FutureNow
Creative and Leisure Industries Training Council

Printing and Graphic Arts

The Printing and Graphic Arts industry is changing with technology. Future employees will work within multi-disciplinary communications teams combining technical and transferrable skills.

Current industry environment

Printing and graphic arts is one of the largest manufacturing sectors in Australia, encompassing paper, publishing and graphic communications, printing, packaging, print support services and an onset of 3D print. It is a dynamic, exciting, complex and multifaceted industry servicing all parts of the economy with technological advancements refining systems and increasing business capability.

At the end of 2016-17, there were over 6,500 businesses in Australia operating across the printing, printing support services and packaging services industries, with the majority (77 per cent) in the printing industry.[1] Most were small to medium enterprises, with 51 per cent having one to nineteen employees. The majority of printing and packaging services businesses operated in New South Wales (35 per cent), Victoria (30 per cent) and Queensland (17 per cent).[2] About eight per cent of the workforce in related occupations was based in Western Australia.[3]

Technology

Technology is increasing business capability and capacity, while improving efficiency, productivity, speed, quality and reducing cost. On-line ordering systems are boosting efficiencies for both businesses and clients, allowing faster delivery processes.[4]

Market demand for traditional print products is, in some cases, declining while other products are presenting new opportunities. Disruptions to the printing and graphic arts industry are global and include changing demand, technological innovation, and the potential to broaden services offered. Demand for magazines and newspapers is decreasing while printed consumer advertising and packaging is increasing. Printing of food labelling and packaging (55 per cent of the packaging industry) has grown. Demand for consumer books is expected to increase by 1% each year 2018-2022. Demand for general business products, business cards, brochures, documents and signs, is expected to grow as the number of businesses increase. 400,000 events held each year creates a demand for signage and printed products.[5]

Diversificaton

Industry anticipates being able to offer a broader range of product and services like customisable print products designed collaboratively with the consumer, targeted promotional materials (requiring skills in managing databases containing personalised data), large format printing, radio frequency identification (RFID) embedded printed products, emerging products like vinyl wrap print, glass and metal printing and multi-channel marketing across a range of platforms.[6]

Sustainable Green Print

The industry has a strong focus on promoting and supporting environmentally sustainable practices through Sustainable Green Print (SGP), an environmental compliance framework, based on the international standard ISO14001. WA print businesses can also attain Green Stamp certification, a Department of Environmental Regulation initiative to assist with waste minimisation, reductions in energy consumption, hazardous chemical storage and handling.[7]

Recent increases in energy costs have had a detrimental effect on the printing industry, particularly on the east coast. The industry has also been impacted by the rising cost of enrolling trainees and apprentices in vocational training. The Print and Visual Communication Association (PVCA formerly Print Industry Association of Australia) discussions with the New South Wales government have raised the profile of these two issues for the whole industry in Australia.[8]

A snapshot of
Printing & Graphic Arts

Printing | Visual Communication

2017 in Australia: 6500 businesses in printing, printing support services and packaging services industries and 27,000 employed in related occupations

FEWER:
technical specialists and large offset printers

MORE
Small businesses

TECHNOLOGY has improved efficiency and reduced costs

Print services in demand:

- Printed consumer advertising
- Packaging
- Food labelling and packaging
- Consumer books
- Business products (cards, brochures signs
- Events (signage and printed products)

Print services in decline:

- Newspapers, magazines

The future workforce

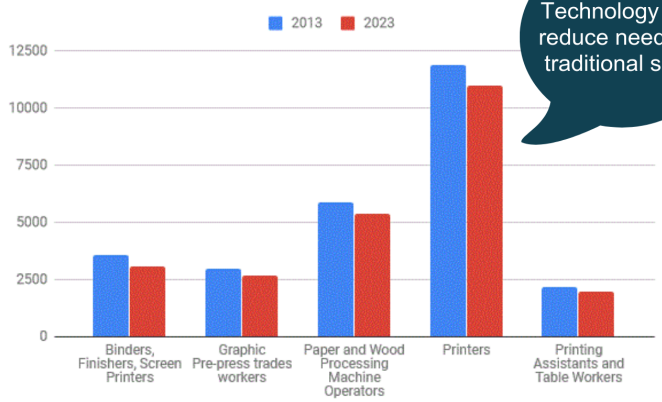
Future multi-displinary workforce will combine skills:

Technical

Printers, 3D printers, printing assistants, graphic pre-press workers, and binders, finishers and screen printers

Transferable

Managing, delivering and monitoring quality customer service; teamwork; communication; critical and creative problem-solving skills



Technology will reduce need for traditional skills

References:

- Industry Skills Forecast and Proposed Schedule of Work – Printing and Graphic Arts, March 2019
- Australian Government JobOutlook, https://joboutlook.gov.au/, Career codes 3921, 3922, 7113, 3923, 8995.

Industry developments

Workforce numbers recorded in printing and graphic arts occupations may be decreasing for a range of reasons. Advancements in technology require less staff however while the number of specialised print machinists is declining, employees are transitioning to other roles, like customer service, within the industry and it is likely occupational statistics do not accurately reflect the complexity of these changes. Broader product and service offerings may mean statistical definitions of occupations are not capturing workers delivering different services. Finally, printing and graphic arts services can be brought in-house by businesses that might have once outsourced them to the printing industry. Workers involved would still be using printing and graphic arts skills and filling roles related to the industry but are possibly not showing up in occupational statistics.[9]

Falling employment numbers have led to a community perception of an industry in decline. In WA, enrolments in publicly funded training in the Printing and Graphic Arts training package dropped overall between 2013 and 2018 from 338 to 187: in technical print qualifications from 108 to 65, and in graphic pre-press qualifications from 230 to 122.

It is anticipated that in future, employees required to work within multi-disciplinary communications teams will need two specific sets of skills:

- Technical skills, for printers, 3D printers, printing assistants, graphic pre-press workers, and binders, finishers and screen printers
- Transferable enterprise skills, such as managing, delivering and monitoring quality customer service; teamwork; communication; critical and creative problem-solving skills, that are about 'how' a worker operates in the workplace and can transfer across roles.[10]

Current and future opportunities

The printing and graphic arts sector encompasses a small set of occupations including printer, print binder and finisher, printing assistant and pre-press graphic designer. Printing machinist job roles in the sector may be specialised to a range of printing technologies such as flexographic, lithographic, wide format, digital or screen printing.[11]

National employment projections for the sector show estimated decreases in employment numbers from 2018 to 2023 of 14 % for Binders, Finishers and Screen Printers (from 3,600 to 3,100), 10% for Graphic Pre-press Trades workers (from 3,000 to 2,700), 9% for Paper and Wood Processing Machine Operators (from 5,900 to 5,400), 8% for Printers (11,900 to 11,000), and 10% for Printing Assistants and Table Workers (from 2,200 to 2000).[12]

Global changes in technology, particularly in digital design and production, have caused significant workforce disruption. Turnaround times have reduced as the end-to-end processes of printing have been streamlined. As workers are freed from technical tasks they can be used elsewhere in businesses. Fewer technical specialists are needed and there are less large offset printers and more smaller businesses. The average age of workers in the sector is between 42 to 46 years while the average age across all occupations is 40 years. The workforce is older and has been relatively static. Although not true of the entire workforce, there is less desire in this demographic to up-skill or progress and create spaces for new workers and learners to enter.[13]

Employment opportunities are emerging with a potential broadening of the services offered by this sector but the skills mix will be different. The Skills Service Organisation (SSO) PWC's Skills for Australia, and the Printing and Graphic Arts IRC have restructured qualifications to make them less technology specific, give them more descriptive and accurate titles and to reflect the need for the workforce to also have transferrable skills.

Skills and training strategies

The printing and graphic arts workforce is undergoing continual readjustment. Traditional pre-press and printing skills are still in demand but fewer workers are required. In Western Australia, declining workforce numbers have been matched by a fall in enrolments in the Printing and Graphic Arts training package and training delivery is currently meeting industry demand.

There is no labour shortage in this industry but there is a skills shortage. Some parts of the industry perceive it as a technical manufacturing industry, while other industry members believe it is transforming to a visual communication industry, with skills in marketing, design, and customer service now required. Workers who now have capacity to perform other tasks are increasingly adapting to new technologies and new ways of working.[14] The Printing and Graphic Arts Training Package was reviewed and restructured in 2019 to better address industry training needs.

Industry consultation suggests an ongoing challenge for the sector is attracting new learners. This is driven by poor awareness among the public and careers advisors about what printers do and the service offerings the sector provides as well as perceived mediocre employment outlooks. There have been initiatives by industry to improve entrant numbers by better promoting the sector to diversify the current workforce and attract younger people into training and employment in the sector. A recent case study of the experience of print machinist apprentice, Jessica McAuley, outlines how a secondary school student chose a career in printing because of the dynamism and vibrance of this creative industry.[15]

Please get in touch

FutureNow is seeking regular input from stakeholders about workforce matters in the Western Australian Printing and Graphic Arts industries. If you are interested in providing further information about the workforce in these sectors, the Industry Manager would like to hear from you.

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References

1. ABS (2018) Counts of Australian Businesses, including Entries and Exits, June 2013 to June 2017, cat. no. 8165.0, business by main state by industry class by employment size ranges
2. Industry Skills Forecast and Proposed Schedule of Work – Printing and Graphic Arts, March 2019, p 5.
3. Australian Government JobOutlook; Career Codes 3921, 3922, 3923, 8995.
4. Industry Skills Forecast and Proposed Schedule of Work – Printing and Graphic Arts, March 2019, p 12-13
5. Industry Skills Forecast and Proposed Schedule of Work – Printing and Graphic Arts, March 2019, p 12
6. Industry Skills Forecast and Proposed Schedule of Work – Printing and Graphic Arts, March 2019, p 14
7. Print Industry Association of Australia, Sustainable Green Print: https://www.piaa.org.au/sustainable-green-print/
8. Press Release: PIAA Lobbies for energy price reductions and simpler energy price regulation in NSW, 2 July 2019.
9. Industry Skills Forecast and Proposed Schedule of Work – Printing and Graphic Arts, March 2019, p 10
10. Industry Skills Forecast and Proposed Schedule of Work – Printing and Graphic Arts, March 2019, p 9-10
11. Industry Skills Forecast and Proposed Schedule of Work – Printing and Graphic Arts, March 2019, p 6.
12. Australian Government JobOutlook, Career codes 3921, 3922, 7113, 3923, 8995.
13. Industry Skills Forecast and Proposed Schedule of Work – Printing and Graphic Arts, March 2019, p 6-8.
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15. FutureNow Case Study -Jessica McAuley – Printer – Digital Print Machinist, November 2017