creative services segments. Between 2006 and 2011 Australia's total creative services employment within the creative industries increased at an average annual rate of 4.5% compared to just 1% per annum over the same period for the cultural production segments.

Embedded creatives – creative workers employed in other (non-creative) industry sectors also displayed strongest growth in the creative services segments, at 3.3% per annum compared to 1.4% growth for the embedded cultural production jobs.

Table 8: Average Annual growth in Australian employment within the creative services and cultural production segments determined with the definitions established by the Dynamic Mapping methodology

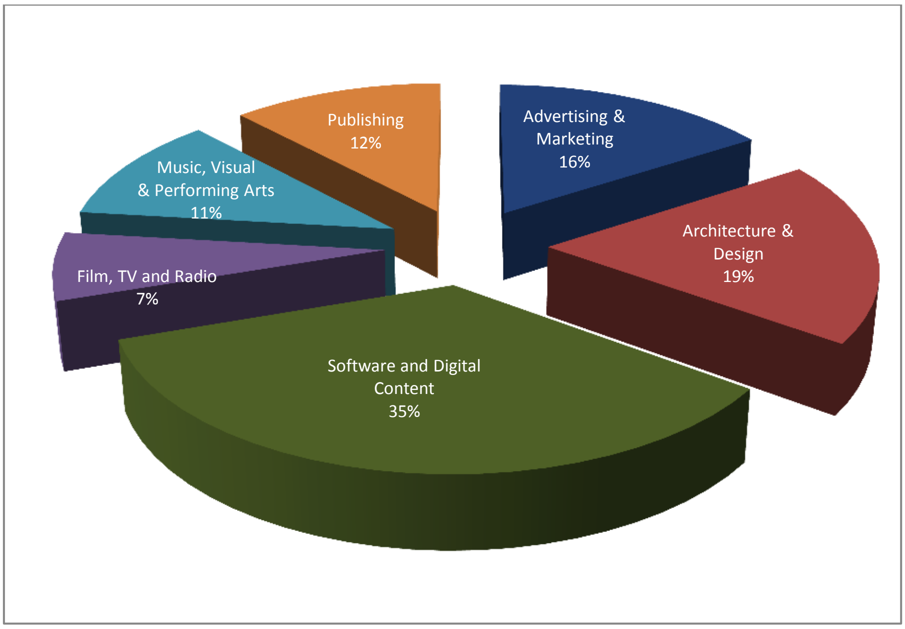
Employment growth, 2006 - 2011		**In Creative Industries**				
		Cultural Production	**Creative Services**	**Total Creative Industries**	**Embedded/ other industries**	**Total**
Creative Occupations	Cultural Production occupations	2.6%	3.5%	2.7%	-0.8%	1.4%
	Creative Services occupations	1.7%	4.8%	4.5%	2.5%	3.3%
	Total creative occupations	2.5%	4.7%	3.8%	1.8%	2.7%
Support occupations		-0.2%	4.3%	2.8%	**Total Trident =**	
Total		**1.0%**	**4.5%**	**3.2%**		**2.8%**

Source: ABS Census of Population and Housing (2006 and 2011) customised tables with analysis by the authors

Creative segment size and distribution

Figure 3 illustrates the breakdown of trident employment across Australia's creative industries occupations in 2011 using the NESTA methodology for defining 'creatives'. It shows Australia's largest creative segment is Software and digital content, which accounts for 185,665 jobs (specialist, support and embedded), or 35% of Australia's total creative employment. This is followed by Architecture and design, which accounts for approximately 101,395 jobs or 19% of Australia's creative employment. Australia's smallest creative segment is Film, TV and radio which accounts for fewer than 37,215 jobs nation-wide or 7% of total creative employment.

Figure 3: Creative trident employment by segment (%), Australia, 2011



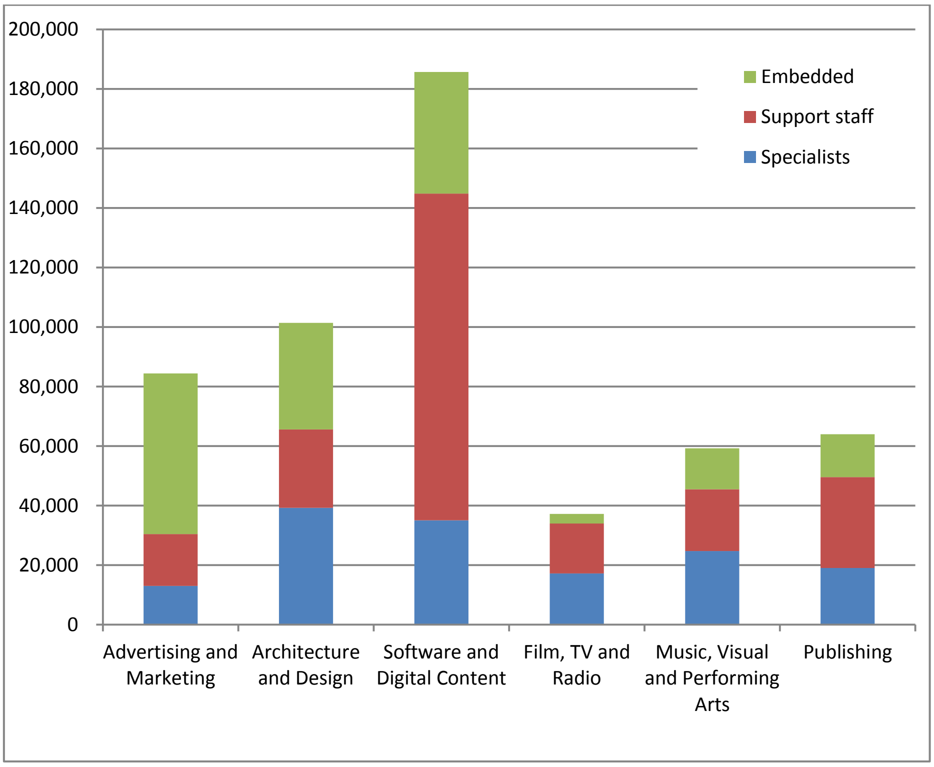
Source: ABS Census of Population and Housing (2011) customised tables with analysis by the authors

As noted above, a large share of creative services workers are embedded in other (non-creative industries) sectors. As illustrated in Figure 4, close to two-thirds (64%) of Australia's Advertising and marketing workers are embedded in other (non-creative) industries. Around one-third of Architecture and design workers are embedded in other industries, while 19% of Australia's Software and digital content workers are employed in other (non-creative) sectors.

By comparison, across the three cultural production segments, far fewer workers are employed in industries other than the creative segments: 23% of Music, visual and performing arts employees are embedded in non-creative industries; 22% of Publishing workers; and just 9% of Film, TV and radio employees are employed in other non-creative industries.

Across all segments, the cultural production segments of Film, TV and radio and Music, visual and performing arts employ the highest proportion of specialist creatives with 46% and 42% of total employment respectively. The creative services segment of Architecture and design also employs a comparatively high proportion of specialists at 39% of total trident employment.

Figure 4: Creative trident employment breakdown by segment (%), Australia, 2011



Source: ABS Census of Population and Housing (2011) customised tables with analysis by the authors

Impact of the change in the definition

The Application of the NESTA methodology to the Australian system of industry and occupation classifications resulted in a reduction in the number of creative occupations by 18 through the elimination of 20 technician roles, but the addition of two occupations related to public relations. The number of creative industries decreased in net terms by one classification.

The changes in the definitions reduced the level of creative employment in Australia (in 2011) by 24,052 from 554,996 to 530,944 people, a reduction of 4.3% when compared to the previous definition. Interestingly, the change in definition actually increased the average annual growth rate in creative employment between 2006 and 2011 from 2.62% to 2.76%, an increase of 5.2%.

Table 9: Impact of the change in definitions to that established by the Dynamic Mapping methodology

Australian Census 2011		**Industry of employment**		
Creative employment	-24,052	Within Creative Industries	Within other industries	
Occupation of Employment	Employed in Creative Occupations	-27,698	-20,696	-48,394
	Other Occupations Employed	24,342		
	Total employed	**-3,356**		

Trident employment	**2008 definition**	**2012 definition**	**Difference**	**Difference as a %**
2006	487,684	463,447	-24,237	-4.97%
2011	554,996	530,944	-24,052	-4.33%
Average annual growth rate	2.62%	2.76%	0.14%	5.23%

Conclusions

The Dynamic Mapping methodology resulted in a reduction in the number of creative occupations by 18 through the elimination of 20 technician roles but the addition of two occupations related to public relations, while the number of creative industries increased by four classifications.

The changes in the definitions reduced the level of creative employment (in 2011) from 554,996 to 530,944 people, a reduction of 24,052 people. This represents a 4.3% reduction when compared to the previous definition but interestingly, the change increased the average annual growth rate in creative employment between 2006 and 2011 from 2.62% to 2.76% under the new definition, an increase of 5.2%.

We find that the Dynamic Mapping definition methodology provides a tighter, more focussed selection of creative industries and occupations that will improve the ability of researchers and policy-makers to measure and better understand creative employment.

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Appendices

Creative occupations and their grid scores

Creative segment		Occupation		Grid Score
Level 1	Level 2	Code	Name	
Advertising and Marketing	Advertising	131111	Advertising and Public Relations Manager	5
		131113	Advertising Manager	5
		212411	Copywriter	5
		225100	Advertising and Marketing Professionals	5
		225111	Advertising Specialist	5
	Marketing	225113	Marketing Specialist	5
		131114	Public Relations Manager	4
		225300	Public Relations Professionals	4
		225311	Public Relations Professional	4
Architecture and Design	Architecture	232000	Architects, Designers, Planners and Surveyors	5
		232100	Architects and Landscape Architects	5
		232111	Architect	5
		232500	Interior Designers	5
		232511	Interior Designer	5
		232112	Landscape Architect	5
		233916	Naval Architect	5
		232600	Urban and Regional Planners	5
		232611	Urban and Regional Planner	5
	Specialist Design	232300	Fashion, Industrial and Jewellery Designers	5
		232311	Fashion Designer	5
		232400	Graphic and Web Designers, and Illustrators	5
		232411	Graphic Designer	5
		211300	Photographers	5
		211311	Photographer	5
		232312	Industrial Designer	5
Film, TV and Radio	Film and TV	212000	Media Professionals	5
		212112	Media Producer (Excluding Video)	5
		212300	Film, Television, Radio and Stage Directors	5
		212311	Art Director (Film, Television or Stage)	5
		212312	Director (Film, Television, Radio or Stage)	5
		212313	Director of Photography	5
		212314	Film and Video Editor	5
		212318	Video Producer	5
		212399	Film, Television, Radio and Stage Directors Nec	5
		212114	Television Presenter	5
		212315	Program Director (Television or Radio)	5

		212317	Technical Director	5
		212416	Television Journalist	5
	Radio	212113	Radio Presenter	5
		212414	Radio Journalist	5
Music and Performing Arts	Music	211200	Music Professionals	5
		211211	Composer	5
		211212	Music Director	5
		211213	Musician (Instrumental)	5
		211214	Singer	5
		211299	Music Professionals Nec	5
	Performing Arts	211111	Actor	5
		211199	Actors, Dancers and Other Entertainers Nec	5
		211112	Dancer or Choreographer	5
		139911	Arts Administrator or Manager	5
		210000	Arts and Media Professionals	5
		211000	Arts Professionals	5
		211100	Actors, Dancers and Other Entertainers	5
		212100	Artistic Directors, and Media Producers and Presenters	5
		212111	Artistic Director	5
		212316	Stage Manager	5
		399514	Make Up Artist	5
		211113	Entertainer or Variety Artist	5
Publishing	Publishing	212212	Book or Script Editor	5
		212415	Technical Writer	5
		224200	Archivists, Curators and Records Managers	4
		224211	Archivist	4
		224600	Librarians	4
		224611	Librarian	4
		212400	Journalists and Other Writers	5
		212412	Newspaper or Periodical Editor	5
		212413	Print Journalist	5
		212499	Journalists and Other Writers Nec	5
		212200	Authors, and Book and Script Editors	5
		212211	Author	5
Software and Digital Content	Digital Content	232413	Multimedia Designer	5
		232414	Web Designer	5
		261200	Multimedia Specialists and Web Developers	5
		261211	Multimedia Specialist	5
		261212	Web Developer	5
	Software	225212	ICT Business Development Manager	3
		261100	ICT Business and Systems Analysts	5

		261111	ICT Business Analyst	5
		261112	Systems Analyst	5
		261300	Software and Applications Programmers	5
		261311	Analyst Programmer	5
		261312	Developer Programmer	5
		261399	Software and Applications Programmers Nec	5
Visual Arts	Visual Arts	232313	Jewellery Designer	5
		399400	Jewellers	5
		399411	Jeweller	5
		224212	Gallery or Museum Curator	5
		234911	Conservator	4
		211412	Potter or Ceramic Artist	5
		211413	Sculptor	5
		211400	Visual Arts and Crafts Professionals	5
		211411	Painter (Visual Arts)	5
		211499	Visual Arts and Crafts Professionals Nec	5
		232412	Illustrator	5

Creative Industries and their Intensities

Industry		Creative intensity	
Code	Name	2006	2011
Creative industries newly identified			
J000	Information Media and Telecommunications, nfd	37%	36%
1612	Printing Support Services	34%	32%
5600	Broadcasting (except Internet)	25%	27%
R000	Arts and Recreation Services, nfd	28%	24%
Creative industries unchanged from the previous definition			
6991	Professional Photographic Services	71%	78%
9002	Creative Artists, Musicians, Writers and Performers	80%	76%
5511	Motion Picture and Video Production	63%	64%
6924	Other Specialised Design Services	59%	61%
5514	Post-production Services and Other Motion Picture and Video Activities	50%	57%
9001	Performing Arts Operation	58%	57%
5621	Free-to-Air Television Broadcasting	52%	55%
6921	Architectural Services	52%	54%
5610	Radio Broadcasting	50%	52%
2591	Jewellery and Silverware Manufacturing	51%	51%
5620	Television Broadcasting	37%	49%
5510	Motion Picture and Video Activities	45%	47%
5410	Newspaper, Periodical, Book and Directory Publishing	48%	47%

5400	Publishing (except Internet and Music Publishing)	41%	46%
5412	Magazine and Other Periodical Publishing	41%	45%
9000	Creative and Performing Arts Activities	49%	45%
6940	Advertising Services	36%	42%
5411	Newspaper Publishing	35%	39%
5700	Internet Publishing and Broadcasting	31%	38%
6010	Libraries and Archives	35%	34%
5900	Internet Service Providers, Web Search Portals and Data Processing Services	19%	31%
5420	Software Publishing	37%	31%
5500	Motion Picture and Sound Recording Activities	37%	30%
5413	Book Publishing	29%	30%
5419	Other Publishing (except Software, Music and Internet)	24%	27%
8910	Museum Operation	25%	27%
5622	Cable and Other Subscription Broadcasting	19%	25%
7000	Computer System Design and Related Services	25%	24%
5520	Sound Recording and Music Publishing	0%	22%
9003	Performing Arts Venue Operation	19%	21%
5522	Music and Other Sound Recording Activities	20%	16%
Industries that have been dropped as Creative because of a low intensity			
5921	Data Processing and Web Hosting Services	17%	16%
2029	Other Ceramic Product Manufacturing	12%	13%
5521	Music Publishing	17%	12%
5910	Internet Service Providers and Web Search Portals	10%	10%
5920	Data Processing, Web Hosting and Electronic Information Storage Services	15%	0%

Table of the impact of setting different Intensity Threshold

If threshold set at>	35%	40%	45%	50%	55%	60%	75%
Specialist	106,071	95,122	82,177	76,795	53,792	42,250	22,996
Embedded	203,985	214,934	227,879	233,261	256,264	267,806	287,060
Support	89,373	72,222	54,695	48,261	28,085	18,889	6,991
Creative employment	399,429	382,278	364,751	358,317	338,141	328,945	317,047

If threshold set at>	0%	5%	10%	15%	20%	25%	30%
Specialist	310,056	202,363	156,615	151,258	150,683	114,420	109,548
Embedded	-	107,693	153,441	158,798	159,373	195,636	200,508
Support	9,747,089	903,953	271,948	229,606	226,829	109,204	96,329
Creative employment	10,057,145	1,214,009	582,004	539,662	536,885	419,260	406,385