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Archetypes of design practice

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Approach Method

The research questions for the broader study comprised:

- What models best explain the experience and career trajectories of recent industrial design graduates?
- How can such models clarify the extent to which existing forms of industrial design practice remain relevant today, and identify emerging forms of practice?
- How can the experience of recent industrial design graduates contribute to an understanding of factors influencing practice?
- What models or concepts can help translate these insights into assisting design educators educate for the future, not just the present?

Research concerning industrial design education has often focussed on an employer-based perspective, and primarily been concerned with discovering their employment needs and priorities (Higgs et al 2005). However approaches centred on traditional employers and professional representative bodies skew investigations towards existing preconceptions of design roles and job descriptions. Gathering information about the breadth of application of design education in the employment market is problematic, as potentially all employment fields are in scope. In addition, employers may not always be aware of the design qualifications of their employees, especially if they are engaged in positions not traditionally associated with design.

In contrast this study took a phenomenological, and necessarily individual, graduate-based approach to track the actual career paths and practices of 12 industrial design graduates who qualified from the University of Canberra in the period 1996-2006.

This approach was facilitated by the author's 'insider perspective', developed over more than a decade and half of experience within the development, delivery and assessment of the selected industrial design course. Networks with alumni, with industry and with national and international colleagues were coupled with a grasp of emerging employment patterns and extensive experience with curriculum development.

Participants took part in in-depth semi-structured interviews focused on predetermined themes drawn from a review of literature and reflections on the practice of design education. The resultant rich narratives of the graduates' lived experiences provided the opportunity to identify and analyse the application of industrial design and industrial design education to the range of possible employment and professional sectors of practice.

Participants were selected using purposive, or strategic, sampling techniques (Mason 2002; Sarantakos 2005). In this process, selection was not random but was instead based on careful consideration of desired attributes and the need to gain perspectives of graduates working in local, national and international settings; and to include three areas of practice: private sector, public sector and self-employed.

Interview data were analysed using template analysis processes, which use development of a coding template to analyse qualitative data and progressively construct categories and themes (King and Horrocks 2010). This analysis produced *themes* and *archetypes*.

Themes

Preliminary themes developed prior to the interviews were later used to code and categorise interview data. They were then refined during an iterative process of analysis, reflection and refinement, before reaching a point where they could 'serve as a basis for building an account of the findings' (King and Horrocks 2010, p. 166). The final process produced six themes, comprising:

- **Communicator Theme:** the role of verbal and non-verbal methods of exchanging information and reaching shared understandings
- **Approach Thinking Theme:** the philosophy underpinning design thinking methodology and application
- **Social Conscience Theme:** ideals of environmental sustainability and social responsibility in industrial design practice
- **Facilitator Theme:** the industrial designer as a point of connection across multi-disciplinary groups
- **Mobility Theme:** factors influencing employment opportunities in an industrial design career
- **Identity Theme:** how the industrial design profession is understood both within and outside the sector ([Author 1] and [Author 2] 2013).

The themes and their interrelationships are illustrated by the Thematic Map of Australian Industrial Design Practice (Figure 1).

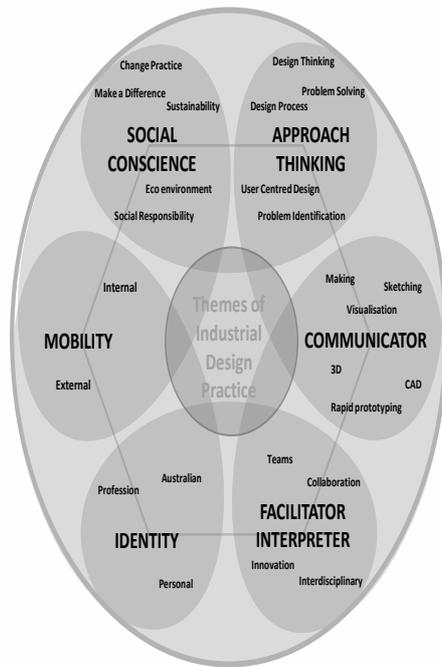


Figure 1: Thematic Map of Australian Industrial Design Practice

Archetypes

Archetypes, or model typologies, were developed to investigate interactions with and applications of the Thematic Map of Australian Industrial Design Practice. Because archetypes are conceptual constructs, they do not replicate the exact experiences of any one individual. Real individuals move between styles and roles and cannot be fully described or confined by these characterisations. The described archetypes are distinct but in reality there can be overlaps between them. Nevertheless, the archetypes do reflect patterns of lived experience and help explain how shifts in the profession impact at the individual level.

The archetypes were drawn from the interview data and the application of the themes. Interview respondents indicated archetype elements in either or both their current practice or career development. Each archetype reflects a different combination and relative priority of the themes. The archetypes reflect different emphases of two aspects – the context in which a practice is conducted and the approach which individuals take to their role. The five archetypes developed comprise:

1. The Visual Creative
2. The Technical Product Designer
3. The Digital Maker
4. The Design Deviser
5. The Dissident Designer.

To help visualise the individual archetypes, a spider web graphic was developed to plot the varying priority attached to the six identified themes of Social Conscience (S), Approach Thinking (A) Communicator (C), Facilitator (F), Identity (I) and Mobility (M) (Figure 2). The graphic shows a dot indicating the relative priority of each of them. The higher the value, or priority, attached to a theme, the further from the centre of the web the dot will be placed. The values attached to each theme are qualitative indicators, not numerical or quantitative measures.

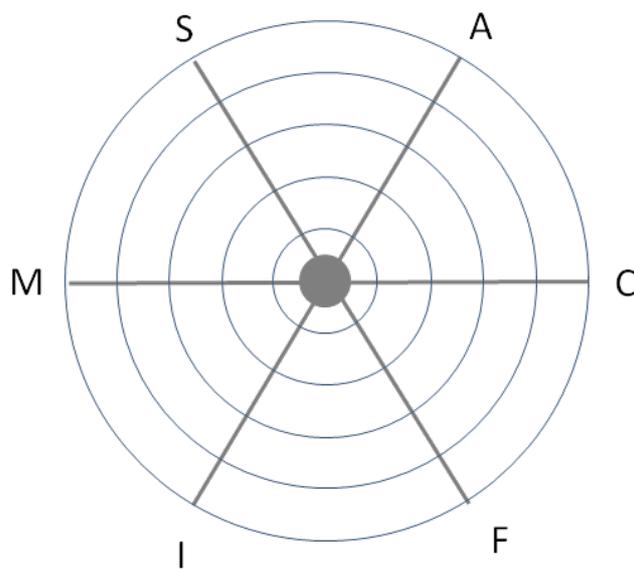


Figure 2 Spider web graphic showing six themes

Archetype 1: The Visual Creative

The Visual Creative Archetype has a relatively low priority for the themes of Social Conscience (S), Approach Thinking (A) and Facilitator (F), with the themes of Communicator (C), Identity (I) and Mobility (M) having higher priority (Figure 3). This Archetype does not place a great emphasis on social conscience, which is often limited due to the work environment in which they reside. Their approach thinking is of a more traditional problem solving type. While they work in teams, Visual Creatives are not usually in a position to influence facilitation across different technical disciplines, as they can lack necessary interdisciplinary or technical engineering orientation skills to do so. Identity and mobility themes are at a higher priority, with the Communicator theme strongest overall. This Archetype has above average visual communication skills, using a combination of hand-generated sketching and/or form-giving CAD (surface modelling) or two dimensional illustration software programs. However, Visual Creative types tend to do little technical

engineering orientated and detail work. The Visual Creative Archetype plays a strong role in the development of consumer products.

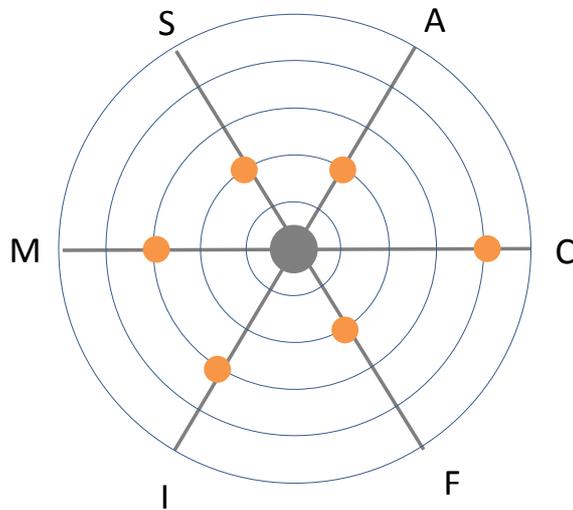


Figure 3 Visual Creative Archetype spider web graphic

Archetype 2: The Technical Product Designer

For the Technical Product Designer Archetype, the themes of Identity (I) and Mobility (M) have the lowest relative priority, with Social Conscience (S) slightly higher (Figure 4). Approach Thinking (A) and Facilitator (F) have a higher ranking, with the theme of Communicator (C) having highest overall priority. This Archetype has strong approach thinking capabilities appropriate for manufactured goods including materials and process, and excels in high end communication skills including 3D CAD and rapid prototyping technologies. Reflecting the relatively high ranking for Facilitator themes, this Archetype is team orientated and collaborates effectively to achieve mutual goals. Though the identity theme ranks low, Technical Product Designers have well understood roles within the profession. Their mobility is affected by economic conditions but these Archetypes are adaptable to a range of employment opportunities. In general Technical Product Designer Archetypes work for organisations where influencing aspects of broader social agendas are difficult and Social Conscience themes are correspondingly low. The Technical Product Designer Archetype is able to understand or generate a design brief, and can conceptualise and visualise ideas using either hand sketching or computer skills. They can also detail production CAD files, materials and processes. Their approach includes a stronger attitude towards the technical issues of the problem and design solution and an engineering orientation inherent in their practice.

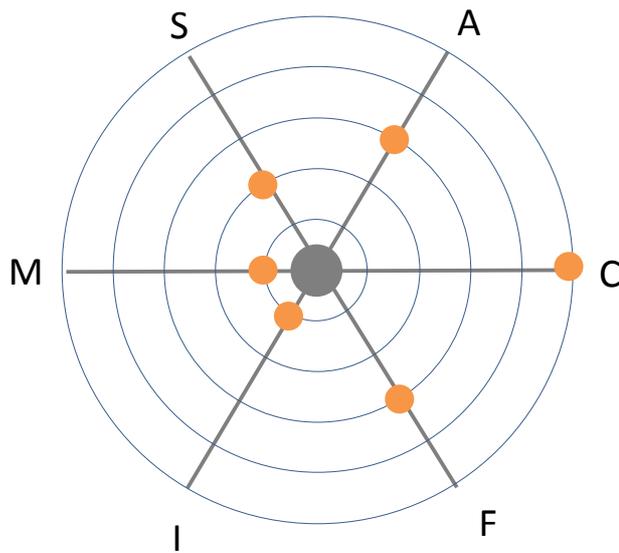


Figure 4: Technical Product Designer Archetype spider web graphic

Archetype 3: The Digital Maker

The themes of Facilitator (F) and Approach Thinking (A) have the lowest relative priority for the Digital Maker Archetype (Figure 5). Mobility (M) and Social Conscience (S) are mid-range priorities, with Identity (I) next in order and again the theme of Communicator (C) having highest overall priority. Approach thinking aspects are low, reflecting a more 'art' based approach rather than more formalised design processes. The Digital Maker attaches less importance to facilitation roles as they often work as solo practitioners, with lower priority attached to team-based design. This aspect links to the highly-rated theme of Identity, as this Archetype aspires to achieve individual recognition rather than to being an anonymous member of a working group. Mobility and Social Conscience are also important: Mobility is reflected in attributes of passion and confidence. Social conscience is given greater scope as they often work in individual roles or solo practice, allowing them to explore issues free from some of the limitations imposed as an employee. The Communication theme is highest rated, and the Digital Maker exhibits strong digital and hand design communication skills and knowledge.

The Digital Maker Archetype has its roots in the traditional designer maker. These roles are linked to industrial design but at the creative art, form-giving end of the spectrum.

Traditionally, the designer maker has focused on hand skills, oriented towards either one off pieces or small-scale production runs. The Digital Maker continues these traditions and is often involved in a more individual pursuit of design, showing a passion for this type of

creative exploration. Current examples of such roles are industrial design graduates who have gone on to do further study in more craft-oriented or art education. For example, timber/furniture making, ceramics, glass work and silver smithing provide avenues to expand their skills and knowledge and to apply them in designer-maker ways.

The accessibility of new technology has facilitated an upsurge in the role of the Digital Maker, or 'new craftsman' (Campbell 2010). Rapid prototyping and new small production run technologies are all now readily available and cost-effective. This design archetype can easily operate from a home office as there is no requirement for significant 'making facilities'. These individuals bring their passion and creative attitude to their experimental explorations. They are tech savvy, with a set of high end 3D computer skills that maximise the potential of new technologies. As their work is often experimental, the Digital Maker tends to exhibit their products or enter design competitions in a more art/craft oriented way.

This archetype seeks and is rewarded with the gratification of their name being associated with their design work, therefore achieving a higher personal and professional identity. The Digital Maker may sacrifice the stability and financial security of more traditional wage-based employment. However, their role enables them to give free rein to the entire range of skills for which the industrial designer is trained, without being limited by the constraints of particular job requirements.

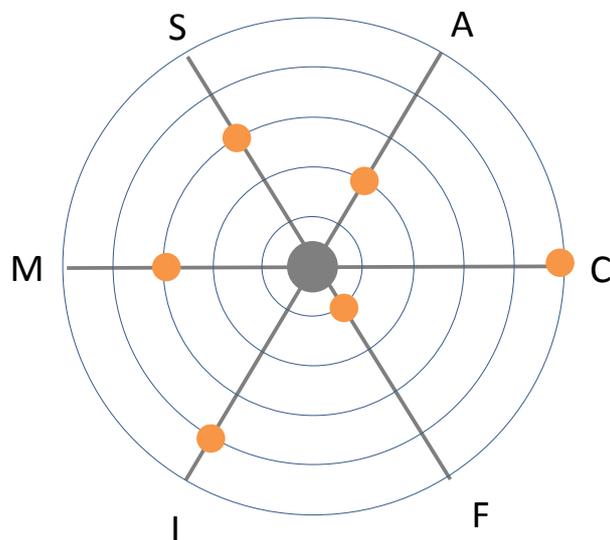


Figure 5 Digital Maker Archetype spider web graphic

Archetype 4: The Design Deviser

For the Design Deviser Archetype, Identity (I) theme is low, reflecting the relatively low understanding of this role outside their own professional work environment (Figure 6). Unlike Archetypes 1, 2 and 3, the Communicator (C) also has a low priority, as Design Devisers do not often use their communicator component skills and knowledge. This archetype is associated with high priority attachments to all other themes. Mobility (M) aspects are high, as they demonstrate significant levels of passion, resilience, beliefs and confidence. They have a highly developed understanding of Approach Thinking (A), and apply these understandings and design approaches in non-traditional settings and through innovative means. Their facilitation abilities are also highly prioritised as they work well in collaborative teams and have good understandings of other disciplines. This archetype also has high Social Conscience (S) priority and Design Devisers see their design knowledge and skills as properly being applied to Social Conscience issues outside the confines of traditional manufacturing.

Design Devisers apply the key elements of design thinking beyond traditional, manufacturing-focused areas of practice. They use their industrial design background and design approach to address new problems in diverse settings which may have no connection with tangible product development.

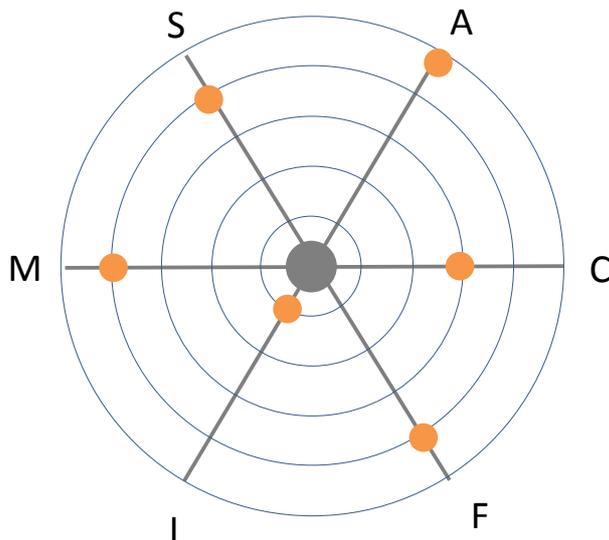


Figure 6 Design Deviser Archetype spider web graphic

For example, service design, experience design and interaction design are fields in which the Design Deviser may adapt and apply their skills and knowledge. Designers of this type may build on their core industrial design education, and marry this with additional education and experiences. This combination of disciplines has become more formalised with for example, business courses specialising in the application of design thinking in a more service-orientated economy. This aspect of design is stronger internationally than in Australia, but even in this country the shift of design thinking towards links to business and engineering has been noted (Dodgson 2008).

Internationally, evidence of the migration of design approaches to non-traditional design fields is widespread. North American based business schools, such as the Rochester Institute of Technology in New York, and the British Design Council have advocated these types of links (Berger 2009; Brunner and Emery 2009). The design thinking approach linked to business has also made its way into more socially responsible community centred projects. For example, IDEO has made available a range of tools and information it has developed for projects such as Design for Social Impact (IDEO 2008). Their approach is one of taking fundamental design thinking skills and knowledge learnt within industrial design and applying these in new areas of non-traditional design application.

Archetype 5: The Dissident Designer

The Dissident Designer Archetype is an emerging role which attaches a strong priority to Approach Thinking (A), though this may be intuitive rather than traditionally theoretical (Figure 7). The Facilitator (F) theme is strong, and the Dissident Designer is adept at working across and between different disciplines. Mobility (M) is a key characteristic of this archetype, as this designer is equipped with a diverse suite of skills and knowledge that allows for flexibility within and across work styles and situations. The theme of Social Conscience (S) is also highly prioritised and this is seen as an integral part of the Dissident Designer.

As is the case for Design Devisers, the Dissident Designer has a relatively low priority for the Communicator (C) theme, as although Dissident Designers can help visualise problems and solutions, their communication skills in aspects such as making and CAD are not as advanced as other archetypes. Perhaps most importantly the Dissident Designer attaches a low priority to the Identity (I) theme, and may or may not describe themselves as an industrial designer.

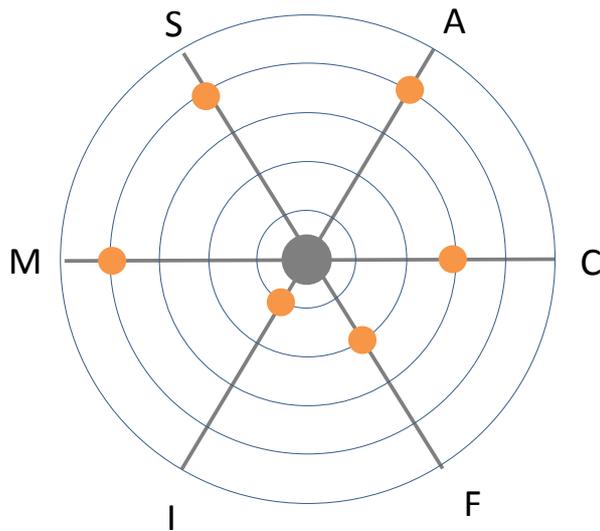


Figure 7 Dissident Designer Archetype spider web graphic

The Dissident Designer is non-conformist and is seen as a creative innovator. These designers are often more focused on the front end of the design process: able to generate good ideas but less equipped to finalise a detailed design for production or project finalisation. The Dissident Designer is the classic ideas person, not a detail person.

This archetype sees things differently and is often misunderstood even in design circles. Dissident Designers can be seen either positively or negatively in the workplace. Some may perceive them as 'difficult' and a challenge to the status quo. Others view their input as a fresh approach providing valuable innovation. Dissident Designers are creative and independent thinkers and often have an intuitive and in-built creative ability, but need to work with others with stronger abilities in finalising a design concept. Dissident Designers tend to reject the more formal aspects of the work environment, as they can find the limits and criteria imposed by production or an organisation frustrating. In a practice setting, they work most effectively as part of a team that can support their ideas and help bring them to fruition. The role played by this archetype is analogous to the disrupter innovator aspects described in the business models of Harvard professor Clayton Christensen et al (2004).

Conclusion

The themes and archetypes described in this paper provide conceptual tools to help analyse the changing nature of industrial design, and consider how these changes should be reflected in the education and employment of Australian industrial designers.

The shift away from domestic manufacturing towards a service-based economy has transformed the nature of industrial design in Australia, and in many other developed countries. This transformation calls for a correspondingly comprehensive review of the fundamentals: what does it mean to be an industrial designer in the 21st century, and how should educative and professional structures support this work?

Industrial design practice has changed: patchwork employment, innovative adaptation of design principles to available work roles, off-shoots into small-scale and bespoke production and shifts to non-design jobs are the commonplace lived experience of industrial design graduates. However the profession as a whole - and in particular design educators - have been slow to recognise, understand and respond to these shifts. In general, their focus remains on a design for manufacture past that is unrepresentative of the future.

This research shows that skills and expertise in traditional design for manufacture is only one of area of expertise and practice. New design specialisations which go beyond the traditional industrial design boundaries are emerging in spite of, rather than because of, existing undergraduate courses. Likewise the resilience and flexibility exemplified by successful graduates needs to be recognised as the new critical success factors: our educative models and professional structures must be re-modelled to advance these. Future curriculum structures should recognise and nurture these other attributes of successful contemporary design practice. However whether these can be accommodated within existing professional and disciplinary frameworks is yet to be seen.

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