INTRODUCTION: THE CHINESE ‘ECONOMIC MIRACLE’

For the past three decades, China’s economic success has been an inspiration for developed and emerging countries alike (Fung & Lo, 2001; Hai & Siu, 2011; Liu, 2016; Siu, 2009, 2003). With the opening reforms, China’s massive labour force has attracted companies from around the world and effectively turned the country into the world’s manufacturing centre (Hui, 2015; Tischler, 2011; Xin, 2011), bringing investment into the country on a massive scale.

Today however, various factors threaten the country’s status as the world’s manufacturing centre and consequently its continuous economic success. From increasing labour costs (Hui, 2015; Zhao, 2012) to shrinking global demand for mass-produced goods and a declining number of people of working age (Edwards, 2015), many of the conditions that gave China its competitive advantage over the past three decades are changing. In 2015, after decades of record-breaking performance, the country registered its lowest economic growth in 25 years (Magnier, 2016), with all indicators pointing at a ‘new normal’ of lower economic growth (Chang, 2015; Economist, 2015; Hui, 2015; Lopez, 2015, 2016; Rapoza, 2015; Richter & Street, 2015; Russo, 2016; Turner, 2016), showing that the economic model upon which the ‘Chinese Economic Miracle’ was built needs to be updated.

It has been long anticipated that China, along with other emerging nations in the BRICS group, would have to transform its economy from one based on the export of low-cost products to one based on internal consumption and the production of high-value products, which, amongst other things, implies transforming the country into a more entrepreneurial society (Mantzanakis, 2015; Xin, 2011).

The Chinese government has clearly shown its intention and determination to transform China into a society led by innovation by 2020 (Abrami, Kirby, & Warren, 2014; Staats, 2011; Zhao, 2012). Since the opening reforms of President Deng Xiao Ping, the government has financed the development of high-tech parks all over the country, the first of which appeared in Shenzhen, a city known as the ‘Silicon Valley of China’ since 1985 (Abrami et al., 2014; Wong, 2015). Following the ad-
ministration of ex-president Hu Jintao, ex-premier Wen Jiabao acknowledged that China needs people like Steve Jobs, capable of creating products that can dominate the world’s markets (Zhao, 2012). More recently, President Xi Jinping has also said that China needs to go through three transitions: ‘From China’s speed to China’s quality; from China’s products to China’s brands; and from “made in China” to “created by China”’ (Liu, 2016, p. 53).

The government has also been actively encouraging the creation of start-ups through programmes that encourage entrepreneurship and by offering incentives to Chinese studying abroad, to return and start businesses (Dahl, 2016; Lu, 2015). The latest in a series of comprehensive plans to achieve this transformation is ‘Made in China 2025’, a strategy to transform the country’s industry by strengthening 10 strategic sectors through the use of technologies and by improving its ability to innovate (cC, 2016; The State Council, 2015; Hui, 2015; Kennedy, 2015).

**INNOVATION BY DESIGN**

Although it is well acknowledged that the Cultural Revolution prevented modern design movements from emerging in China until the late 1970s (Don, 2014; Liu, 2016; Xin, 2011), design, has been instrumental in China’s economic success for the past 30 years. Since the late 1980s, sub-departments of design began to appear in some of today’s largest corporations, such as Haier (海尔) and Midea (美的) (Don, 2014).

During the 1990s, as some of these corporations became increasingly aware of the importance of developing their brands, several of them started to transition from OEM to ODM. The trend expanded with China’s entrance to the World Trade Organization in 2001, when many Chinese companies realised that they would face increasing competition within the country. This period also witnessed the emergence of some of today’s best-known design firms and freelancers. By 2010, China had become the world’s factory and many transnationals had relocated their ‘design for manufacturing’ operations to the mainland (Xin, 2011).

Over the past decade, tier-1 cities in China like Shenzhen, Beijing and Shanghai, were recognised as ‘Cities of Design’ by UNESCO, and the number of Chinese companies entering for design awards became one of the largest in the world (Don, 2014).

Modern design in China has come a long way since the opening reforms of President Deng Xiao Ping; however, until recently, design only played a supplementary role in value creation, and was often treated simply as a tool for embellishment or even for the imitation of existing products (Don, 2014; Xin, 2011). In contrast, the country’s current economic transition demands that design plays a deeper role in value
creation, and becomes a driver of radical innovation. Under these circumstances, design needs to transition from design for manufacturing to design for innovation, and to become what Liu (2016) calls ‘innovation design’, an ‘integrated form of innovation for product and service creation in the new knowledge economy’, one that can be brought into all kinds of scenarios, ‘including engineering, industrial, and service design’ (Liu, 2016, p. 53).

**From ‘Made in China’ to ‘Designed in China’**

To capitalise on this renewed vision of design, several issues must be addressed (Abrami et al., 2014; Don, 2014). While companies such as Midea, Alibaba, Li-Ning, Tencent and Lenovo have made design an essential part of their new product development and business strategies, many others still see design as a secondary activity – an after-thought.

This is a well-known issue amongst designers in the country: top management in many Chinese corporations often lacks a good understanding of the value not only of design, but also of the role that design plays in developing the brand identity of the company. In consequence, design firms and departments often neglect important aspects of the design process that are ‘intangible to the customer’, such as research, and instead focus on producing large quantities of ‘cookie-cut’ designs (Fung & Lo, 2001; Justice, 2006; Siu, 2004; Xin, 2011). Even companies regarded as innovative often face criticism due to a lack of originality in their designs (Bell, 2014; Chen, 2014; Wiens, 2016; Wilson, 2015). If China is to become a leading innovation force in the twenty-first century, a new generation of design innovators, one that does not interpret R&D as ‘replicate and duplicate’, needs to emerge. This cannot but involve Chinese Universities.

**DESIGN EDUCATION**

If design has been instrumental in China’s economic miracle, so has design education. Although it is agreed that modern design education did not re-emerge in the country until the 1980s (Don, 2014; Justice, 2006; Xin, 2011; Yang, 2016), ever since, China has achieved great progress in expanding its capacity to support design through design education (Fung & Lo, 2001; Justice, 2006; Wilson, 2015).

The Chinese government’s investment in education over the past two to three decades is unparalleled; more than a thousand new design study programmes have been created (Tischler, 2011), with some sources putting the figure at 2000 (Yang, 2016). The number of industrial design graduates alone exceeds 10,000 per year. With more than 400 colleges and universities offering some type of design degree,
China currently has one of the highest numbers of design schools in the world (Feng & Siu, 2009; Justice, 2006; Sharma, 2011; Siu, 2009, 2000, 2010; Sorabjee, 2012). Yet, the economic transformation of the country places increasing and new demands on design education (Don, 2014). China needs not just designers, but outstandingly creative individuals. While the well-known inventions of ancient China – the compass, gunpowder, papermaking and printing – are proof of the great capacity of Chinese (Mantzanakis, 2015, p. 11), Staats (2011) also notes that there is a direct relationship between creative progress and the ‘cultural climate and controlling power at any particular time in its history’ (Staats, 2011, p. 45).

It is this ‘climate’ in which creativity is expected to flourish that remains a matter of concern, because creativity can be either encouraged or discouraged through the environment (Staats, 2011, p. 46).

Good designers are adventurous, ever ready to challenge old ideas and move in new directions. Such designers do not just happen. They have to be nurtured and educated well in the skills that enable them to think creatively and critically. The training they receive is of vital importance in their later success as creative designers. If design is recognized as a very significant feature of production and services in Chinese commerce and industry, then it will be important to ensure that design education is effective in producing designers with highly creative flair (Fung & Lo, 2001, p. 172).

The Chinese education system is often linked with issues such as a negative effect on critical thinking, creativity and entrepreneurship, and an over-emphasis on scores: ‘How can students so completely focused on test scores possibly be innovators?’ (Abrami et al., 2014; Fung & Lo, 2001; Xin, 2011; Zhao, 2012). Consequently, there is a common feeling that if the Chinese education system is going to produce creative thinkers, an overhaul is ‘urgently needed’ (Fung & Lo, 2001, p. 172).

The educational foundations of China need to be shaken and shifted if it is to become a society that generates creativity. The current educational philosophy is a millennia-old product of Confucianism. This system still requires rote memory and absolute submission to ruling authorities, teachers, and administrators. China needs to breakout of this traditional approach to education if it is to progress beyond incremental and imitative innovation to radical innovation (Staats, 2011, p. 50).
THE QUESTION

The historical and cultural dimensions of China make generalisations almost impossible. Depending on the source, the period studied and the angle taken, the country can appear as a creative powerhouse or a creative slum.

While the cultural revolution left the creative capacity of the country severely deteriorated, China’s transformation into the world’s factory brought big challenges and opportunities for the development of design and design education. These challenges and opportunities were, to a great extent, successfully approached by the Chinese leadership.

Now, China’s aim to transition from the world’s largest exporter of low-cost products to the world’s largest exporter of high-value products is again presenting big challenges and opportunities for the development of design and design education. This time, however, it will require more than big spending on infrastructure; deep reforms are needed to create an environment in which a new generation of highly creative designers can flourish.

The question is, can design education in China create an environment in which not only technical expertise, but also creativity and innovation can flourish? Furthermore, what can other emerging countries learn from China’s design education story, past and present and future?

THIS BOOK

This book presents a compendium of contemporary analysis and research on design education in China, the role it has played in supporting the ‘Chinese economic miracle’ and the challenges it faces in fostering creativity and innovation as the country transitions towards a new economic model based on internal consumption and the creation of high value-added products. It will serve as a valuable reference for anyone interested in applying this experience to the development of design, and design education policies to support other emerging nations moving towards this transition.

In Chapter One, Li Zeng from the University of Central Arkansas discusses the difficulties and challenges that design education faces in China, as the country attempts to transition from being a ‘follower’ to being a ‘leader’ of innovation in the world. Based on her experience and research in China and the US, she presents a series of steps to improve the structure of higher education in China, and enhance the capacity of the system to interact with an increasingly multi-cultural global environment.
In Chapter Two, Stefano Ceppi shares his experience as a design lecturer in China as he discusses the importance of having Western experts learn more about the culture of the emerging countries where they work to facilitate knowledge transfer. He discusses the challenge of fostering critical thinking among Chinese students and proposes a new approach, while warning that critical thinking cannot be confined to the classroom.

In Chapter Three, Fang Xu from the University of New South Wales in Australia explores the recent growth of design education in China, and presents the reader with a new framework through which Chinese design education can respond to the challenges posed by the economic transformation of the country.

In Chapter Four, Henry Ma from The Hong Kong Polytechnic University discusses the factors that led to the rapid development of animation education in China, and considers the complications arising from it as education institutions have had to meet an explosive demand for talent. He further discusses the challenges of meeting higher expectations from industry, which demands highly creative, rather than merely technically qualified, graduates.

In Chapter Five, Edmond Salsali from Georgian Court University and Rebecca Ruige Xu from Syracuse University report on a study that offers a glimpse into Chinese design education, reflected through the experiences and performance of graduate Chinese students abroad. They highlight the need to move design education in China beyond technical expertise and discuss the often disparate expectations of students versus what schools actually offer. They also offer a series of suggestions to help design schools prepare their students better for graduate school abroad and ultimately improve their study programmes.

In Chapter Six, Ding Zhou and Jiabei Jiang present a case study from Nanjing University of the Arts, which explores the use of crowdsourcing as a medium to support innovation and entrepreneurship in design education. They assess the lack of skills that this case-study exposes, and the challenges that it poses for educators and institutions interested in incorporating crowdsourcing into their study programmes.

In Chapter Seven, Jui-Che Tu of the National Yunlin University of Science and Technology and Yu-Chen Huang of the National University of Kaohsiung present a case study showing how industry-academia partnerships are being used to fulfil the government call to advance research in science and technology in Taiwan. They discuss why these partnerships are an excellent way to ensure that research in universities leads to the creation of new and practical technologies and products. The chapter also shows why this cooperation is vital for small and medium enterprises, yet despite being one of the major driving forces of the economy, the necessary resources to sustain R&D programmes are still lacking.

In Chapter Eight, Remi Leclerc demonstrates how, following a unique approach in design education, play is being used at The Hong Kong Polytechnic University
to facilitate the acquisition of creative skills amongst product design students. He presents an enlightening reflection of how the ambiguity of play helps designers to deal with uncertainty, an unavoidable variable, particularly in emerging nations. He discusses how the School of Design integrates play into its curriculum as a way to attain better ‘design thinking’ pedagogy, and the role that Hong Kong can play as a lab where educational innovations can be tested before being applied on the mainland.

In Chapter Nine, Miguel Rivas of the University of Central Lancashire Madrid’s campus introduces an emerging paradigm in teaching, as he conceptualises a new type of educator with great potential in design education: ‘the neurolecturer’. He walks readers through the characteristics that define this new type of instructor, as well as the challenges and opportunities that this paradigm shift poses to education systems in emerging nations.

Finally, in Chapter Ten, the editors review the emergence of the PhD programme at The Hong Kong Polytechnic University and the strategies through which the programme has met the challenges that afflict doctoral design education. The chapter highlights the importance of setting a design research agenda that can generate knowledge relevant to emerging nations, and the role that PhD programmes can play in it.

REFERENCES


Xin, F. (2011). *Industrial design: Contrasting the United States and Chinese methods from the perspective of an industrial designer who has both studied and worked in the U.S. and China. (Master of Design).* University of Cincinnati.
