

When Australian Design Works in China: Contemporary Practice in Design

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ABSTRACT

Industrial design practice deals with China on a day-to-day basis; whether within manufacturers working with vendors located in China or designing on behalf of local manufacturing clients or for Chinese manufacturers. Yet despite the China-focus of the profession there is little, if any, attempt being made to rethink the way products are designed and developed across the barriers of culture, language, geography and time zones. This paper argues that available technology and theory are not appropriate for the phenomenon of Australian designers working with China. It proposes an alternative approach taken to build interaction at both industry and academic levels and outlines the next steps in progressing this relationship.

INTRODUCTION

Industrial design practice in Australia can be seen to comprise two main categories: in-house design, which is design that happens within manufacturing companies, and consultancy, which is design that is done for clients both in Australia and overseas. Both categories of practice deal with China on a day-to-day basis; in the former the dealings are with vendors located in China and in the latter the work is done either on behalf of local manufacturing clients or for Chinese manufacturers. These dealings often necessitate face to face communication by and with various people in the design to manufacture process, specific stages such as quality control, tooling details, supply and delivery (Kratzer, 2005). This need for face to face communication requires people to work collaboratively across time zones, languages and cultures but involves costly investment in time and travel. It also exposes the business traveller to well documented (Easmon, 2002, Striker et al, 2001) physical and mental health concerns significant to the individual and employer organisation. Individuals suffer potential stress from disrupted sleep patterns, time away from the office, home and family and has the potential for negative organisational repercussions, for example "*The World Bank, studying its own travellers, discovered that both their physical and mental health-care claims were significantly greater than those of non-travellers.*" (Striker et al 2001, p3) The employer organisations must deal with these unproductive times as employees spend time away from the

office or working at less than full capacity while recovering from the effects of long distance travel. The issue of conducting industrial design business off shore in China is the topic of a set of 'practice notes' by the Design Institute of Australia (DIA) titled '*Designed in Australia. Made in China*' (Kratzer, 2005) acknowledging the current practice of travel to China to manage various projects. Yet despite the China-focus of the profession there seems to be little, if any coordinated attempt being made to rethink the way products are designed and developed, and that the available technology and theory may not be appropriate for the phenomenon of Australian designers working with China.

ENGAGEMENT WITH CHINA: CAPACITY DEVELOPMENT

China is important to the future economy and work availability confronting the Industrial Design profession in Australia. There is decreasing local manufacture in Australia of the sort that can generate work in new product development. The available work from local and international clients requires a strong ability to work in China and deliver quality project outcomes. Australian Governmental and industry initiatives such as "*backing Australia's ability- real results real jobs*" (DEST, 2005) and innovation summits speak of clustering resources and fostering links between businesses and researchers while the OECD mentions that 'today, more than ever before, Australian business and research need to be more connected'. (Group, 2000) In-house design teams and consultancies are traditionally unaware of research initiatives and appear to often rely on new staff to provide new approaches and ways of practicing design and developing products. It is in this context that the authors saw the way forward as an open engagement with China.

As part of collaboration between the University of Canberra and RMIT University an investigation was begun into relationships between China and Australia in industrial design. The project had two parts: industry investigation and academic relationships

INDUSTRY INVESTIGATION

Early in 2005 staff from RMIT University and University of Canberra started scoping out a project with two industry partners. We chose for this work two of Australia's leading

establishments in the field of product development representing two of the two main categories of Australian industrial design. One is a manufacturer of consumer products, and the other is a design service provider. Both have worked with the undergraduate programs and are employers of graduates of RMIT University and the University of Canberra. The preliminary study – ‘identification of the needs of practice’ – involved visits to firms and face to face interviews with staff. The ensuing conversations gave us a better understanding of the difficulties the firms faced in their dealings with Chinese firms and their employees.

The complexities of doing business in China involve staff from Australia traveling frequently to deal with factories and vendors. In addition, one industry partner has trialed a person stationed in China to provide logistical support. A direct effect of this ‘physical collocation’ has been an impact upon product development budgets and this provides one direct driver to the design team to change its practices.

Where staff are required to undertake frequent travel, the staff interviewed mentioned impacts upon their physical well-being, personal relationships and their inability to function productively at work, reflecting related findings in the literature review. These impacts were an occupational health and safety concern for the organisation and were in themselves a substantial reason for further research into new ways of contemporary industrial design practice.

The design service providers had two distinct alternative approaches to their practice. In the first approach, the design team is involved in getting products for Australian and international companies developed and sourced from Chinese vendors. In this instance they take the responsibility for the project and drive the Chinese partner to deliver, with the design process and development methodology being formulated in Australia. In the second approach, the firm works for a Chinese manufacturer and here the product development process is dictated from China. In the past the design team has treated this project as similar to the first example but there is a growing feeling that there ought to be a different process to do such projects as the responsibility of development lies with the Chinese client and the speed of execution is often bewildering as is the freedom of interpretation of the designs. This situation of a loss of control and incorrect execution has quality and image implications for the firm and is a significant driver for the firm’s participation in the project. Again these issues are not uncommon as referred to in the DIA practice notes (Kratzer, 2005).

ACADEMIC RELATIONSHIPS

The RMIT University and the University of Canberra have been developing a number of collaborations with Chinese institutions and manufactures involving both staff and students. These have taken the form of staff and student exchange programs of one semester to a year in duration. The placements have sought to familiarise undergraduate students with industrial design and manufacturing processes in China and have also helped staff explore research opportunities.

The exchange programs are reciprocal with students and staff from Australia spending time in China and Chinese students and staff spending time in Australia working on

specific design projects involving manufactures and the universities.

There were some misgivings by staff and students when China was initially proposed and their initial response was either one of dismissal or apprehension. The dismissal response seemed to be prompted by a belief that participation in the European design discourse was more valuable. The apprehension response was prompted by China being the unknown and by the stereotypical ideas of contemporary China being a dangerous place. Though the apprehension is widespread, palpable and does exist, it is by no means representative of the views of all students. A few students, constituting the exception, did come forward and show themselves to be genuinely excited about China, its culture, and potential for design practice.

Research opportunities involving the topic of China and industrial design have recently been integrated into post graduate studies being undertaken at the author’s institutions and have also been the subject of research grant applications.

The collective engagement of the universities with China has transformed the way the student and staff community see the future of design. There is an acknowledgement that China is significant and design academics must seriously consider the incorporation of China and its context of design and manufacture into the curriculum.

Our engagement with China is recent (since 2004) but in this period we have realised that such a trans-national engagement has the potential to transform our practice and theory. Some aspects of the theoretical issues are discussed here.

RELATED WORK

Design and development involving people and factories in geographically separated locations have received a significant attention over the past two decades (Grabowski and Gebauer 2001). In the early 1990s this gave rise to concurrent engineering and was a way for large multinational corporations to develop products by getting different aspects of their global operations to collaborate (Blackhouse and Brookes 1997). This is referred to as ‘collocation’ and there are two distinct categories of this practice. The first, ‘physical collocation’ happens when teams of designers and engineers come together face to face for the duration of the development project. This is a fairly expensive approach to product development and is often only possible for very large projects or in large organizations. The second, ‘virtual collocation’ happens when computers, the internet and video equipment set up real time collaboration between the members of a development team (Sharifi and Pawar 2002). This approach is not as expensive as physical collocation but it requires all collaborators to have access to computers and communication equipment. These requirements are generally easy to achieve in collaborations between university teams and between people in the same multinational organization (Sobek, Ward et al. Winter, 1999). However, the experience of our industry partners in projects like this has shown that access to technology cannot be assumed when dealing with clients and shop floor staff in Chinese firms.

Industrial design practice and education are still predominantly face-to-face even though technologies and practices exist for visual and digital collaboration over distances. Recent CAD software solutions (Dong, Moore et

al.) have begun to focus upon collaborative design – the focus of concurrent engineering – where designers in dispersed locales can work together in real time (Huang and Mak 1999; Prasad, Wang et al. June 1998) while recent technology development has begun looking at the technology needs of industrial design practice (Gardoni, Blanco et al. 2005) . However the situation of Australian design practice is unique. The main players in this sector are relatively small firms as there are few multinationals in Australia and their ways of work are specific. Design firms are required to be responsive, swift and financially prudent in the way development costs are deployed. Costs for development will be high if designers are to travel physically to complete their assignments.

Another factor which emerged in this investigation was the tendency for researchers and companies to rush into such situations to provide solutions – generally software tools and expensive hardware that has to be located at both locations. (Chang, Teng & Chen, 2003) Although this can work effectively in university collaborations where grant funding may assist with technology costs, such solutions are reactive and have limited relevance to the realities of manufacturing and design firms. Often such firms operate in a mutable commercial situation where the people and firms keep changing and where costs are tightly controlled.

China is a factor in the daily work of designers in Australia as demonstrated by the DIA (2005). In the main, China has traditionally been seen as a sub-contractor and factory and, hence viewed as a lower status in the value chain. More recently big industry perspectives have changed and many multinational companies have migrated their research and development arms to China (Jeong, Pae et al. April 2006). However, Australian Industrial Design teams still deal with China mainly as vendors. This has the consequence of exposing designers to only one side of China and one kind of work practice which may not necessarily be true for the whole of the country (Zhou April 2006). Significant changes in China such as the ramping up of educational infrastructure are showing that research and development thrives there and as a consequence value-added activity is migrating to China (Fiel, 2005. Group, 2006). However within academia there is ignorance about China, a gap that can be addressed through initiatives focussing upon information dissemination.

PROPOSED FUTURE RESEARCH

The authors have proposed a structure for future research driven by case studies which focus upon problems identified in the initial scoping project facing the profession of industrial design in Australia. Additionally the proposed research builds in the voice of China to inform design practice. There exists no China-side to the story and Chinese employees have not been given the opportunity to provide their opinion on how things could be more efficient. The project would involve researchers embedded in industrial design practice, a novel approach through the research being grounded and orientated towards solving real needs and problems.

One outcome and benefit of this overall proposed project relates to the local intervention into the profession to arrive at a new methodology of practice. Selected businesses will have a robust approach to functioning in a trans-national context.

Two university programs in design would have acquired knowledge on alternative methodologies for design practice and would have strong industry collaborations to offer as a context for future education and research projects. The publications and related dissemination of information resulting from the project would inform the practice of design in Australia on methodology and provide a specific case study approach to future product development processes. To sum up this project will infuse new energy into the methodology discourse within the profession.

CONCLUSION

This paper has raised some of the issues related to Australian Design working in China and has outlined initial collaborative work being undertaken involving Australian and Chinese manufactures and educational institutions to improve both our understanding of the issues and improve working collaboration. If Australia is to remain competitive and relevant in both industrial design manufacture and education it must develop appropriate ways of working collaboratively with the growing economies such as China. According to Tim Harcourt, Chief Economist for the Australian Trade Commission (2006) Australian 'manufacturing exporters do have a future.' but 'we must continue to invest in human capital (i.e. through education and training) help foster innovation and help with issues of market access and export promotion'(Harcourt, 2006). The collective engagement of Australian universities and Australian design and manufactures with China has the potential to further transform the way the students, academics and the Australian design community see the future of design. There is an acknowledgement that China is significant entity and design academics and Australian industry must seriously consider the incorporation of China and its context of design and manufacture into the curriculum of Industrial Design education.

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