Design Leadership and Management

A Case Study in Singapore

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ABBREVIATIONS

ACCA	Advisory Council on Culture and the Arts
ATLAS.TI	Atlas.ti Qualitative Data Analysis Software
ADH	Asian Design Hub
BRICS	Brazil, Russia, India, China, and South Africa
CAQDAS	Computer Aided Qualitative Data Analysis Software
CIDS	Creative Industries Development Strategy
DCMS	Department of Culture, Media, and Sports (UK)
DLDP	Design Leadership Development Programme
DLT	Design Leadership Transition
DC	Design Consultants
DE	Design Entrepreneurs
DM	Design Managers
DSG	DesignSingapore Report
DSG-2	DesignSingapore Report 2
DSI	DesignSingapore Initiative
ECO	Design Eco-system
ERC	Economic Review Committee
FDI	Foreign Domestic Investments
ICSID	International Council of Societies of Industrial Design
MCD	Ministry of Community Development
MICA	Ministry of Information, Culture and the Arts
MNC	Multinational Corporations
MTI	Ministry of Trade and Industry
OECD	Organisation for Economic Cooperation and Development
RCR	Renaissance City Report
RCR 2.0	Renaissance City Report 2.0
SME	Small and Medium Enterprises
SSIC	Singapore Standard Industrial Classification
UNESCO	United Nations Educational, Scientific, and Cultural Organisation
WFT	War for Talents

CHAPTER 1

OVERVIEW OF THE ISSUES

INTRODUCTION

This book reports research aimed at developing understanding of design leaders' transition to design leadership and management positions in Singapore. Design is a key sector of the cultural and creative industries, which are of great consequence to social and economic well-being both internationally and in Singapore. The Singapore government has transformed Singapore from being an information-driven industry in the early 1980s, to a knowledge-based society in the early 2000s and finally, arriving at a thriving creative economy (MICA, 2008). Singapore's transformation has highlighted creativity as a source of strategic advantage in present-day managerial and political lexicon (de Fillippi, Grabher, & Jones, 2007).

This study is located in context of the development of the creative industries in Singapore, with a particular focus on the design sector (MICA, 2003). The government's creative industries policy seeks to position Singapore as a global hub of multimedia and design capabilities. Design leadership is critical to this enterprise. This book seeks to inform policy and practice in design and deepen knowledge of design leadership. The challenge for the study was to review design leadership transition in Singapore in light of the Asia Pacific war for talents and Singapore's drive to become the design hub of Asia. The research was conducted from 2009 to 2015, being framed by the Design Singapore Initiative (DSI) Phase II, a national collaborative strategy to promote and develop design excellence.

For the purpose of this study, design leaders are individuals who find themselves in a position of leadership or who choose to lead in a design team or design organisation. Design leaders act as design advocates, promoters, or interpreters that connect and support design expertise according to the company's agenda and competencies. Their role is to direct and control, eliminate uncertainties, deal with variances from the grand plan, understand the whole system, see its connections, foresee the responses of people and design and execute appropriate interventions. Similarly, design leadership is defined as having the aim of helping organisations envision the future and ensures that design is used to turn those visions into reality. In contrast, design management's focus is on the management and integration of assets, activities, resources, and processes to foster creativity and originality to create sensible solutions that achieve corporate objectives.

The overarching goal of the research was to develop theory on design leaders' transition to design leadership and management positions in Singapore. To this end, the qualitative study sought the experiences and perspectives of industrial design leaders and produced rich descriptions of their transition to leadership and management positions. Theory was generated in the form of theoretical propositions. Based on the empirical and theoretical outcomes of the research, recommendations are made later in this book for professional and educational practice, policy and further research in design leadership to benefit the industrial design community in Singapore. Importantly, this study provided design leaders a voice that "explains the significance of a Design Singapore Initiative (DSI) under the rubric of the Creative Industries" (Lee, 2004, p. 13).

The remainder of this chapter is presented in four main sections. The first section provides a brief outline of the background and context of the study, highlighting the significance of Singapore as a case for investigating design leadership in the creative industries. The second section presents the rationale for the study. The third section describes the key concepts and definitions employed in this research and book. The fourth section provides an overview of the research method. The chapter concludes with a structured overview of the chapters to follow.

BACKGROUND AND CONTEXT

Singapore's successes and achievements in education are well documented (Gopinathan, 2007; Holden & Hamblett, 2007; Pedersen, Oster, & Truelsen, 2011; Sharpe & Gopinathan, 2002). However, according to some scholars, its development ethos and survival ideology had previously marginalized the development of arts and culture resulting in a labour force that is not suitable for the creative economy (Holden & Hamblett, 2007; Low, 2002; Ooi, 2010; Sharpe & Gopinathan, 2002). Singapore's creative economy has subsequently emerged as the key differentiation strategy for integrating the humanities, business, and technology to enable the governance and 'solution-finding' of this nation state. The nation's strategic transition to the creative industries marks a dramatic shift to an economy that makes use of the knowledge of its citizens to generate value and prosperity (Yue, 2006).

The Renaissance City Report: Culture and the Arts in Renaissance Singapore was accepted and unveiled in Parliament in 2000. The report proposed six strategies to achieve the goal of making Singapore a world-class city of arts and culture in the 21st century … (i) develop a strong arts and cultural base; (ii) develop flagship and major arts companies; (iii) recognise and groom talent; (iv) provide good infrastructure and facilities; (v) go international; and (vi) develop an arts and cultural "renaissance" economy (MITA, 2000).

In 2003, the Creative Industries Development Strategy (CIDS) was released. It categorised the creative economy into three groups: Arts and culture, design, and media. Policies associated with each group sought to promote the growth of Singapore's creative economy with a view to making the nation into a "New Asia

Creative Hub" (DSG, 2009, p. 17). The Design Singapore Initiative was launched in 2003 as a key platform of the CIDS. The outcomes of this initiative are: For Singapore to be a leading design hub in Asia; to evolve a distinctive design and brand identity for Singapore products and services; for design excellence to be a competitive advantage for local enterprises; and to create a pervasive design culture to raise the general level of design awareness and discourse. The overall objective is to create an awareness of effective design that integrates into all aspects of business, leisure, recreation, public service, and education in Singapore (MTI, 2003). The present study was conducted over the duration of the Design Singapore Initiative (2009 to 2015). These CIDS and Design Singapore Initiative, including its phases of implementation are described in detail in Chapter 3 of this book. It is worth noting that the Design Singapore Initiative, however, focused on new studio leaders, studios with excellent practices, and the wide-spread adoption of design thinking in Singapore companies instead of a focus on policies in design leadership and management as a national strategy.

Within the above context, Singapore is significant as a geographical area for research into the creative industries because of its status as an 'intelligent' city; the world's first digital economy. It is also one of the most Western-oriented, economically successful and globalised cities in the world (Brown, 1998; Chong, 2006; Chua, 1998; Gopinathan, 2007; Holden & Hamblett, 2007; Lim, 1999; Yue, 2006). Globalisation, Information Communication Technology (ICT), and the nation's ambitions to be a knowledge-based economy make human capital, especially intellectual capital more critical to Singapore than physical capital (Low, 2002; MICA, 2003; MTI, 2002). Further, Singapore is special in the region because it is the only country in Asia to harness the shift to the creative economy as a lasting national cultural policy. Singapore is a distinctive choice for this study because of its focus on human resources for survival, and its competitiveness is imperative as compared with other Asian nations. Singapore's greatest resource is the creative abilities of its citizens (MTI, 2002, 2003); design plays a central role in developing this resource.

RATIONALE FOR THE STUDY

Alan Topalian (1990) defined a design leader in two ways, as an organisation's position in the market, or an individual who finds himself in a position of leadership or who chooses to lead. This paper focuses on Alan Topalian's second definition of an individual as a design leader. In this light, design leaders are individuals who find themselves in a position of leadership or who choose to lead in a design team or design-driven organisation. They act as design advocates, promoters, or interpreters that connect and support design expertise according to the company's agenda and competencies. Their role is to direct and control, eliminate uncertainties, deal with variances from the grand plan, understand the whole system, see its connections, foresee the responses of people and design and execute appropriate interventions

(Karp & Helgø, 2008). As such, design leaders require the continuous mandate to lead their subordinates in initiating constantly evolving changes in an ever-changing environment.

The aim of design leadership is to help organisations envision the future and to ensure that design is used to turn those visions into reality (Nam & Jung, 2008). In contrast, Design management's focus is on the management and integration of assets, activities, resources, and processes to foster creativity and originality to create sensible solutions that achieve corporate objectives. In this light, the principal source of poor design is poor design management. Poor design management only becomes apparent when the lack of design knowledge and experience limits the progress of a design project or the organisation (Topalian, 1984, 1990). Alan Topalian suggested that for a more professional approach, it is necessary to bring the design function into focus and explain the demands of efficient design management practice (1984). However, there is little research dealing with the transition to leadership and management positions within the general management knowledge domain. To add, there is a dearth of research in the design knowledge domain, particularly in the context of designers' career trajectory and particularly in the context of design leadership in Singapore.

In general, scholars have welcomed the age of design management (Walton, 2007), however, this appears to be centred mostly in Europe and the United States, where design management practices are more established. In Asia, especially Singapore, there is insufficient discussion on design management practices. This book is an attempt to address these gaps by providing empirical evidence of the phenomenon of transition to design leadership and management positions in a Singapore setting and by using qualitative research to provide an in-depth analysis of this phenomenon. The existing corpus of research in the transition to design leadership and management position is severely limited. However, literature within the generic design management domain has revealed five interconnected research gaps that led to five themes that frame this research.

The first research gap identified by scholars highlights issues with the transition to design leadership and management, especially problems experienced by design managers at the middle level (Gorb, 1992). According to Gorb, the hardest task is to educate newcomers to senior design management ranks, who through many years of work, are conditioned by the attitudes of their immediate supervisors. He says:

> *…the task of education continues as newcomers join the senior management ranks. At the bottom levels, among young people with fast-track careers such as MBAs, there has been similar success, but the effort continues with every new class. While these people will be working for many years, their effectiveness is inevitably conditioned by the attitudes of their immediate bosses, the middle managers. It is among this group of middle managers that the hardest task remains. Successful managers find it difficult to accept that they need a new expertise; less successful ones find it difficult to take new ideas on board.*

In-house programmes are perhaps the best way to educate these people, but insufficient resources make it a slow process. (Gorb, 1992, p. 21)

This problem with middle level managers is also identified by Alan Topalian, but with an emphasis on design managers who have had little prior design or design management experience. Alan Topalian points out that these managers at functional or tactical level often think that competencies other than design, such as in marketing, production or project management transfers easily into an equivalent competence in managing design, however they are often uncomfortable when it comes to handling design projects, resulting in a superficial approach with indifferent results (Topalian, 1984, 2002). These problems with middle level managers in the design management domain have led to concerns over the transition to design leadership and management positions. These concerns, discussed further in Chapter 3, include the challenges in dealing with the shift towards team-based and temporary work, increasingly flexible and gate-keeping roles, and a greater focus on relationship-based work.

The second research gap highlights the need to improve design and designer education, especially design professional development, and cross-disciplinary perspectives from design academia, and design practice. According to Yang, You, and Chen (2005), design education had failed because the capabilities of design graduates globally are not up to a level expected by employers (Yang et al., 2005). To add, there is an increasing need for talents that have an international perspective and in-depth experience working in multinational corporations (Ooi, 2010). The Singapore government supports the training of more designers and allowing a greater influx of global design talents into Singapore (MTI, 2002). The challenge for Singapore now is the shortage of locally trained talents with an international outlook and an appreciation of the Singaporean perspective.

Also, according to Rausch (2005), there is the need for professional development to draw a distinction between the development of design leaders from the education about design leadership. He points out that potential design leaders may learn of leadership and motivation theories that provide an array of insights, however they may not realise how these insights apply to a specific decision (Rausch, 2005). This can be a disadvantage for companies that urgently need design leadership in an increasingly competitive environment like Singapore. There is also the need for cross-disciplinary perspectives between design education and design practice (Wolf, Davis, & Vogel, 2002). According to Wolf et al.:

Current undergraduate design programmes do not make students aware of the challenges of design management, nor do they describe the types of management that exist. Graduate programmes are not much better. Leaders in education and industry must recognize this gap in education and work together to correct it. (2002, p. 36)

These problems with design education identified by scholars in the design management domain led to concerns about design leadership development and the

design leadership pipeline in general. These concerns are further addressed in the literature review in Chapter 3, which includes a discussion on the ephemeral nature of design and the need for champions in design leadership and management, the need for continuous upgrading and lifelong learning, and the need for accreditation and recognition for professional development in the design industry.

The third research gap highlights concerns with talent management, with a focus on the war for talent in the Asia Pacific, and the need to develop studios with excellent practices in Singapore. Singapore's conversion from an information-driven industry, to a knowledge-based society, to a flourishing creative economy today (MICA, 2008), emphasises the significance of creativity in its strategy for economic growth and survival. Globalisation has fuelled the aggressive economic growth in Asia and promoted talent mobility (Florida, 2005, 2008; Senge, 2006). This has accelerated the talent brain drain because "the best and the brightest talents often find attractive compensation packages overseas because of global competition for the best talent," this results in severe "talent shortages" in China and the Asia Pacific region (Ooi, 2010, p. 25). For Singapore, there is an increasing need for talents that have international perspective and experience working in multinational corporations (Ooi, 2010). For some scholars, Singapore's development ethos and survival ideology had marginalized the development of arts and culture resulting in a labour force that is not suitable for the creative economy (Holden & Hamblett, 2007; Low, 2002; Ooi, 2010; Sharpe & Gopinathan, 2002). Research identifies the need for leaders to develop an excellent design studio culture (MTI, 2003). This studio design culture should encourage cultural sensitivity, to overcome cultural disadvantages, and to be more inclusive and urgently encourage diversity in the workplace (Bassett-Jones, 2005; Chiu, 2001; Jacobs, 2005; Littrell, 2002; Quaglieri, Penney, & Waldner, 2007; Vaiou, Konstantatos, & Siatitsa, 2009). These concerns on talent management are further addressed in the literature review chapter, which discusses the war for talents, the need for designer career trajectories, and good practices in design management; issues addressed in this book.

The fourth research gap highlights concerns related to the design community and design practice, especially in light of the failure shown by the top-down design leadership style and the need for new studio leaders. According to Clews (2008), the top-down leadership style is a source of concern in managing design as it would not produce design outcomes of the level of rigour, consistency, attention to detail or within the scope of a bottom-up approach driven by the designers (Clews, 2008). Similarly, Gorb observed that there is a difference between the working styles of a designer and design leader. A designers' working style is practical, with a strong focus on the "how" of problem solving (Gorb, 1992). According to Gorb, designers are inductive in bringing business value and emphasise on the importance of "capable" educational routes to a successful working life. For design leaders, their style of working is theoretical with a focus on the "why" of the problem (Gorb, 1992, p. 20). Design leaders bring business value by seeking knowledge deductively and emphasising the importance of "reflective" educational routes to a successful

working life (Gorb, 1992, p. 20). In light of the failure of top-down leadership and the differences in working styles between designers and design leaders, it is unsurprising that scholars in the creative industry suggest the need for a new breed of global generalists (Kyung Won Chung, 1998; Gibson & Kong, 2005; Porcini, 2009; Yukl, 2013). The literature highlights the fragmented design eco-system, the significance of the structure of the design community, and the future of design leadership being highly relational in nature.

The fifth research gap addressed in this book focuses on concerns with design policy and strategy, especially with the impact of design policy in Singapore, and how they help develop a stronger design culture in Singapore (DSG, 2009). Design and design leaders need an environment that supports both creativity-nurturing situations together with opportunities for stimulating creative conflicts with competitive co-workers and an exposure to complex jobs led by design leaders who display supportive non-controlling styles (Cummings & Oldham, 1997). This environment must constantly adjust and adapt the context to maximize the innovation potential and creativity of designers and ensure that the essence of their work is not swayed by the times or be merely novel solutions (Chan, 2001). Singapore is one of the few countries globally to set tangible objectives for developing its creative economy. This is despite it being the newest entrants in the race towards being a cultural and creative city in Asia and the world. These concerns regarding design policy and its strategy are further addressed in Chapter 3, in its contextual review of the creative industries in Singapore from their creation to the latest Design Singapore Initiative.

As has been noted, there is a dearth of research into design leadership and management in the context of Singapore. By canvassing the views of design managers, design consultants, and design entrepreneurs in Singapore, this book will make a significant contribution to understanding the current transition to design leadership and management positions in Singapore.

KEY CONCEPTS AND DEFINITIONS

Definition of Design

Design is ephemeral/design helps businesses. There is no single authoritative definition of the word design (Findeli, 2001; Jevnaker, 2000). In fact Findeli said, "there are almost as many different definitions of design and design process as there are writers about design" (2001, p. 295). As such, it is helpful to return to the root-word for a clear definition. In German, design or Gestaltung means "the creation of form," while in English it refers to "the conception, or creation of mental plan for an object, action or project" (Jevnaker, 2000, p. 104). Common to these German and English root-word meanings, is the meaning that design transforms existing solutions into preferred ones. What should be noted is that the definition of design changes with time, according to markets and business strategies, consumers and their lifestyle needs, and technological trends (Findeli, 2001; Jevnaker, 2000). What

is significant about design is that it helps businesses to brand, grow and compete (de Mozota, 2003; Evans & Shaw, 2004).

Design mergers with moral and ethical considerations.   Latour (2000) states that design is a humbling process because a designer only adds to an idea and does not facilitate foundational changes. Design, he adds, demands that the designer have an eye for details, and requires that s/he creates meaning through that process. Therefore design is almost always never new but remedial. Latour argues that "by expanding design so that it is relevant everywhere, designers take up the mantle of morality as well" (Bohemia, 2000, p. 6). Because "materiality" and "morality" is "coalescing," designers will be subjected to the ethical critique of his clients and peers (Bohemia, 2000, p. 5).

Design defines products and/or services.   Ralph and Wand (2009) however, provide the clearest, most thorough and holistic definition of design to date. They define design (noun) as "a specification of an object, manifested by an agent, intended to accomplish goals, in a particular environment, using a set of primitive component, satisfying a set of requirements, subject to constraints" (Ralph & Wand, 2009, p. 109). Ralph and Wand also defined design as a transitive verb; "to create a design, in an environment (where the designer operates)" (Ralph & Wand, 2009, p. 109). They cite six classes of design objects identified as the outcomes of design. The design outcomes are "physical artefacts" (e.g. single component or composites), "processes" (e.g. business workflows), "symbolic systems" (e.g. programming language), "symbolic scripts" (e.g. essays, graphic models, software), "laws, rules and policies" (e.g. criminal code), and "human activity systems" (e.g. design projects, committees, and operas) (Ralph & Wand, 2009, p. 111).

Design involves industrial production.   In the context of Singapore's creative industry and of the present study, the definition of design and its outcomes are limited to physical artefacts, processes, and human activity systems. Anecdotal evidence shows that many designers and design leaders in Singapore are holding onto a traditional Bauhaus view of the definition of design. As such, design is very much concerned with the pressure for industrial production and its constant focus on the fitness of an object for purpose and market (Cross, 1983).

Definition of Industrial Design (ID)

Product design a sub-field of industrial design.   According to Erlhoff and Marshall (2007), the terms product design and industrial design, or more accurately industrial and consumer product design, are used interchangeably because they ultimately both have similar objectives, processes, technologies and spectrum of output possibilities. However, product design is generally considered a sub-field of industrial design because of a perceived craft-based approach to the design process (Jevnaker, 2000).

Similarly, the term industrial design is seen as somewhat outmoded with its historical links to the Industrial Revolution. To add, the term "industrial" also implies a "greater emphasis on the manufacturing aspects" in the product development process (Jevnaker, 2000, p. 310).

Characteristics of industrial design 1: multidisciplinary. Industrial design has two major characteristics. Firstly, it is multidisciplinary. It consists of considerations for form, material, construction, ergonomics, user convenience and friendliness, safety, produce-ability, reliability, serviceability, user instructions, aesthetics, packaging, transportability, point-of-sale display, cost-effectiveness, quality, product image, corporate image and ultimately, user satisfaction and profitability for the manufacturer (Topalian, 1986, p. 53). Multidisciplinary approaches to problem solving, Alan Topalian, (1986, p. 57) warns, must go beyond multidisciplinary teams to multidisciplinary thinking or "integrated" thinking (Topalian, 1986, p. 57).

Characteristics of industrial design 2: culture, innovation and technology. Secondly, industrial design is concerned with culture, innovation, and the humanization of technologies (ICSID, 2008). The International Council of Societies for Industrial Design (ICSID), the world governing body for industrial design societies, expanded on the existing definitions of industrial design, describing it as the central factor of innovative humanisation of technologies and the crucial factor of cultural and economic exchange and a creative activity whose aim is to establish the multifaceted qualities of objects, processes, services and their systems in whole life cycles (ICSID, 2008).

Singapore: industrial design is object design. In Singapore, the Ministry of Information Communications and the Arts (MICA), the governing body that oversees the creative industries in Singapore classifies industrial design as object design (Pinnow, 2011). Object design is the broadest term in listing all activities related to industrial design but is not suitable in describing activities specifically related to industrial design. In this book the term industrial design is preferred over the lengthier and more accurate term industrial and consumer product design due to its wider acceptance internationally.

Management of Design and Design Management

10 Assumptions about design management. According to Alan Topalian (2002), there are ten assumptions found within design management. The first assumption is that design is a strategic resource, having the ability to create wealth due to its capacity to ideate and deliver products and services to exceed customers' needs and aspirations. Second, design management assumes that innovation is vital for global players and, whether consciously or not, innovation plays a part in all design. Third, design management assumes that design leadership generates ideas that reveal tangible market

expectations via research and user experience testing. These ideas also demonstrate the ability to add value and provide differentiation in a cost effective way. Fourth, design management assumes that all activities in business, and design activities are manageable. It believes that design decisions are similar to business decisions in that they are either "hard" or "soft." Fifth, design management assumes that professional management requires a rigorous approach to design management. This presents an intellectual challenge in business. Sixth, design management assumes that high standards are unachievable without reorganising products, services, and operations of business services. It believes that it is necessary for all staff to have a deep sense of pride and concern for design standards. Seventh, design management assumes that effective design is integrated into all principal categories of design. Design integration requires work to be coordinated across major disciplines and stages of projects, with implicit decisions followed through from project to project, whenever appropriate. Eighth, design management assumes that it takes a significant improvement in design management performance to influence design standards in business. Ninth, design management assumes that effective design management requires appropriately skilled and committed middle managers. To be successful, enlightened senior executives must in return support these middle managers. The tenth assumption of design management is that design enlightenment is not part of the business culture. As such, only capable specialists from outside the business domain can provide the formal training required in design management. These ten assumptions underpin the development of design management as a rigorous discipline on par with established disciplines in business. An understanding of these assumptions will allow for a better appreciation of design management in practice.

Management-of-design is a subset of design management. The terms management-of-design and design management are often used interchangeably, as it is an emerging field of study and a discipline found within the management science (de Mozota, 2007). The term management-of-design is defined as the strategies in which design is being managed in a department or a design firm (McBride, 2007). Its role is limited to design activities within design management, such as project management, and building construction. As such, there is stronger preference for the term design management, which is seen to have a broader definition (McBride, 2007).

Design management is strategic management of creative assets. Design management has a predominant emphasis on strategic management of creative assets. It can be defined as a way of managing the creative process to foster creativity and originality and a discipline of design practice that aims to integrate all its resources and activities towards creating the most appropriate solution for achieving corporate objectives (Kyung Won Chung, 1998). From this viewpoint, it is observed that design management is value-orientated, qualitative and creative, while business management is profit-orientated, quantitative and administrative in nature (Walton, 2000). McBride calls it "design-minded leadership" as it deals with

the intangibles of the new economy (McBride, 2007, p. 22). Design management also covers a wide spectrum of inter-related design activities like research and development, strategy and planning, team building and value-management (Kyung Won Chung, 1998; Topalian, 2002). Design management has three functional levels, namely operational, functional, and strategic (Topalian, 2002).

Problems in design management.   One of the common pitfalls in design management is project mistakes caused by management errors. According to Ravasi and Lojacono (2005), managerial tasks and their related problems; specifically within the product development and the organisational development phases. These management errors can be broadly classified into two categories, namely those that deal with ideas and those that deal with people and processes (DCMS, 1998a). Some examples of the management errors in dealing with ideas are mistaking incremental innovation with radical innovation, killing-off ideas too soon, and choosing ideas based on operational issues and not based on customer needs. Similarly, some examples of management errors that deal with people and processors are not carrying out the development process diligently, losing focus of the overarching goal, and having no design champion within the organisation. In addition, design leaders have an over-reliance on a set of design process within a design team and there is still no proof that utilising the design process alone will secure a better idea (Austin, Steele, MacMillan, Kirby, & Spence, 2001).

Design management now focuses on design leadership.   The focus of design management had changed from one with an emphasis on managing the cost of design operations, to one with a focus on leadership, revenue generation and future-building (McBride, 2007). In this book the term design leadership is preferred because the term management of design has a more limited scope and is concerned with the business strategy and not the human relations aspects of design.

The Four Definitions of Design Leadership

Design leadership has four distinct definitions that reflect the phases through which it has evolved over the last thirty years. These evolving definitions require design leaders to take on roles with greater scope and responsibilities.

Effective use of resources.   The first and most traditional definition of design leadership is the effective deployment of resources by a manager according to the company's objectives (Erlhoff & Marshall, 2007; Hollins, 2002). The work scope is that of a project co-ordinator, or a manager of a design project. This definition is influenced by the focus on project management in the 1980s.

Market leadership.   The second definition of a design leader is that of market leadership or the eminent position of a product line in a "business enterprise"

(Topalian, 1990, p. 39). This definition is influenced by the focus on production in the 1990s.

Advocates design & design expertise.   The third definition of design leadership is concerned with individuals who act as design advocates, promoters, or interpreters that connect and support design expertise according to the company's agenda and competencies (Bucolo, Wrigley, & Matthews, 2012; Jevnaker, 2000). This definition is influenced by the focus on marketing and branding in the 2000s.

Designs with and for people.   The fourth definition of design leadership is designing with people or co-design, as contrasted to designing for people. This definition became popular after 2005 and is influenced by co-design and its focus on customer experience and satisfaction. Design teams co-creating products and services with consumers, and these objects can also have some intangible economic, social and aesthetic values (Eisermann, Gloppen, Eikhaug, & White, 2005).

Design leadership as contrarian/strategic thinking.   Design leadership can also be defined by the way design leaders think. It can be observed that prominent design leaders often take contrarian views in order to secure insights into problems. Intellectual and moral subversion is a leadership responsibility that engenders trust, and a compound of qualities that includes respect, listening to and valuing the views of others; personal regard, intimate and sustained personal and profession relationships; competence, the capacity to produce desired results in relationships with others; and personal integrity and honesty in everyday interactions (Elmore, 2005; MacBeath, 2007). This contrarian view looks at everything a project holds differently, and seeks to do things better. This inadvertently leads to having a desire to seek out fresh perspectives, and to question basic assumptions in order to secure radical insights. Design leaders do this in combination with their deep interest in people and flair in communication skills. Design leaders have a general predisposition for intellectual discovery and a natural curiosity for people and things.

Design Leadership as Team/Bottom-up Leadership

The research literature suggests that design leadership can also happen in teams. Increasingly, design leaders need to adopt team leadership and bottom-up strategies in managing design and design projects. This happens when task complexity increases, and it becomes impossible for design leaders to handle everything. Team leadership strategy requires team integration and individual expertise to be well-developed and independent (Singh & Bhandarker, 1990). Bottom-up leadership strategy is idea-based and originates from knowledge workers when they become engaged in pushing the boundaries during problem solving. Bottom-up leadership is directed upwards and ends once senior managers accept the team's proposal. It is a valid

way to approach strategic diversification in a saturated market (Nam & Jung, 2008). Both team leadership and bottom-up leadership strategy are recommended for the creative industry (Clews, 2008; McCrimmon, 2009; Vaiou et al., 2009).

Design Leadership as Organisational/Visionary Leadership

Design leadership can also influence the way in which an organisation behaves and reacts. Due to the design leaders' contrarian outlook, design organisations are often subversive places. They require a quality of leadership that is a constant irritant so as not to allow it to slide into intellectual complacency. This contrarian view and constant irritation is also a constant reminder of its sacred mission in education (MacBeath, 2007). Design organisations that offer a contrarian view are an alternative to the banality of mass media, the conceits of the designer culture and a sex-obsessed popular culture via the processes of subverting common sense, challenging received wisdom and inert ideas (Whitehead, 1929). Design leaders are seen as change agent or catalyst of change who navigate or guide their organisation to turn those visions into reality (Clews, 2008). In the process, they look after many aspects of their organisation simultaneously (Singh & Bhandarker, 1990; Ughanwa, 1988b). To add, design leaders are expected to ensure that design is used in organisations and to envision its future.

Leaders and Design Leader

Leaders are defined as people who direct and control, eliminate uncertainties, deal with variances from the grand plan, understand the whole system, see its connections and interconnectedness, foresee the responses of people and conceptualise and respond with the appropriate interventions (Karp & Helgø, 2008). From the many definitions provided above, a design leader is first of all a leader within a design-orientated organisation. The leader must be trained in a design specialisation and have the appropriate design credentials and experience. In addition, the design leader must also have access to a broad design network that will ensure their success within that role. Finally, a design leader is expected to have documented accomplishments, supported by a portfolio of successful works that is up-to-date and relevant. For this book, design leadership is taken to be an essential function of design leaders.

According to Alan Topalian (1990), a design leader can be defined in two ways: First, as an organisation's position in the market; and second, as an individual who finds him/herself in a position of leadership or who chooses to lead. In the context of this book, the conceptual framework of this study was guided by Alan Topalian's (1990) second definition. It identified three different categories of design leaders, of which only design leaders in category one (1) were selected. Category one (1) design leaders are defined as "Industrial design leaders who manage industrial designers" and can be subdivided into three groups, namely "Corporate Design

Leaders or Design Managers," "Consultant Design Leaders or Design Consultants" and "Technical Design Leaders or Design Entrepreneurs" (see Table 7).

OVERVIEW OF THE RESEARCH AIMS, QUESTIONS, AND METHODS

To reiterate, the aim of the study was to develop theory on design leaders' transition to design leadership and management positions in Singapore.

The general research questions were:

- What are the meanings and understandings of design leaders regarding the transition to design leadership?
- What are the aims and intentions of design leaders with regard to the transition to leadership positions?
- Are design leaders' perspectives on the transition to design leadership influenced by their interactions at their workplace or community? If so, in what ways?
- What strategies do design leaders use in the transition to design leadership, and how significant are these strategies for them?
- What do design leaders believe contributes to the success of these strategies?

The study is a qualitative study, privileging the voice of design leaders. Located in the interpretivist paradigm, it employed grounded theory methodology in generating theory in the form of theoretical propositions. The study developed collective case studies of three groups of design leaders on their experiences in transitioning to design leadership and management positions in Singapore. The case study approach sought to draw out the complexity of the cases through constructing rich descriptions of phenomena under study (Punch, 2005; Yin, 2009).

The research canvassed the perspectives of 15 design managers, design consultants, and design entrepreneurs on the transition to design leadership and management positions in Singapore. Data was collected through semi-structured, in-depth interviews, documents researcher memos, and participants' reflective journals. The data was analysed according to grounded theory methods, and involved the identification of open, focused, and axial coding in the process of theory development. The analysis was guided by the inductive analysis approach of Miles and Huberman (1994), and supported by computer-aided qualitative analysis software, Atlas.ti.

OVERVIEW OF THE FINDINGS

This study found that the transition to design leadership and management positions in Singapore progresses through five sequential levels: Level 1 Self-cultivation; Level 2 Developing Expertise; Level 3 Grooming Talents; Level 4 Building Industry and Community; and Level 5 Improving Policies. The empirical findings led to the development of the Design Leadership Transition Theory in the form of theoretical propositions related to the levels, as follows:

Proposition 1: Awaken to the Desire to Lead

At Level 1 of the design leadership journey, a designer is awakened to the desire to lead, has a self-awareness of how their actions affect others, and develops a desire for continual self-cultivation. Designers who aspire to be design leaders seek to develop character, competencies, and thought leadership.

Proposition 2: Desire to Develop Deep Expertise

At Level 2 of the design leadership journey, aspiring designers leaders are design team leaders within their company. Design team leaders aim to develop deep expertise via a master-apprentice approach, to diversify design in Singapore, and to develop "T-profile" design professionals in Singapore.

Proposition 3: Able to Groom Design Talents

At Level 3 of the design leadership journey, design team leaders are design managers. Design managers aim to groom talents, and they do this by managing their design talents, managing their design project work, and managing the experience designers have in their studio practice.

Proposition 4: Able to Build Industry, Community, and Society

At Level 4 of the design leadership journey, design managers are design directors. Design directors aim to bring about transformative change to the industry with design strategy, to the community with inter-disciplinary/multi-disciplinary design approaches, and to society with participatory approaches.

Proposition 5: Able to Improve Policies and International Relationships

At Level 5 of the design leadership journey, design directors are chief design officers or owners of their design business. Chief design officers and owners of design businesses support, promote and refine existing policies, and make suggestions for new policies in the creative industries that benefit Singapore, and Singaporeans and their relationship with Asia and the world.

CONCLUSION

This chapter has provided an overview of the study described in this book, which generated theory about the transition to design leadership and management positions in Singapore. Chapter 2 describes in further detail the background and context to the study. Chapter 3 reviews the intersecting bodies of literature that informed the study, highlighting gaps in the literature that support the rationale for the study.

Chapter 4 describes the methodological framework of the study and outlines the methods that were employed. Chapter 5 presents the empirical findings in the form of three collective case studies. Chapter 6 presents an overview of the findings according to the central research questions. Chapter 7 presents the theory of the transition to design leadership and management positions in the form of theoretical propositions. Chapter 8 concludes the book with a summary of the study, as well as recommendations for practice, policy, and further research.

CHAPTER 2

BACKGROUND AND CONTEXT

INTRODUCTION

This chapter describes the background and context of the present study of design leaders and their transition to design leadership and management positions in Singapore. The first section of the chapter addresses the concept of globalisation and its impact on the rise of Asian economies. It draws attention to the positive and negative effects of globalisation on developing economies. The second section explains how the information/knowledge economy has transformed into the cultural and creative industries. The third section cites a major research study that reviewed international design policies, highlighting key trends. The study identified key strengths of Singapore's design policy, as well as vulnerable points. The final section of the chapter describes Singapore's transition to a cultural and creative economy. This section highlights the need for urgent action by the design industry to develop leadership and management talents in Singapore, further supporting the rationale for this study.

GLOBALISATION AND THE RISE OF THE ASIAN ECONOMIES

Globalisation

Globalisation is the most significant geo-politico reality; a multifaceted, liberal, and liberating process that involves a shift from international to transnational networks of trade, investment, and finance (Brown, 1998; Gopinathan, 2007; Koh, 2007; Lim, 1999; Power, 2000). Globalisation has created a cultural corridor that provides easy access to information, technology, and entertainment (Florida, 2005, 2008). As such, many developing nation-states now have access to a technological and competitive level playing field in the global market place (Brown, 1998; Chong, 2005; MTI, 2003; Senge, 2006). Globalisation has brought about pervasive, inter-related global issues that are complex or 'wicked' in their challenges (Coyne, 2005; Johns, 2009). These challenges often need multidisciplinary or trans-disciplinary perspectives and cross-border teamwork (Austin et al., 2001; Tanzi & International Monetary Fund, 1993).

   Globalisation promotes talent mobility (Florida, 2005, 2008; Senge, 2006) because "the best and the brightest talents often find attractive compensation packages overseas because of global competition for the best talent" (Ooi, 2010, p. 25).

The aggressive economic growth within Asia has created an increasing demand for skills and talents, resulting in Multinational Corporations (MNCs) facing severe talent shortages.

According to Stiglitz, globalisation has six distinct characteristics (2003). The first characteristic of globalisation is knowledge and the free flow of knowledge and ideas globally which transforms societies, policies, and institutions. The second characteristic is trade; global trade is a well-studied phenomenon and is proven to have a direct relationship with economic growth. The third characteristic is labour, especially the impact of labour flow. Labour flow is at best ambiguous, and one of the least studied aspects of globalisation. As such, labour flow is an area for exploration in this study. The fourth characteristic of globalisation is foreign direct investment (FDI), which brings in capital that has less cyclic volatility than portfolio capital, access to foreign markets, technology, and human capital. FDIs in return strengthen the growth of the economy. The fifth characteristic is capital market liberalisation, which allows for the free flow of short-term capital around the world (Stiglitz, 2003). The sixth characteristic of globalisation cited by Stiglitz is that the modern world is consistently and invariably homogenised by it (Yang, 2003, p. 2).

In light of the above characteristics, globalisation has had significant and positive results on: the flow of ideas; the flow of talents; the spread of literacy and education; and the setting up of institutions and policies that aid economic growth (Johnson, 2002; Koh, 2002). According to Johnson (2002), the greatest impact of globalisation is the exponential increase in scientific knowledge after the mid-19th century. This increase in scientific knowledge enabled rapid progress in agricultural technology that freed up labour in rural areas. As a direct result, cities have thrived and real capital incomes have increased in the Western world. This scenario has encouraged knowledge production through higher educational institutions creating virtuous cycles of improvement (Johnson, 2002).

Of significance to the present study, Johnson (2002) reports that countries have had far better economic growth, as is the case of Singapore, when they accept the need for research institutions and carry out policies that enhance growth. Policies that enhances growth often relate to the protection of private property, the rule of law, enforcement of contracts, protection of individual rights, democracy, support of the market, and a fair, non-corrupt system of public finance. However, governments throughout the world do not always adopt these institutions and policies that are associated with economic growth, often leading to direct and disastrous effects to the nation's economic performance (Johnson, 2002).

The negative impacts of globalisation are somewhat nuanced and the indirect result of economic growth (Johnson, 2002; Latif, 2004). While new knowledge creates growth, it also causes the rapid replacement or obsolescence of skills due to the need for further growth. Similarly, economic growth causes debilitating dislocations. The significance and number of dislocations occur according to the degree of integration of a nation's economy into the world economy, and the need

for continuous change to match the expectations of the global economy. This in turn leads to a further negative impact of globalisation on an economy, which is constant adaptation. Economic growth that comes from globalisation often requires continual adjustment in labour employment to meet the changing needs of societies around the world.

Globalisation is more than just trade and investment; it reduces the labour needed for agriculture and has initiated the rapid transition to the cultural and creative economy. The most significant aspect of globalisation is that free trade, investments and the movement of talents benefits small countries more. This fact was endorsed by Singapore's visionary leader Mr. Lee Kuan Yew, when he said Singapore has been able to punch above its weight class and have a vibrant economy because it has remained open to talents (Lee, 2011).

The Rise of Asian Economies

Within the context of globalisation, the shift of growth performance from agriculture to industry is probably the most important reason given for the rapid growth of Asian economies in the early 21st century (Fogel, 2009; Jaumotte, Poirson, Spatafora, & Vu, 2006; Yusuf & Nabeshima, 2005). Another reason is the domination of urban sectors by service activities in core areas of mega cities due to manufacturing industries moving to the suburbs. In addition, Asia's fastest growing sectors are the urban services, business services, and creative industries services sector. The business services sector provides marketing, financial, legal, and accounting services. The creative industries services offers high value added Information Technology-intensive activities such as design, publishing, multimedia, software development, video entertainment and movie making (Bobirca, Cristureanu, & Miclaus, 2009).

A further reason for the rapid growth of Asian economies is the decline in transport cost and the shift in consumer preference from heavy and lower value items, to items that are lighter and of higher value. This removes the need to have urban dispensing centres and the need to locate centres close to natural resources. Similarly, widespread auto-mobility has led to greater concentrations of the population in fewer geographically favoured, polycentric urban centres. Another reason is the increase in total factor productivity. This comes from improvements in product, process, and functional innovations, together with the improvements of managing firms in assimilating Information Technology and the resulting efficiency across the economy (Fogel, 2009; Jaumotte et al., 2006; Yusuf & Nabeshima, 2005).

A major influence on growth is the Asian economies' ability to match the pace of innovation with the supply of knowledge workers from the creative industries. Asian governments have been highly successful in supplying knowledge workers for the creative industries. They have invested in university infrastructure, research, and the acquisition of innovative skill according to the strengths of their economies

(ADB, 2011; Jaumotte et al., 2006; Yusuf & Nabeshima, 2005). Finally, economic growth in Asian economies is also due to a liberal and effective regulatory framework, also known as the global commons (Denmark, 2010), that not only promotes competition but also protects economic rights. Together, these reasons have invigorated the Asian economies and awakened their knowledge economy together with their resolve to develop their cultural and creative industries. As such, Asian cities will constantly adjust their "value-creating qualities" and "urban environment" to keep pace with the expectations of globalised firms and the type of knowledge worker that they seek (Yusuf & Nabeshima, 2005, p. 114).

Adverse Effects of Globalisation on Developing Economies

While the rise of the Asian economies mirrors the decline of the G7 economies (Jorgenson & Khuong, 2013), globalisation had an impact on the growth of developing economies (Denmark, 2010; Stiglitz, 2003). According to Stiglitz (2003), there are eight adverse effects. One such effect is job creation, which for developing economies depends on many factors, including the overall business environment, risks, and the cost of capital. While job creation is a direct result of globalisation, it ironically makes job creation more difficult for developing countries due to global competition. Another adverse effect is risk, especially risk that comes from capital market and trade liberalisation. For Asia, capital market liberalisation is an idea sold as a big contribution to economic stability. However, it is now seen as an extreme form of instability since the Asian financial crisis. Furthermore, capital flows do not necessarily translate into growth. A prime example is the case of Thailand, where financial or portfolio capital inflow causes the currency to appreciate. Stiglitz (2003) explains that capital flows do not add any investments, making it unattractive for real investors in the long term. A related effect is the loss of independence of the monetary policy. The Asian financial crisis in 2009 highlighted that unfettered globalisation through capital market liberalisation in Malaysia can lead to a loss of control over monetary or exchange rate policy, which is costly to economic growth (Barro, 2001; Stiglitz, 2003). Another adverse effect of globalisation on developing countries' growth is social capital. Globalisation affects growth, especially in Indonesia, where an international financial institution manages it. External institutions can undermine social cohesion and social consensus, which in turn adversely affects economic growth.

Nevertheless, globalisation has enabled many Asian economies to open up their markets and thus reinvent themselves to form knowledge economies. Singapore, in this respect, has been a prime example of a country riding the waves of globalisation, opening up its markets to free trade, incorporating Information Technology and, more recently, transforming from a knowledge economy into a cultural and creative one. While globalisation has been difficult for most developing economies, it is with some relief to note that Singapore remains relatively unscathed from its effects (Stiglitz, 2003).

TRANSITION FROM INFORMATION/KNOWLEDGE TO
CULTURAL/CREATIVE INDUSTRIES

The Knowledge Economy

Globalisation has enabled economic deregulation and increased the efficiency of the distribution of knowledge due to lower costs, enhanced speed of communication, the wider spread of literacy and higher education (Brinkley, 2006; Houghton & Sheehan, 2000; Johnson, 2002). According to Brinkley (2006), the knowledge economy can be defined as a contemporary economy that relies on the creation, exploitation, and use of intangible assets as a new or key resource for value creation and competitive advantage in providing knowledge intensive services. The knowledge economy is the result when companies bring together "powerful computers" and "well-educated minds" to create wealth (Brinkley, 2006, p. 3). As such, the knowledge economy has a strong bias towards the creation and exchange of immaterial goods and services where up-to-date information, knowledge, and skills are premium (Brine, 2006; Brinkley, 2006).

Similarly, several themes frame the knowledge economy: global competitiveness; technological revolution; dual labour market; dual society; and lifelong learning. The knowledge economy supports lifelong learning because it emphasises "transferable qualifications and widening participation" (Brine, 2006, p. 655). Brine highlighted the use of the terms "knowledge economy" and "knowledge society" in a review of 1993 to 2006 European Commission documents on the knowledge economy (2006, p. 649). These terms appear interchangeable, fluid and implicitly classed, raced and gendered. Within these definitions, two models of distinct lifelong learning emerged: people with high knowledge-skills are defined as those who have secured graduate or postgraduate qualifications, and people with low knowledge-skill are defined as those without postgraduate qualifications (Brine, 2006; Brinkley, 2006). The distinctions are such that the high knowledge-skill worker appears to be included or actively participating in the knowledge economy, while the low knowledge-skill worker is not. As such, the knowledge economy is associated with opportunity, while the knowledge society is associated with urgent challenges.

While the perceptions are positive for high knowledge-skill workers in the knowledge economy and their definition has remained rather consistent in the European Commission documents, the opposite is true of the view of low knowledge-skill workers (Brine, 2006). According to Brinkley, this dichotomy inevitably creates "an 'hour-glass economy' with lots of good relatively well paid 'knowledge economy' jobs at the top and bad poorly paid jobs at the bottom, with the disappearance of middle income jobs associated with the collapse of manufacturing employment" (Brinkley, 2006, p. 18).

The Knowledge Society

The term 'knowledge society' was coined by Peter Drucker in 1969 (Sharma, Ng, Dharmawirya, & Lee, 2008) and it was explored in-depth by the social thinker

Nico Stehr in 1994, in his book of the same title (Gaible, 2010; McElhinney, 2005). The term knowledge society is sometimes used interchangeably with the term knowledge-based economy (UNESCO, 2005). In reality, the knowledge society is often viewed as being a sub-set of the knowledge economy (Sharma et al., 2008).

According to Brine (2006), the European Commission shifted its attention to low knowledge-skill workers or the knowledge society between 1993 to 2006. For the European Commission, the knowledge society is associated with low knowledge-skill workers, who are "socially excluded and deprived across interconnected fields, including education" (Brine, 2006, p. 652). These workers can be divided into two categories. Those that are "disadvantaged and in need of training" and those that are "young and unemployed" (Brine, 2006, p. 521). Brine sees them as having "particular difficulties," being below the "basic skills threshold," and having "personal identifiable needs." These needs are listed as basic skills (defined as numeracy, literacy, and information technology), entrepreneurship, and social skills (Brine, 2006, pp. 653–655). Brine categorises these disadvantaged people as "people on low incomes, disabled people, ethnic minorities and immigrants, early school leavers, lone parents, unemployed people, parents returning to labour market, workers with low levels of education and training, people outside the labour market, senior citizens (including older workers), and ex-offenders" (Brine, 2006, p. 656). They are associated with being unemployable or being unable to become employable, rather than a state of employment. State of employment is defined as "a state of constantly becoming, or readiness for employment" (Brine, 2006, p. 652).

This distinction of "knowledge economy" and "knowledge society" has created the tension of a dual society. Surrounding this definition of the knowledge society are themes of change and opportunity, risk and uncertainty, and individual choice and responsibility. These themes exist within the "knowledge-intensive and wide-ranging market classification of cultural and creative services that includes knowledge creation and reproduction" (Brine, 2006, p. 660).

In support of the knowledge society, two distinct routes of learning are identified; namely the traditional and the modern. The traditional route is based on attaining high-level academic qualifications while the modern route uses accreditations of experiences and competencies gained. Life-long learning is held out as a beacon of hope for their future, beneath a cloak of 'inherent goodness'. Lifelong learning is a "discourse of competition, of personal striving, of constant becoming, of inclusion and exclusion, of stratification that continues to (re)construct educational and labour market power relations based on gender, class and race, and on disability, age and migrant/citizen status" (Brine, 2006, p. 663).

The immediate needs are to address issues regarding "life-wide learning, quality assurance, guidance and counselling, recognition and transfer of qualifications" and the need to focus on the knowledge society over that of the knowledge economy (Brine, 2006, p. 654). Ironically while lifelong learning is encouraged for the knowledge worker, "good educational qualifications do not necessarily equate to opportunities for good jobs" (Brine, 2006, p. 659).

On a positive note, organisations are becoming increasingly networked and there is an increasing emphasis on taking initiative, creativity, problem solving, and openness to change. Similarly, learning has become central to both organisations and people and knowledge is not necessarily exhausted in consumption (Houghton & Sheehan, 2000). For example, while Singapore has made significant progress in education, what is of concern is the education system being mostly set in the traditional mode, creating problems such as "trained incapacity" (Gopinathan, 2007, p. 60). More significantly, the knowledge society emphasises codified knowledge over tacit knowledge. There is also a strong preference for knowledge distribution rather than knowledge creation. The "transition to a knowledge-based system may make market failure systemic" such that "conventional economic understanding must be re-examined" (Houghton & Sheehan, 2000, p. 9).

Global Transition to the Cultural and Creative Industries

While the cultural and creative industries are a sub-set of the knowledge economy, they and their accompanying research industries are still in their infancy (Yusuf & Nabeshima, 2005, p. 113). The concept of the creative industries emerged in Australia in the early 1990s (CMC, 2008; DCMS, 1998b; Flew, 2011; Jarvis, Lambie, & Berkeley, 2008), but the UK gave it a wider exposure later that decade when the Department of Culture, Media and Sports (DCMS) 1998 report broadened the scope of the creative industries to include "any activity producing symbolic products with a heavy reliance on intellectual property and for as wide a market as possible" (UNCTD, 2004, p. 4). The term "creative industries" thus demonstrated a positive paradigm change towards utilising art and culture for potential commercial activities, which more recently had been communicated in mostly non-economic expressions, like "the performing arts" or "handicrafts" (UNCTD, 2004, p. 4). The creative industry lies between the knowledge domains of the arts or humanities, business and technology. Interdisciplinary knowledge, especially in technology and intellectual property, provides the main source of wealth. Life-long learning and a high degree of experimentation are the keys to sustained growth. Four broad classifications sub-divide the creative industry, namely: copyright, patents, trademarks and design (Howkins, 2001).

The United Nations Conference on Trade and Development or UNCTD (2004) report stated that the products of the creative industry are idiosyncratic and susceptible to changing consumer preference and taste, as such, these markets are associated with a high degree of uncertainty. This is due to the need to identify and shape these taste. On a broader scale, it causes growth rates between countries to vary widely and become unpredictable. These changing trends are located in high-risk industries and pose a threat to existing activities. This inherent dynamism continuously opens up new entry opportunities.

Firms operating within the creative industries have several distinct institutional features: they exhibit the symbiotic co-existence of large firms with clusters of

smaller ones to manage risks and improve flexibilities; they utilize corporate strategies with a focus to protect rents (like copyright) and other ways of organising the value chain; they use local clustering with the purpose of leveraging the economies of agglomeration from the close familiarity with products, experimentations and learning effects; and they produce highly differentiated products using transferable skills (UNCTD, 2000). The UNCTD (2000) report points to firms operating in an environment in a constant state of flux. However, it is not obvious if the situation is significant for Singapore or if it would adversely affect the transition of design leaders into leadership and management positions in Singapore (UNCTD, 2004).

According to the UNCTAD (2004) report, the following trends support the relentless expansion of the cultural and creative industries:

- Deregulation of national cultural and media policy frameworks, such as the liberalisation of broadcasting from the 1990s. This is due to the depletion of public resources and the financial pressures on governments to maximise the industries' capabilities to earn their own market earnings.
- Increasing wealth shifts the demand and employment patterns to income-elastic products with high cultural content. More notable are younger consumers who are more likely to spend on these items. They see the creative industries offering a pleasant lifestyle, an attractive place to work, and having high potential earnings.
- Technological advances that introduce increasingly productive formats of product delivery, such as music files through the Cloud Internet database. This exponential increase in productivity has had a deep effect on the entire value chain for many creative industries.
- Rise of the service economy and the intangible investment in human capital that brings the greatest returns. The service economy, especially business services, supports the creative industry's output, especially in design, advertising, and marketing.
- Matching expansion of international trade and services led by developing economies. These combined influences have a deep effect on costs and market because of the drive to spread rising costs over a larger market and the pressure to seek out new markets. In effect, this creates a shorter product life cycles and allowing new entrants a riskier investment climate (UNCTD, 2004).

While the research verified in this book is concerned mainly with the transition to design leadership and management positions, considerations on the career opportunities that are available are unavoidable. This is especially so given in the changing context of the expanding cultural and creative industries in Singapore and the increasing impact of the rapid emerging economies of Brazil, Russia, India, China, and South Africa (BRICS) (GoldmanSachs, 2007; Morazan, Knoke, Knoblauch, & Schafer, 2012), or in the case of Singapore, and the Chinese economy (Chow, 2010; de Almeida & Paulo, 2009).

INTERNATIONAL TRENDS IN DESIGN POLICIES

Whicher, Swiatek, and Cawood (2015) reviewed innovation and design policies across Europe "to examine future trends in design policies and programmes in the build up to 2020" (p. 4) and "to build a bank of evidence to support governments to integrate design into policy, programmes and their mainstream practice" (p. 6). They found that out of the 28 European Member States (EUMS), 15 have design "explicitly included in their national innovation policy" (Whicher et al., 2015, p. 4). These 15 EUMS has developed "a growing awareness of design as a factor for innovation at regional and local levels with a number of regions integrating design into policy" (Whicher et al., 2015, p. 4). What is significant about their proposal is the "policy construct" made up of 9 components that defined a "Design-driven innovation eco-systems or Design Innovation Ecosystems" (Whicher et al., 2015, p. 8). For them, the Design Innovation Ecosystem consists of Design users, Design support, Design promotion, Design actors, Design sector, Design education, Design research, Design funding, and Design policy. The Design Innovation Ecosystem maps design stakeholders and initiatives to identify strengths and weaknesses and to jointly develop policy proposals (Whicher et al., 2015). While the above study provided an overview of the latest international trends in design policy, it is strictly located in the context of countries within the European Union.

Pedersen et al. (2011) conducted a study on the design policies of eight countries to inform the Danish government of their vision for 2020. The countries selected were prioritised as follows: The US (New York), South Korea (Seoul), Hong Kong (China), Singapore, Italy, Finland, Great Britain and The Netherlands. According to Pedersen et al. these countries were chosen because they "are in the process of formulating so-called third generation design policies, which emphasize the use of design as an important tool for cultivating innovation and meeting societal challenges" (Pedersen et al., 2011, p. 9). This research was conducted in two phases; the first phase entailed a broad, quantitative, global screening of country-specific design policy related data. The second phase qualitatively mapped the design landscapes in these cities through interviews with 35 actors in the design industry. The study attempt to secure a broad overview of design policies, their formulation at the government level and their operation at an institution level (Pedersen et al., 2011, pp. 7–8). The findings were presented in detail here, as it enhanced the framework for this case study.

Studios with Excellent Practices and Capabilities instead of Definitions

Pederson et al. found many definitions and levels of design among the cities studied. These variations have not impeded its importance as a national driver for innovation, and a tool for solving grand challenges in societies. However, of note are the accomplishments achieved by "collaboration with design studios with excellent practices and capabilities" (Pedersen et al., 2011, p. 10). Singapore was praised for

having a futuristic, holistic, and contextualised definition of design that includes the society, its enterprise, and the individual.

Strong Design Tradition and Industry, Instead of Formulating Policies

Pederson et al.'s research shows that governments around the world are developing a national design policy. They are making it an integrated part of the industrial policy to promote competitiveness. Three levels of government support for design are identified. At the most fundamental level, the governments' first initiative is to raise awareness and to promote design to a broad audience. At an intermediate level, the governments will provide design support for design education, design research institutions, and smaller local companies (like small-medium enterprises or SMEs). At an advanced level, a dedicated design policy, or strategy with objectives, targets, and actions are agreed at ministerial level. This was aptly demonstrated by design policy documents from Singapore, Hong Kong, and South Korea. Specific policy targets include the use of design by companies, especially SMEs, growth, professionalization, and globalisation of the design industry, increased competitiveness, increased exports of design, and job creation within the creative industries.

Pedersen et al. also observed that "design policies are usually linked to a greater vision and to solving grand challenges with the society" (2011, p. 20). The role of the government varies significantly in promoting design, with the role invariably split between several ministries. As such, there is "a lack of measurements for the effects or impact of design at the national level" (Pedersen et al., 2011, p. 21). However, with reference to the world's most creative economy the United States, Pedersen et al. noted that there was "no need to have a national design policy in order to have a strong design tradition and industry" (Pedersen et al., 2011, p. 12).

New Studio Leaders, Not Design Education & Research Strategies

Pedersen et al. (2011, p. 22) observed that improving design competencies was a major design strategy for most countries. However, these aims were not linked with strategies for design education nor design research within the country. To add, the Design Singapore Initiative focused on new studio leaders, studios with excellent practices, and the wide-spread adoption of design thinking in Singapore companies instead of a focus on policies in design leadership and management as a national strategy.

Concerning design education, the report noted that the programmes are changing according to industry needs, especially in the next three to five years. New programmes such as venture design, social design, green design, and inclusive design are being planned because the world is changing so quickly (Pedersen et al., 2011, p. 29). Similarly, design schools are seen to be producing more designers at Masters Level and "mass producing" designers at a "Diploma level," especially in

Asia (Pedersen et al., 2011, p. 29). Design schools are also increasingly collaborating with private business and industry and there appears to be a need for a balance between theory and real-life situations or practice. Some academics are calling it design bilingualism, or a curriculum situated between theory and practice.

Regarding design research strategies, design schools are increasingly cooperating with other design schools, either at a national or international level. While design research remains a relatively new discipline, this field is advancing rapidly (Pedersen et al., 2011). Design schools are increasingly taking strategic approaches in developing their curriculum to meet national design policy objectives.

More urgently, Pedersen et al noted that design schools are focused on traditional design disciplines, instead of being multi-disciplinary with a focus on design thinking. They also note a growing demand for a new kind of designer among design studios and in the design industry. These designers are required to straddle traditional skills and yet have a broader perspective on problem solving. Finally, it has been found that design thinking is becoming increasingly accepted outside the design university, especially in business schools.

Three Key Strengths of Singapore's Design Policy

According to Pedersen et al. (2011), Singapore's design policy has three key strengths. First, design policies in Singapore have a broad definition of design that includes individuals, society, and enterprise. Second, Singapore's design policies are driven and supported by the government. Third, Singapore's design policies are detailed and have specific strategic targets. While design policies in Singapore are generally sound, there is still a lack of policies on design education and design research.

Lack of Design Policy Emphasis on Design Education and Research

Pedersen et al. (2011) noted that there is a lack of design policy emphasis on design education and design research in Singapore. While Singapore, Hong Kong, and Korea are the only three cities that have implemented a comprehensive design policy that spans all three strategic levels, Singapore has only a "medium" strategic rating. Pedersen et al. noted that at strategic level IIA, all other cities in the survey had a "high" strategic rating (Pedersen et al., 2011, p. 36).

Design Schools Made Radical Changes but Are Externally Driven

According to Pedersen et al. in evaluating design school strategies, an internal/external orientation versus incremental/radical strategic changes of visual mapping has been adopted. In general, most schools make incremental changes from the traditional design disciplines towards a multi-disciplinary and design thinking approach. This is often accompanied by physical changes in the environment or

interior design (2011). Hong Kong and Singapore were both mapped as having design schools that had made radical changes. What is more crucial is that all three Asian design schools (including Korea) are externally driven by their respective government's design vision or strategy.

Four Vulnerable Points for Singapore

Pedersen highlighted four key vulnerable points that remains for Singapore they are: (1) the use of commercial or economic measures to rate and rank design policy success rates; (2) the need to focus on transformation of design education and to upgrade its curriculum for training of a new breed of designers at the undergraduate level and design managers at postgraduate levels; (3) the responsiveness of research institutions in training high quality design students at postgraduate levels who are able to engage in design research, even if the research is conducted at the workplace; and (4) the most significant vulnerability is the need for a more pro-active design community to engage with the external challenges identified by design policies set by the Singapore government.

While these bold moves are being made by the Singapore government, many design institutions and the design community has yet to fully capitalise on this knowledge that would give them a competitive edge globally.

SINGAPORE'S TRANSITION TO THE CULTURAL AND CREATIVE ECONOMY

Impact of Globalisation on Singapore

Globalisation is a reminder that Singapore's fortunes are written globally (Koh, 2000). Singapore's ability to control the direction of world affairs is also limited by its small size and population. Latif (2004) purports that Singapore's situation is more complex due to its openness to the world. To add to this complexity, the Singapore government has made a prosperity-loyalty "compact" with its people to fulfil the mass aspiration for a better life (Yeo, Tan, & Lin, 2005, p. 18). According to William Lim, a renowned Singaporean architect, what is significant about globalisation is that Singapore has a national agenda "to achieve a Swiss standard of living" (Lim, 1999, p. 250). As such, the Singapore government has made a fundamental shift in the way Singaporeans think about art and its "bohemian lifestyle" (Eikhof & Haunschild, 2006, p. 234). Similarly, the Singapore government's strategy is to fuse art, business, and technology as a new engine to propel the economic growth for Singapore (Eikhof & Haunschild, 2006; MTI, 2002). Yue (2006) reported that globalisation had the greatest impact on governance and culture in the Asia Pacific region, due to its rapid rate of modernisation and development in the last two decades.

Most significantly, globalisation has increased competition and social inequalities, job and economic uncertainty, unemployment and the commoditisation of culture and education in Singapore (Gopinathan, 2007; Koh, 2004; Low, 2002).

Singapore's Adoption of the Cultural and Creative Economy

The rapid globalisation of nation-states, the pervasive adoption of technology and increasing competition are the reasons for adopting a cultural and creative economic strategy in Singapore (ACCA, 1989; DSG, 2009; MICA, 2008; MTI, 2002). Increasingly prominent in this environment are global issues that are both complex and inter-related in its challenges (Low, 2001). These problems often require solutions from multi-disciplinary perspectives and teamwork across national borders. Some of these complex global issues are known in the design industry as "wicked problems" (Coyne, 2005; Johns, 2009). Examples of wicked problems include the greying population, the need for a sustainable environment, and increasing technological convergence, all of which that require design solutions that are both sensitive and sensible. The cultural and creative economy has emerged as the key differentiation strategy for integrating the arts and technology with business and the governance and 'solution-finding' of nation-states. The first wave of major cities in the UK, the US, Europe, Hong Kong and Korea have initiated a global race to become the first global creative cities. These first wave cities seek to invest significant time, energy and resources to define, measure, develop and harness the economic potential of the creative industries at the city, regional and national levels (MTI, 2002).

THE SINGAPORE GOVERNMENT AND DISCIPLINARY DEVELOPMENT

First Phase: Survival (1959 to 1978)

In the early years, some researchers frowned upon the Singapore government's development ethos and ideology of discipline, pragmatism, and survivalism. They saw it as marginalizing the development of arts and culture in Singapore. The Singapore government's response was to acknowledge the lack of an educated workforce and the need to survive in an environment of constant and pervasive competition (Baey, 2005; Gopinathan, 2007; Koh, 2007; Lee, 2004; Wee, 2001). This was the first of the three developmental phases Singapore has experienced. This was the survival phase, and Singapore's economy was mostly labour intensive in nature. This phase of growth started in 1959 and lasted until 1978 (OECD, 2011). The Singapore government provided overseas scholarships to a pioneering batch of architects and industrial designers to seed the creative industry, which is in its infancy. This pioneering batch of enterprising designers became prominent design leaders in Singapore and around Asia.

Second Phase: Efficiency (1979 to 1996)

In the second phase, Singapore undertook the challenge to become more efficient. This efficiency phase of growth lasted from 1979 to 1996. Great strides were made in capital investments and skills acquisition, especially in the training and development

of its workers. Singapore's successes in education were well documented. The general perception however, was that the labour force was not very highly skilled and therefore less suitable for the creative economy (Holden & Hamblett, 2007; Low, 2002; OECD, 2011; Sharpe & Gopinathan, 2002). The Singapore government embarked on their first creative industry strategy policy. As a result, the Singapore experienced an influx of design talents from Asia, and around the world.

Third Phase: Aspiration (1997 to Present)

Singapore's transition to the third or "aspiration-driven phase" of growth started in 1997 and is still in place today (OECD, 2011, p. 162). It marks a dramatic shift from an information and knowledge-based economy to a global, cultural, and creative economy that exploits the knowledge of its citizens to create value and wealth (Chen, 2000; Goh, 1997; Koh, 2006; Yue, 2006). For Singapore, the creative economy has emerged as the key differentiation strategy for integrating the humanities, business, and technology to enable the governance and solution-finding (Yue, 2006). There is a clear need to explore the impact of the creative industries strategies in Singapore and its aim to become a knowledge-based economy and an Asian design hub (Lee, 2000; Lee, 2000). In this new and evolving context, there is also the need to explore the relationship between design leaders and their design ecosystem. The present study addresses this issue.

Singapore has set its sights on becoming a global centre of cultural and creative excellence. From Singapore's example, it is obvious that globalisation creates a cultural corridor that provides easy access to information, technology, and entertainment. Globalisation has facilitated access to a technological and competitive level playing field in the global market place (Brown, 1998; Chong, 2005). Globalisation, Information Communication Technology (ICT) and its ambitions to be a knowledge-based economy makes human capital, especially intellectual capital more critical to Singapore than physical capital (Low, 2002; MTI, 2002). For Singapore to survive, a profound change in mind-set and culture is required to adapt to an economy based on intellectual capital (Low, 2002). It can be argued that the greatest resource Singapore now has is the creative capacity of its people (MTI, 2003; Senge, 2006).

More significantly, the creative industries "have all the characteristics of high-tech industries" that "demand a diverse mix of skills" that naturally gravitate towards urban centres that have institutions to meet labour requirements. In addition, "Governments in East Asia are now looking to creative industries to drive future growth of metropolitan economies," and "the most energetic is the Singapore government" (Yusuf & Nabeshima, 2005, p. 113).

In light of these emerging trends, there is now a need for Singapore to evaluate the outcomes of the creative industries policies as seen through the eyes of the people most affected by it. The focus on the creative industries policies is now more significant as the dawn of the Golden Age of Design had just been declared (Walker, 2014).

CONCLUSION

This chapter has located the background and context of the present study in four areas; globalisation and the rise of Asian economies; the transformation from information/knowledge to cultural and creative industries; international trends in design policies; and Singapore's transition to a cultural and creative economy. The following chapter reviews literature relevant to the present study.

LITERATURE REVIEW

INTRODUCTION

This chapter reviews literature regarding design leaders and their transition to design leadership and management positions. It provides an outline of major scholarly influences on this transition and details its impact on design leadership and management. The chapter is organised according to five broad themes. The first theme concerns critical influences on the transition experience. The second theme concerns design leadership education and development. The third theme entails the challenges regarding design talent management. The fourth theme includes problems and issues related to the design community and its ecosystem. The fifth and final theme concerns Singapore's design policy and strategy, involving Singapore's cultural and creative economic strategies which provide the context for the present study. This chapter ends by presenting five inter-related research gaps that are highlighted by scholars within the cultural and creative industry. A framework that highlights the inter-related concerns from the literature, the research gap, the guiding questions, and the specific research question is proposed (see Table 9).

LITERATURE THEME 1: TRANSITIONS TO LEADERSHIP AND MANAGEMENT POSITIONS

Work and Work Style

Design leaders are increasingly faced with project-centred, entrepreneurial, and temporal teamwork. Many design projects are open-ended, socio-spatial and a temporally distributed form of work and the nature of these projects are rapid, constantly evolving, and increasingly entrepreneurial (Guile, 2007). Two models for this entrepreneurial project-based work are found (Christopherson, 2004). The first model is the free agent, entrepreneurial model from the United States. The second is the employment-based, professional model from Germany and Sweden. Singapore has benefited from its historical links with Europe and its traditional employment-based professional model; however, it has more recently leaned towards the dynamic American free agent, entrepreneurial approach.

Similarly, an emergent form of project work called "knot working" creates increasingly more temporal teams. Negotiated knot-working is defined as a rapidly pulsating, distributed and partially improvised orchestration of collaborative

performance between otherwise loosely connected actors and activity systems (Guile, 2007). They tie, untie and retie together separate threads of activity. As such, knot-working is more ephemeral in nature than project work, which has a fixed membership for a specific period (Guile, 2007). Unlike teamwork where leadership and responsibilities are agreed in advanced, leadership for knot-working changes from moment to moment within a knot-working sequence as members of interacting multiple teams and their clients engage in inter-professional collaboration (Guile, 2007).

According to Manderscheid and Ardichvili (2008), there is a trend towards more frequent leadership transitions (Neff & Citrin, 2005), which can be disruptive and costly (Bear, Benson-Armer, & McLaughlin, 2000). Smooth leadership transitions with minimal disruptions and continuity is vital to organisational performance. However, this is not always the case, as leadership transition failure rates are about 40% and leadership transition failures can have both direct and indirect costs to a company, especially for an executive hire (Smart, 1999). According to Manderscheid, "despite the importance of understanding and correctly managing leader transitions, research into dynamics of such transitions and the developmental and training activities aimed at facilitating such transitions, is still scarce" (Manderscheid & Freeman, 2012, p. 857). Organisations often neglect to develop their leaders to adapt to new roles and the teams that they lead even though it is crucial for leadership development and organisation success (Watkins, 2003). Bear et al. (2000) agree, stating that leaders who are effective during transitions are more likely to be effective throughout their tenure. Manderscheid and Ardichvili (2008) extensively reviewed literature on leadership transition finding that most research in this area is in the positivist epistemology. The present study adopted a qualitative approach, with the aim of developing theory based on the perspectives of design leaders as key stakeholders in the transition process.

Role Flexibility Affects Design Leaders' Performance

Design leaders also face the challenges of an increase in role flexibility, where roles expectations exceed a design leaders' job scope. According to Press and Cooper (2003), designers and design leaders in the 21st Century will have to fulfil both roles as an intelligent maker and as a knowledge worker. Design leaders are expected to take on multiple concurrent roles. As an entrepreneur, they have to initiate and advocate client's needs. As a leader, they have to envisage the strategic direction of the programme. As an integrator, they have to coordinate between the internal organisation and the external agencies. As a controller, they have to develop policies and procedures. Finally, as a producer, they have to manage the quality of the output from various sources (Joziasse & Meijer, 2006). Beyond these expected job roles, they are increasingly challenged to be sustainable entrepreneurs, and active citizens concerned with issues of the environment, society, commerce, and network communications.

Research highlights several reasons for the increase in expectations of design leaders. According to Ughanwa (1988b), their role is seen to be increasingly blurred due to the broad spectrum of specialisations they are expected to tackle. To add,

there is also a transition of expectations from activities, to managerial tasks and to differing roles within a project or organisation (Ughanwa, 1988a). What concerns scholars is that role flexibility affects the performance of both the design leader and his team (Cordero, Farris, & DiTomaso, 1998).

Design Culture: Team Building and Client Relationships

One of the major challenges for design leaders is their role in high-maintenance multi-disciplinary teams. According to Huusko (2007), team leadership can only happen when supervisors, together with the supervision that results from a hierarchy, are established. Similarly, Austin et al. (2001) states that design leadership is vital to any project. For them, individuals or teams must be led throughout the whole design project with regular reviews held and communication based on information and not instructions (Austin et al., 2001). Fisher (1997) adds that multi-disciplinary new product development teams are rigorously monitored with work done simultaneously in a common location. As such, these teams must be given real managerial status with proper orientation and change (Huusko, 2007). In this light, multi-disciplinary teams require constant direction, guidance, and leadership. Moreover, team maintenance activities increase a design leaders' burden as it takes up at least twenty to thirty per cent of the project time (Austin et al., 2001; Stempfle & Badke-Schaub, 2002; Valkenburg & Dorst, 1998). According to Codero et al. (1998), multi-disciplinary teams also relate positively with a stressful role. This is because of the increased effort, job involvement and the differences in opinion involved. These teams are goal orientated rather than rule orientated, with a strong focus on communication between team members and the documentation of process (Cordero et al., 1998).

Design leaders are also expected to address their client's real or perceived needs, and to cultivate a relationship with them. According to Jones and Samalionis (2001), what is needed from design leaders is not just more ideas, but the alignment of idea, team, development process, leadership, risk management, targets and objectives and time-to-market opportunities for the proper execution and fruition of these ideas. Therefore, a challenge for design leaders is the need to focus on client's needs and their demand for choice, convenience, and conscience (Cohen, 2004; Siegel, 2003). To do so, design leaders adopt strategies in which knowledge and processes are embedded (Krause, 2007). Design leaders also have to manage design projects, processes, and designers simultaneously (Cooper, Bruce, Wootton, Hands, & Daly, 2003; Krause, 2007). Developing effective relationships with their clients is the best approach to meeting clients' evolving needs. Design leaders need to cultivate strong relationships to balance contradicting demands both within the team and externally with the client, suppliers and vendors. Significantly, research has identified the need for leaders to develop an excellent studio culture. This should encourage cultural sensitivity to overcome cultural disadvantages and to be more inclusive and encourage diversity in the workplace (Bassett-Jones, 2005; Chiu, 2001; Jacobs, 2005; Littrell, 2002; Quaglieri et al., 2007; Vaiou et al., 2009).

LITERATURE THEME 2: DESIGN LEADERSHIP DEVELOPMENT EDUCATION

Ephemeral Design: Design & Management Education

Scholars have highlighted a strong need for design education to be up to the expectations of the design industry (Yang et al., 2005). According to Yang et al. (2005), the capabilities of design graduates globally are not up to a level expected by employers. In this light, the Singapore government has started to train more designers to meet the increasing demands for creative talents and allow the influx of global design talents into Singapore to support its development (MTI, 2002). According to the Singapore government, foreign talents not only compete with but also help Singaporeans secure better jobs within the emerging creative industries. Foreign talents are perceived to be harder striving, and are preferred for having an international perspective as well as better transferable skill-sets. The challenge for Singapore is the shortage of locally trained talents. This is because of the need for talents that have an international perspective and experience working in multinational corporations (Ooi, 2010). Design education needs to keep up-to-date with the latest trends and technologies. To add, the ephemeral and transitional nature of design creates the need for constant dialogue among design academics, practitioners, and administrators on the education of designers.

Similarly, there is a need for quality design education in Singapore. Empirical evidence suggests that training efforts do produce improvements in the quality of labour force and this directly contributes to national economies (Aguinis & Kraiger, 2009). However, there is a need to draw a distinction between the 'development of leaders' and 'education about leadership' (Rausch, 2005). This is because potential design leaders may learn about leadership and motivation theories that provide an array of insights without realising how they apply to a specific decision. This can be a disadvantage for companies that urgently need design leadership in an increasingly competitive environment.

To add, design managers are also encouraged to adopt a more professional approach to design, as it is necessary to bring the design function into focus to explain the demands of efficient design management practices (Topalian, 1984). It should be noted that Singapore has yet to implement a formal programme on design management and that there are currently no formal training programmes to upgrade leaders in design leadership and management at postgraduate levels of education.

Learning and Upgrading: Training Aligned with Business Realities

According to Christopherson (2004), there is a growing recognition that talents and capacities of the workforce are critical within the creative industries. Similarly,

there is a global trend towards life-long learning and continuous skills upgrading. However, businesses today are fraught with budget constraints and cuts in a highly competitive environment driven by market and customer-focused economic philosophies (McGuire, Cross, & O'donnell, 2005). Therefore, companies with a strategic vision train and develop staff to align them with their strategic goals. Aguinis and Kraiger (2009) purport that some companies still practice training for the sake of training. They claim that, while the focus is on developmental ideals and a supportive organisational environment, training today is not adequately aligned with today's business realities.

Professional Development: Best Practices in Leadership Development

It is worthwhile considering the best practices in leadership education, development, and succession planning, especially in the context of Singapore's pragmatic leadership style. Seven best practices for integrating leadership development and succession planning through the optimal utilization of managers and a supportive organisation culture are recommended (Groves, 2007). The recommendations are: (1) to develop a mentor network that engages all managers in mentoring relationships with direct reports and high potential employees in other work units; (2) to ensure active managerial participation in the organisation's method of identifying and codifying high potential employees; (3) to fully engage managers at all levels in leadership development activities including teaching courses and creating project-based learning experiences for high potential employees; (4) to ensure a flexible and fluid succession planning process by avoiding heir apparent designation, frequently updating lists of high potentials based on project-based performance and succession decision based on a pool of candidates; (5) to create organisation-wide forums for exposing high potentials to multiple stakeholders, including senior executives and board members; (6) to establish a supportive organisation culture through active CEO and senior management participation in developing programmes and performance appraisal and reward systems that reinforce managerial performance; and (7) to evaluate effectiveness of leadership development practices through empirical studies that model programme theory and assess knowledge, behaviour and results outcomes.

It is of note that most of the literature on design education is situated in the context of a multinational corporation or large design consultant office environment. The needs of small and medium enterprises (SMEs) should be also considered to complete the picture, especially in the area of professional development in Singapore. This book addresses this gap in the literature. This book also seeks to discuss issues regarding the standardization and accreditation of designers in the context of an increasing emphasis on life-long learning and continuous skills upgrading, and the ephemeral and transient nature of design.

LITERATURE THEME 3: DESIGN TALENT MANAGEMENT

Career Pathways and Management Practices

Scholars in the creative industries are unanimous on the need for design talent management, stating that designers should have clearer career pathways and that design leaders should have better practices in managing design and design talents. A recurring theme within design leadership is that poor design management is the principal cause of poor design. Poor design management, however, only becomes apparent when the lack of design knowledge and experience limits the progress of a design project or the organisation (Topalian, 1984, 1990). In addition, managers at the functional level think that competencies in marketing, production or project management transfers easily into an equivalent competence in design management. They tend to be uncomfortable when it comes to handling design projects and this result in a superficial approach with indifferent results (Topalian, 1990, 2002). As early as the 1980s, Topalian (1984) recommended a more professional approach to bring the design function into focus and help explain the demands of an efficient design management practice. In 2007, scholars welcomed the age of design management (Walton, 2007), however, this appears to be centred mostly in Europe and the United States, where design management practices are more established. In Asia, especially Singapore, there is insufficient discussion on design management practices.

Better Practices in Managing Design Talents

Skov (2002) conducted an ethnographic study to map the career trajectory of Hong Kong fashion designers. The findings raised concerns regarding the management of designers. Issues such as a designers' individualistic lifestyle, their project-based teaching methods, their marginalisation or isolation in the organisational structure, especially apparent in a young, dynamic and creative industry, and their gradual closure to opportunities as they grow older were highlighted (Skov, 2002). These findings point to a lack of career trajectory clarity for designers. It also reflects a systemic problem with the design eco-system in general. The career trajectory for designers should take into account the general preference of the creative workforce for entrepreneurial autonomy, creative choice, transactional freedom, and artistic responsibilities. These preferences are the basis for the generation of their expertise and professional vision. Career churning then becomes a bigger problem due to the hiring of freelance designers and laying them off in irregular ways to preclude them from insisting on their labour rights (Skov, 2002). This administrative exploitation reduces personal investment in creative work by designers. Fundamental concerns in managing designers still remain (Yang et al., 2005) and may hinder the progress being made by Singapore's creative industries.

War for Talents

According to Fisher (1997), designers have transcended the stereotype of a romantic genius despite its perpetuation by management literature and design education. Designers now innovate radically and stay constantly relevant in a fast-paced industry. They rigorously identify and execute the most promising ideas in multidisciplinary teams (Wengraf, 2001). It has been suggested that employers hiring creative talents look for employees with creative personalities and unique problem-solving styles (Cummings & Oldham, 1997).

LITERATURE THEME 4: DESIGN COMMUNITY AND PRACTICE

New Design Leadership Needed: Failure of Top-Down Approaches

Design leaders must have the continuous mandate to lead their subordinates in initiating constantly evolving changes in an ever-changing environment (Clews, 2008). From observations in the design industry, there are currently two leadership types, the flamboyant art, and cultural icon in the likes of Karim Rashid and those who lead from within large global organisations like Apple's Jonathan Ives. What is significant about design leadership is the failure of top-down style of leadership (Clews, 2008). Clews warned that top-down directive or instructive paradigm leadership style is a source of concern in managing design as it would not produce design outcomes of the level of rigour, consistency, attention to detail and within the scope than one that is driven bottom-up from the designers (Clews, 2008). This is in contrast with successes found in design leadership which is more about helping organisations to envision the future and to ensure that design is used to turn those visions into reality (Clews, 2008).

Fragmented Eco-System: Dichotomy in Thinking and Values

The second problem with the design community and practice identified in the literature is that of a fragmented eco-system. This fragmentation occurs not only at the physical level where companies within the design eco-system that provide essential services are migrating to China due to better investment, market opportunities, and cheaper labour costs. Similarly, fragmentation also occurs in how design is perceived, or in design thinking. According to de Fillippi et al. (2007), the global shift towards a knowledge-based economy has highlighted creativity as a source of strategic advantage in contemporary managerial and political lexicon. However, the dichotomy of knowledge and working styles between designers and design leaders remain.

Gorb observed that a designers' working style is practical, with a strong focus on the "how" of problem solving (Gorb, 1992). He points out that designers are inductive in bringing business value and emphasise on the importance of "capable"

educational routes to a successful working life. By contrast, the style of working for design leaders is theoretical with a focus on the "why" of the problem (Gorb, 1992). Design leaders bring business value by seeking knowledge deductively and emphasising the importance of "reflective" educational routes to a successful working life (Gorb, 1992). The differences identified by Gorb between designers and design leaders are summarised in Table 1.

Table 1. Difference between designers & design leaders

Characteristics	Designer	Design Leader
Working Style	Practical	Theoretical
Problem Solving	"How" before "Why"	"Why" before "How"
Business Value	Inductive	Deductive
Emphasis on	Capabilities or "Capable" educational routes to successful working life	Experiences or "Reflective" educational routes to successful working life

Another form of fragmentation that occurs within the design community is that of design values, as summarised in Table 2. Many design practitioners have different ideas about the value of design, or design value. Design value is a unique belief in doing things better than before. It exists as part of design practice to distinguish itself from its competitors. Design value stems from an underlying belief that despises mediocrity and a sincere urge to improve or make things better than what they used to be. It is a thorough, ongoing expectation to do something differently for every project but still respect beliefs, expectations, practices and policies of the project situation (Boland, Richard, Collopy, Lyytinen, & Youngjin, 2008).

Design values is also a unique perspective where team members challenge existing conventions and solution ideas in order to expand on the interface between the solution space and the goal space of the project (Stempfle & Badke-Schaub, 2002). Designers and design leaders are expected to hold firmly to this paradigm despite the constraints of time, financial resources and cognitive overload through multiple simultaneously managed projects (Boland et al., 2008). While design value is a natural mental model for practising designers and design leaders, not all designers fresh out of school or design leaders who made a mid-career switch are familiar with such a frame of thought. Design value is the first step to realise the possibilities within both the project and the organisation for continuous improvement. Design value can be best described in terms of its objectives, practices, expectations, and problems.

The Structure of the Design Community in Singapore

The Singapore government defines the cultural and creative economy as "industries that consist of artists, public, non-profit organisations, and commercial enterprises.

Table 2. Design value in context

Design Value: Objectives
1. Unique perspective central to design
2. Despises mediocrity
3. Challenges status quo
4. Urge to improve or make things better than what they used to be

Design Value: Practice
1. Do things better than before
2. Strategic differentiation to be better than competition
3. Thorough, on-going and ability to bring something new to every project
4. Respect beliefs, expectations, practices, policies of project situation
5. Challenge existing conventions and solution ideas
6. Expand on the interface between the solution space and goal space of project

Design Values: Expectations of Practitioners
1. Expected to hold on firmly to objectives and practices
2. Expected to be flexible and extremely resourceful despite constraints of time, financial resources, and cognitive overload

Design Values: Problems Faced by Novice
1. A natural mental model for experienced designers and design leaders
2. Not so intuitive for fresh graduates and those who made mid-career switches into design and design leadership positions

They produce cultural products directly or indirectly, having their origins in individual creativity, skills and talents, and are inspired by cultural and artistic creativity" (de Fillippi et al., 2007). The purpose is to utilize their potential to create new economic value, more specifically the creation of wealth and job opportunities, through the generation and exploitation of intellectual property (de Fillippi et al., 2007; Lee, 2006). The design community in Singapore is tiered at four levels, namely clusters of influence, industry, sector, and sub-sector.

Level 1: Clusters of influence or creative cluster (of industries). At the top level are clusters of influence, which consist of three levels of influences, namely the cultural industries, the creative industries, and the copyright industries as illustrated in Figure 1. This is similar to the definition of the "depth" dimension of the creative industries by de Fillippi, who listed them as: (1) content origination; (2) exchange; (3) reproduction; (4) manufacturing; (5) education and critique; and (6) archiving (de Fillippi et al., 2007). The cultural industries (1 and 2) are a subset of the creative

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industries (3 and 4), while the broader copyright industries (5 and 6) consist of both the cultural industries and creative industries (MTI, 2003). The creative cluster is unified by a common thread of cultural creativity that spans multiple economic sectors and is not cohesive or discrete in the traditional sense. As such, it was recognised as a cluster requiring policy coordination and investment only recently (Florida, 2005, 2008; MTI, 2003; Senge, 2006).
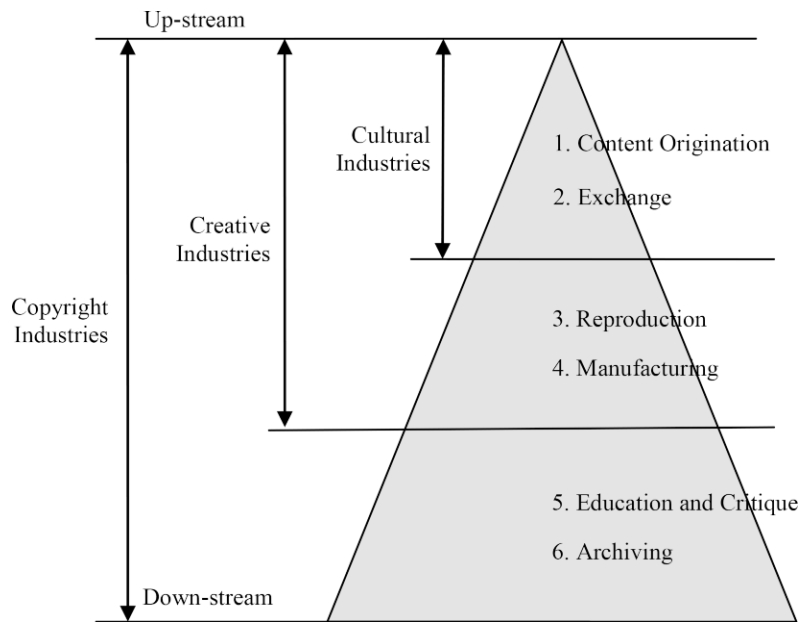
Figure 1. Structure of the cultural and creative industries in Singapore

Similarly, de Fillippi et al. (2007) adopts an "upstream and downstream" perspective. Upstream (or the cultural cluster of industries) are defined as performing, literary and visual arts. The visual arts also include basic or traditional arts. Downstream (or the creative clusters of industries) are defined as advertising, design, publishing and media-related activities. This is also commonly known as the applied arts. While upstream art activities may have commercial value in themselves, downstream art activities derive commercial value principally from their application in other economic activities. However, both the upstream and downstream activities are not mutually exclusive and are each an essential component of the arts eco-system (MTI, 2003).

The emphasis of the present study on the creative clusters of industries and the creative industries as it is the primary driver for the whole industry. The particular focus of the study is on the downstream art activities, where most of the design or applied arts activities are located.

Level 2: Industry or creative industries. The creative industry consists of artists, the public, non-profit organisations and commercial enterprises that produce cultural products directly or indirectly (de Fillippi et al., 2007; MTI, 2003). The Singapore government defines the creative industries as having origins in individual creativity, skills, and talents, where individuals are inspired by cultural and artistic creativity, having the potential to create new economic value. More specifically, they create wealth and job opportunities through the generation and exploitation of intellectual property (de Fillippi et al., 2007; Keane, 2004; Lee, 2006). The Singapore government has a long record of accomplishment in successfully seeding and participating in industries. It does so when it feels the private sector is either unwilling or unable to enter. In the creative industries, the Singapore government has the dual role of being both a catalyst and an investor (Chong, 2006; Lee, 2006). The Singapore government has concluded that the new economy has to be driven by continuous innovation and that the creative industries are going to be the key sectors within that economy (Lee, 2006).

Level 3: Sector (applied arts or down-stream) or media and design. Art and culture are listed as predominantly "upstream" activities and are not considered as part of this study. However, the media and design industry is "applied arts" or "downstream" of the creative industries. In 2009, Design learning was established as the catalyst (DSG, 2008) and the design "stream" was formally established as a "sector" in the DSG-2 report (DSG, 2009). The design sector derives commercial value from its application in related economic activities. It is one of the smallest sectors when compared to other industries like petrochemical refining, banking services, exhibition, computer or arts and culture.

Level 4: Sub-sector or industrial design. According to de Fillippi et al. (2007), Singapore's design sector has three established sub-sectors, namely "Space" design, "Image" design, and "Object" design. The "space design" industry is made up of Architectural services and Interior Design activities; it consists of 382 and 1665 establishments respectively, and totalling up to 2047 establishments. The "Image design" industry is made up of Advertising, Art and Graphic Design and IT and Web design and consultancy. The Design Singapore Initiative (DSI) report, identified six areas for capability development for bringing about the development of iconic design in Singapore (de Fillippi et al., 2007). They are: (1) Ergonomic design; (2) Design for X (X meaning manufacturing, assembly, reliability and functionality or similar strategic approaches); (3) Branding; (4) End-user testing; (5) Human-machine interface; and (6) Aesthetics. Similarly identified are their vertical markets, specific areas, and worldwide market size. For object design, they are medical technology, lifestyle products and services segment. More specifically, they are in medical equipment and devices, white goods (domestic appliances), furniture, luxury items (jewellery, pens, and watches), hospitality, food and beverage, retail, fashion and healthcare and education services. The present study is located in the design sector,

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within the sub-sector of "object-making" or industrial design and fashion design (DSG, 2009, p. 23). It should be noted that fashion design is not part of this study.

In the 2009 DSG-2 report, the design sector was reconstituted to include "Software Design." In addition, the DSG-2 classified the design sector into codes to facilitate accountability. The codes are called the Design Services Industries, Singapore Standard Industrial Classification (SSIC) codes list. This study focused on all design service codes in the Industrial Design sub-sector but it excluded transport-related industrial design services (74212), fashion design services (76223), and software design. This is because the design outcomes of transport-related, fashion design and software design are not always relevant to the expectations of the industrial design sub-sector.

The future of design leadership is relational. The future of design leadership is more complex than applying design thinking and design methods, advancing design management to design leadership, creating great communications, products, environments or services (Lockwood, 2008). According to Karp and Helgø (2008), the future concept of leadership will not emerge as a function of identity but as a result of relationships. Design scholars agree that meeting clients' needs also means managing design and designers through effective relationships (Chiu, 2001; Cooper et al., 2003; Krause, 2007). This is contrasted with leadership which is defined as an essential function of leaders to direct and control, eliminate uncertainties, deal with variances from the grand plan, understand the whole system, see its connections, foresee the responses of people and design and execute appropriate interventions (Karp & Helgø, 2008). It can be observed that design leadership is subversive, situational, and service oriented and that its true nature is transformational. The next segment reviews contextual literature primarily in the form of policy documents that inform the framework for this research.

<div align="center">LITERATURE THEME 5: DESIGN POLICY AND STRATEGY</div>

The Cultural Economy

The advisory council on culture and the arts. The 1989 Advisory Council on Culture and the Arts (ACCA) report under the purview of Ministry of Community and Development (MCD), Cultural Affairs Department is widely seen as one of the most significant development of the arts and cultural scene in Singapore (MCD, 1989). The late former President Mr. Ong Teng Cheong, then Deputy Prime Minister of Singapore, chaired the ACCA. The ACCA views the cultural and creative industries as having the ability to mould the life-style, customs, and psyche of all Singaporeans. It is for them to develop an interest in the arts and cross-cultural appreciation and understanding in a multicultural society (MCD, 1989, p. 3). The report aims to realise the vision of a culturally vibrant society by 1999, where the people are well informed, creative, sensitive, and gracious. The council views the multi-cultural heritage as unique. It suggests that Singapore should excel

in promoting multi-lingual, multi-cultural, and collective art forms. Similarly, the ACCA recommends the use of Singapore's strategic location as a place to "host and promote excellent art and cultural events" (MCD, 1989, p. 5).

Four objectives were set out in the ACCA report. The first was for Singaporeans to broaden and deepen their art and cultural sensitivities and sensibilities. The second objective was to improve their general quality of life. The third objective was to strengthen social bonds within the community. The fourth and last objective was to contribute to our tourist and entertainment sectors. These objectives were defined to encourage an interest and participation in arts and cultural activities. The purpose of these objectives was: to develop a pool of artist, professionals, and administrators; develop more supporting facilities like performing houses, art galleries, libraries, and museums; improve the quality of art and cultural activities and finally, to promote more original Singaporean works. This report gave an overview of the government agencies involved and a summary of cultural and creative activities in 1989.

The ACCA report identified eight areas for improvement, including: government support and funding for art and cultural activities in Singapore; a more systematic introduction to the arts and culture; greater support for cultural development in Singapore by training local talents and importing foreign talents from the cultural and creative industries; more publicity for art and cultural performances so that they are able to attract sponsors; new performing arts and cultural venues to house art activities, heritage collections and to provide rehearsal spaces for the performing arts groups; better educational opportunities for the arts; streamlined licensing procedures for private sector's efforts in organising shows; co-ordinated decision making among heritage agencies in different Government ministries. In summary, the ACCA report urged whole-hearted commitment to the vision and a change in the fundamental attitude of Singaporeans towards the arts and culture. For the ACCA, it envisioned its success in developing the arts and culture through the Singaporean government taking the lead, and in a partnership with corporate, civic organisations and the public (MCD, 1989).

The renaissance city report. In the follow-up to the 1989 ACCA report, the first Renaissance City Report (RCR) was introduced in 2000. It is titled Renaissance City Report: Culture and the Arts in Renaissance Singapore (Moriano, Molero, & Levy Mangin, 2011). In RCR, Mr. Lee Yock Suan, then Minister for Information and the Arts, reported much progress made in the development of the hardware for culture and the arts in Singapore, after the implementation of the ACCA 1989 recommendations. He noted that Singapore needed the software aspects and proposed a vision of Singapore as an excellent city supported by a vibrant cultural scene (Moriano et al., 2011). The report had two aims, first to position Singapore as a global arts city and a major player in the Asian Renaissance of the 21st Century; and second, to establish cultural ballast for Singapore's nation-building efforts. Embedded in both these aims are Singapore's economic survivalist interests to ensure that it would remain attractive to an international pool of knowledge workers and to retain its own

workforce locally. As such, it was imperative that Singapore transforms into a centre of cultural excellence in a globalised world. This centre must have an environment conducive for talents in the creative and knowledge-based industries to live, work and play. Singaporean's national identity and belonging is strengthened with a deeper appreciation of heritage and the multi-generational sharing of Singapore stories. This is achieved with digital media as part of nation building.

While the objectives and strategic directions of the RCR remains the same as the 1989 ACCA report, what is interesting is the introduction of new terminology with the definition of "Renaissance Singapore" and the "Renaissance Singaporean" (Moriano et al., 2011, p. 5). Renaissance Singapore is defined as a creative and vibrant city imbued with a keen sense of aesthetics and supported with industries with a creative culture that is competitive globally. Similarly, the Renaissance Singaporean is defined as someone having an adventurous spirit, an inquiring and creative mind, and a strong passion for life. Two major changes were found in the RCR reports. The first change is that of the role of a single stakeholder or ministerial level leader, to one that is jointly responsible with the private sector. This change was intended to provide support and space in the development of the arts. The report reflects urgency for the arts community to strengthen its "sense of professionalism and accountability." Similarly, the report suggests engaging with individual citizens "in a fruitful and symbiotic partnership" (Moriano et al., 2011, p. 5). The second and more significant change is the need to leverage on creative activities for economic advantage, and to "develop an arts and cultural renaissance economy" (Moriano et al., 2011, p. 7).

Creative industries development strategy. In 2003, the Economic Review Committee (ERC), in the Service Sub-committee, within the Workgroup on the Creative Industries submitted its report titled Creative Industries Development Strategy: Propelling Singapore's Creative Economy (de Fillippi et al., 2007). The Creative Industries Development Strategy (CIDS) document is one of the most comprehensive government documents on the creative economy in Singapore. The report broadly defined the creative economy as a fusion of the arts, business and technology knowledge domains, together with a new competitive advantage, commonly known as a new engine of growth (de Fillippi et al., 2007). Further, it refines the definition of the creative industries as industries that have their origin in individual creativity, skills, and talents. These individuals have a potential for wealth and job creation through the creation and use of intellectual property. The report categorised the creative economy in Singapore into three "groups" with their respective policy documents. They are the arts and culture group (Renaissance City Report 2.0 or the RCR 2.0), the design group (or DSG) and the media group (or Media21). These creative groups cut across multiple economic sectors and therefore, not defined as a cluster in the traditional sense. As such, they are only recently recognised as a group requiring policy coordination and investment. The vision of the CIDS is to develop a vibrant and sustainable creative cluster to propel

the growth of Singapore's creative economy (de Fillippi et al., 2007). The ERC 2003 report aimed to establish and coordinate between the three groups a reputation for Singapore as a New Asian Creative Hub (de Fillippi et al., 2007).

The Design Singapore initiative. The Creative Industries Development Strategy (CIDS) is aligned with The Design Singapore Initiative (DSG, 2008, 2009). The cultural and creative economy in Singapore is framed by four elements, namely its vision, policy, strategy, and outcomes (DSG, 2009). Both the DSI and CIDS seek to achieve the vision of a "New Asia Creative Hub." The four inter-related outcomes of DSI are: to promote a pervasive design culture; to encourage design excellence as a competitive edge; to facilitate the creation of a distinctive design and brand identity; and to make Singapore an Asian design hub (DSG, 2009).

Vision: New Asia creative hub. The "New Asia Creative Hub" consisted of four cultural and media policies integrated to envision Singapore as a central portal to the Asia region. According to Yue (2006), the New Asia cultural capital can create wealth and stratify class. It is also a critical, strategic resource created through the convergence of knowledge, business and technology to shape the content, tools and environment in which people create new value and form new industries.

The first policy of the New Asia Creative Hub is the "New Asia Singapore," introduced between 1996 and 2003 and endorsed by the Singapore Tourism Board (Yue, 2006). Its mission is to brand and market Singapore as a centre that "encapsulated the hallmarks of New Asia." The second policy is Media Restructuring 2000, introduced to "dot.com the nation" (Yue, 2006). It was so successful that it earned Singapore the status as one of the "world's first digital economy" (Souza & Winsor, 1996; Yue, 2006). The third policy is "Singapore 21," launched in 2000 to promote an ideal Singaporean society in the twenty-first century with five broad aims: All Singaporeans matter, strong families, opportunities for all, the Singaporean heartbeat and active citizens (Goh, 1997). The fourth and most significant policy for this study is the "Creative Industries Development Strategy" launched in 2002.

Strategy: Creative industries development strategy. The CIDS via the Creative Industries Report separates the creative industries into three broad strategies. They are the "Renaissance City" strategy with its focus on arts and culture, the "Media 21" strategy with its focus on media and multimedia and "Design Singapore" initiatives with its focus on design. The Creative Industries Report recognises that the arts and culture sector is the artistic core of what is known as the creative cluster, essentially a concentration of interconnected or agglomerated industries that rely on innovation and creativity for growth and development (Lee, 2004).

The Renaissance City report was first launched in 1989. It was later called the "Renaissance City 2.0" in 2002 and finally, the "Renaissance City Plan III" in 2008 (MICA, 2008). The renewed strategy was to reinvent Singapore as a global arts and culture city by encouraging collaboration between the government, private sector,

arts community, and individual citizens. The aim was to foster a national identity, to increase social cohesion, and to expand the art and entertainment sectors. The second strategy was the "Media 21" strategy. It envisioned Singapore as a global media city, a thriving media ecosystem with roots in Singapore and with strong networks internationally. They envision that media services and projects are created, developed, traded, and distributed to global markets. The third and final strategy within the creative industries report is the "Design Singapore" initiative with its focus on the design sector. A summary of the vision, policies, strategies, and outcomes for the advancement of Singapore's cultural and creative economy as discussed are summarised in Figure 2.
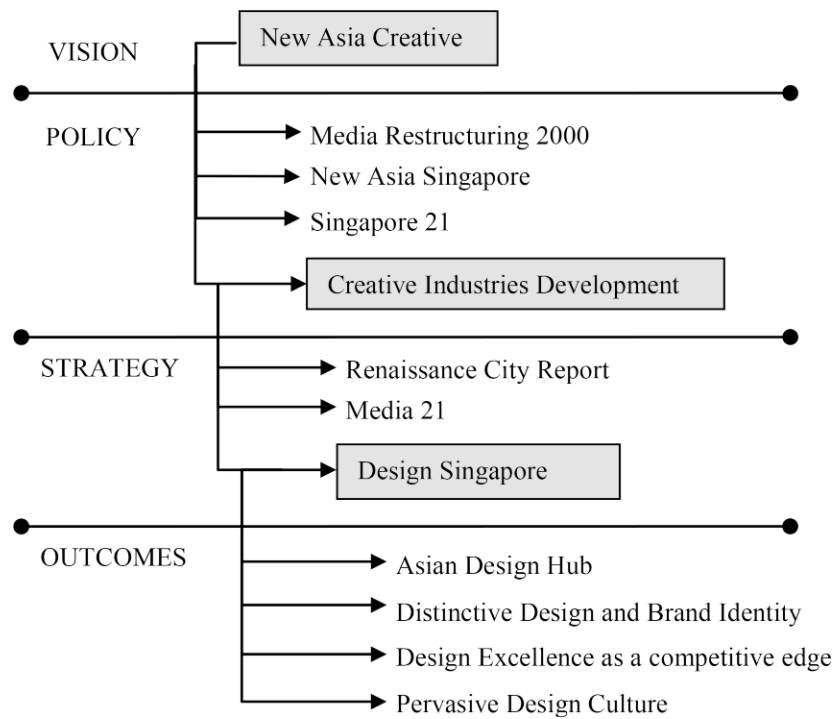
Figure 2. Cultural and creative economic policies in Singapore

DSI: The early DSI (2003 to 2004).   The "Design Singapore Initiative" (DSI) within the Creative Industries Development Strategy (CIDS) was launched in 2003 (de Fillippi et al., 2007; DSG, 2009), after the formation of the Design Singapore Council, a government arm that tackles all issues situated within the DSI. This is the first document to address the "object design" community directly and to spearhead the development of the design cluster. The DSI defined design as "the material and

conceptual innovation realised through the integration of arts, culture, business, and technology" (MTI, 2003, p. 21). It further establishes design as "multi-disciplinary," because it encompasses not only aesthetics but also market research, usability, safety, ergonomics, environmental sustainability, new technologies, logistics and consumer experiences (MTI, 2003, p. 22). Besides being multi-disciplinary, design addresses areas of concern and planning such as urban development, enterprise, trade development, education and capability development, culture, heritage and tourism. The report noted design had far-reaching influences, other than its impact on businesses. Governments around the world have recognised the importance of design for the national economy, in that design drives the innovation processes that improve national competitiveness. Design also contributes to the creativity, cultural buzz, and attractiveness of a place for global talents.

More importantly, design helps the "unique branding" of a country, including its products and services to the world. The DSI vision is for Singapore to become a global, cultural, and business hub. This Asian design hub will design products, content, and services to permeate all aspects of work, home, and recreation (MTI, 2003). The DSI policies aim to facilitate a small population like Singapore to make a global impact through design excellence. These policies target Singaporeans, who are skilled at the adoption of modern technology, to infuse it with indigenous Asia aesthetic sense and sensibilities to create unique products and a niche in the global marketplace.

The DSI paper identifies Singapore's three core strengths, namely a relatively small but sophisticated consumer base, excellent info-communication integration and other technology-intensive industries, and a unique position as an English-speaking gateway to Asia. These core strengths are easily translated into opportunities of becoming a leading experience design island, a global design and innovation test-bed for ideas, and to "utilise the New Asia" branding as a unique and exportable style" (MTI, 2003, p. 25). However five challenges were identified in the report (MTI, 2003). The first challenge is to change from a focus on the bottom-line to that of design excellence. The second challenge is to nurture more local design capabilities, instead of importing talents. The third challenge is to shift from a "manufactured in Singapore" to a "designed in Singapore" branding and strategy. The fourth challenge is to have design education transcend its status as "technical education" to that of "multi-disciplinary education." The fifth challenge is to create more design awareness due to a need to highlight the role, significance, and qualities of both the designer and the design industry to foster a more pervasive design culture.

The DSI is encapsulated in specified outcomes. The key DSI outcome is for Singapore to be a leading design hub in Asia. To achieve that, the three-fold tactic is to attract regional and international design talents, to nurture innovative design firms and to provide excellent design education in Singapore. DSI sees Singapore as a launch pad for creative and innovative designs into Asia. Another DSI outcome is to evolve a distinctive design and brand identity for Singapore products and services. The aim is to create a "designed-in-Singapore" reputation and value branding

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synonymous with high quality, integrity, creativity, and excellence. A further DSI outcome is for design excellence to be a competitive advantage for local enterprises. The final DSI outcome is to create a pervasive design culture to raise the general level of design awareness and discourse. The objective is to create an awareness of effective design that integrates into all aspects of business, leisure, recreation, public service, and education in Singapore (MTI, 2003).

DSI: Phase I (2004 to 2008). In 2004, the Design Singapore initiative was refined and updated to Phase One or DSG-1 (DSG, 2008, 2009). DSG-1 was a five-year plan formulated within several contexts and assumptions. First, it identifies design culture as having both an economic and social agenda. Secondly, it acknowledges that design in the knowledge economy values intellectual property that is pursued through creativity and research. Thirdly, it locates design in an inter-disciplinary eco-system that spans the arts, media, technology, and business.

Five strategies were listed to accomplish DSG-1 (DSG, 2009). The first strategy is design development, and it aims to: (1) improve on the pool of design talents and design intellectual property in Singapore; (2) enhance professional standing for Singaporean designers internationally; (3) increase the exploitation of intellectual property in design; (4) increase revenue from overseas market; (5) expand the role of design associations; and (6) contribute to a vibrant design culture. Design development aims to improve the capabilities of Singapore's designers to achieve design excellence. The three supporting programmes for design development are design capability and professional development, Design Singapore Studios, and Awards and Competitions. The second strategy of DSG-1 is in the area of design promotion, which aims to nurture an appreciation and demand for design. The three strategic programmes are design awareness and perception programme, design business programme, and design exhibition and media multiplier programme. It aims to raise the international profile of designers and design, create greater public awareness and appreciation of design, and promote the adoption of design by business in Singapore. The third strategy of DSG-1 is design culture, which seeks to establish the context for decision-making through policies and strategies. Five programmes are located within the design culture strategy: international relations; design sector studies; study-trips and missions; knowledge-management; web and design case studies; and design policy. The fourth strategy of DSG-1 is the Singapore design festival with its aim of being a platform to integrate design development and design promotion in an inclusive downstream activity between designers, clients, and consumers. The festival is the external arm of Design Singapore design development and promotion activities; its purpose is to encourage the exchange of leading edge creativity between Asian and the world. The fifth strategy is design futures, which was launched in 2007 with its aim to inspire creativity by engaging both businesses and design in upstream activities and intellectual property creation. The purpose is to create new value for Singapore designers, design practices, and design-led businesses. Its long-term goal is to cultivate research and development efforts, transformative

strategies, and content for design. Its aim is to establish a competitive advantage for Singapore designers and businesses. The programmes in design future include research and prototyping achieved by collaboration with foreign design universities. Topics for collaboration include sustainable cities, inclusive design, personal mobile cooling, alternative transportation, and urban mobility, and interactive digital media user interface design (DSG, 2009).

DSI: Phase II (2009 to 2015).   The Design Singapore Initiative Phase Two or DSG-2 was launched in 2009 and effective until 2015. It was drafted "to further accelerate transformational growth of the design cluster and facilitate Design Singapore to collaborate across agencies to fast-track Singapore enterprises "for economic growth, quality of life and the environment" (DSG, 2009, p. 66). DSG-2 aims to develop Singapore as a "global city for design creativity in Asia" and to "improve capability, enhance the quality of life, and drive competitiveness" (DSG, 2009, p. 66). A three-prong strategy is taken to realise the grand vision: The first strategy (Strategy 1: Develop Capability) focuses on capability development and enhances the capability development programmes from DSG-1. The purpose is to develop excellent and globally competitive designers and design clusters that are able to service global clients and enable Singapore enterprises to secure a competitive edge through design. Three interconnected programmes within this strategy are the professional development programme, the design-learning programme, and the international market development programme. The second strategy (Strategy 2: Enable Enterprises to Leverage Good Design) is to enable enterprises to leverage on good design. The purpose is to enlarge the impact of design economically, socially and environmentally by embedding design into other industry cluster. Similarly, three interconnected programmes support this strategy. They are the "design in cluster," the "design for enterprise," and the "design for excellence" programme. The third strategy (Strategy 3: Drive Innovation and Design Intellectual Property Creation) of DSG-2 is to drive innovation and design intellectual property creation and to accelerate the transformation of the design cluster. The purpose is to help the design clusters stay ahead of the competition and become globally relevant in these unpredictable times. The third strategy is supported with two programmes. They are the design futures programme and the national design centre programme. All three strategies are highly integrative and, together, they simultaneously boost design excellence, transform design practices, and facilitate emerging designs through "upstream" research and development and "downstream" commercialisation activities. Two broad sets of indicators are identified to achieve the DSG-2 vision for 2015. The first set of indicators is to create a vibrant, integrated, and competitive design cluster and the second set of indicator is to enhance the performance of key economic sectors and society by leveraging design. For the first set of indicators, three outcomes are identified. The first outcome is to increase design's direct contribution to Gross Domestic Product (GDP) from the estimated S$3 billion in 2009 to S$5 billion in 2015, eventually reaching S$7.5 billion in 2020. The second

outcome aims to create at least 14,000 new jobs, from the current 32,000 to 46,000. The third outcome aims to raise the value-added component of employees in the design cluster by S$41,000, from S$68,000 up to S$109,000. For the second set of indicators, two objectives are identified. The first objective is to increase the percentage of companies using design strategically from the current 10% to 25% in 2015. The second objective is to maintain an overall "design awareness" index score above 5.0.

What is of particular significance to this book about DSG-2 is the effort made to converge and integrate the synergetic purpose between the partners within the cluster. A number of synergies and convergences are identified. The first set is found across the Design-Media-Info com Technology industries. The objective is to integrate compelling content with high-tech high-touch delivery systems for a total experience. The next set is found across the design's multi-disciplinary clusters. The purpose is to encourage breakthroughs in the unchartered zones between the different design disciplines. The third set is found across design learning and design institutions. The purpose is to seed projects to integrate design learning into the curriculum and infuse design thinking as a way of life for all. The fourth set of synergy and convergence is through "whole of government" collaboration for sustainable economic growth. Singapore is one of the few countries globally to set tangible objectives for developing its creative economy. This is despite it being the newest entrants in the race towards being a cultural and creative city in Asia and the world.

Design culture and environment of creative conflicts.   Scholars have highlighted the need for Singapore to develop a strong design tradition. This design tradition or culture has to create an environment that supports the work of both designers and design leaders. Designers need a creativity-nurturing environment and situations with stimulating, competitive co-workers with an exposure to complex jobs led by design leaders who display supportive non-controlling styles (Cummings & Oldham, 1997). This environment must constantly adjust and adapt the context to maximize their innovation potential and creativity of designers and ensure that the essence of their work is not swayed by the times or be merely novel solutions (Chan, 2001). According to Toma (1996), from his work with scholars and their inquiry paradigms, the culture within the soft-applied fields is "outward looking, dominated by intellectual freedom and focused on understanding power-relationships" (Toma, 1996, p. 8). In contrast, the culture within the soft-pure field is "individualistic, pluralistic, loosely structured and person oriented" while the hard sciences has a culture that is competitive, gregarious, politically well-organized and task oriented (Toma, 1996).

Service industry and emotional labour.   The creative industries are located within the service industry, According to Skov (2002), creative work is full of frustration and designers work long hours, often alone or without the support of a senior designer or

a design team in less than ideal environments and conditions; for example, working next to machines and being machine operators. According to Hochchild (1979), work in the service industry results in emotional labour. When designers or design leaders receive unprofessional responses from clients or colleagues, they have to get-by with a pleasant personality. As a result, many designers job-hop in order to develop professional skills. Those that stay often complain of being exhausted and of feeling less creative the longer they work (Skov, 2002). Similarly, design scholars raised concerns regarding the conflict or dichotomy between ideas and culture, or money and industry (Hochchild, 1983).

RESEARCH GAPS

The literature review highlights a number of research gaps in the knowledge base of the cultural and creative industries. The gaps were organised into a numbers of levels, to inform the development of the general research questions for the present study, which in turn provided the thematic framework for the research. At the top level are scholar's concerns with problems at middle-level managers globally. At the second level, scholars are concerned with the need for cross-disciplinary perspectives between academics and practitioners and the need for educational policies in design education and design research. At the third level, scholars highlight the current war for talent in the Asia Pacific and developing design studios with excellent practices. At the fourth level, scholars are concerned with the need for new studio leaders. This is in the context of the failure of the top-down design leadership style. At the fifth level, scholars are concerned about the impact of design policy in Singapore, especially how they help develop a stronger design culture or tradition in Singapore. Table 3 illustrates the formulation of the general research questions from the research gaps and their organisation into levels. The framework identifies key emergent themes within the interview data and establishes the preliminary coding and qualitative analysis for this research. The researcher's intention was to allow the data to speak for itself and not to force the data to fit any preconceived ideas found within existing literature. Table 4 summarises the key focus issues of the study, following a "who-what-where how" approach informed by the findings of the literature review. This study focuses on design leadership at a functional level. This area covers both the strategic and operational aspects of design leadership. The overall concern is with the transition of design leaders into design leadership and management positions in Singapore.

CONCLUSION

In this chapter, a review of empirical literature reveals five major themes. The five themes are the transition to leadership and management, design leadership development education, design talent management, design community and practice, and design policy and strategy. The review highlights the research gaps that exist

within each theme, and which informed the general research questions for the present study. Chapter 4 describes the research methodology and design.

Table 3. Summary of themes and research gaps

Case Study Level 1	Case Study Level 2	Case Study Level 3	Case Study Level 4	Case Study Level 5
Research Gap identified by scholars internationally				
*Scholars Identified problems with middle level managers globally	*Scholars call for the need for Cross Disciplinary Perspectives between academics & practitioners	*Scholars predict a War for Talents in Asia Pacific due to its rapid growth	*Type of Leader for Design Community? (Knowledge Gap)	*Scholars pointed out that studies on the Impact of Design Policy in Singapore is required
Research Gap: Global Policies & Trends				
*Experience of Design Leaders Transitioning to Leadership Positions (Knowledge Gap)	*Scholar suggest need to focus on Design Education and Design Research in Education Policy	*Scholars suggest need for Studios with excellent Practices	*Scholars suggest need for New Studio Leaders	*Scholars suggest need to have a Strong Design Tradition
DSI Policy 2015 Objectives (Phase II)				
Enable Enterprises to Leverage Good Design	Drive Innovation & IP Creation	Capability Development	Vibrant, Integrated, Competitive Design Cluster	Enhance Key Economic Sectors & Society by Leveraging Design
25% of Companies Using Design Strategically	Value-added component of employees = S$109,000	New Jobs = 46,000	GDP = S$5 Billion	Overall Design Awareness Index >5.0

Problems and Challenges raised by scholars in Empirical Literature				
Work Style	Design is Ephemeral	Designer Career Pathways	New Leadership Styles	Knowledge Society
*Entrepreneurial, project-focused, temporary work *High-maintenance multi-disciplinary team	*Need for quality design and design management education *Need for Champions in Design Management Academia *Ephemeral nature of design trends/knowledge	* Need for good practices in design management *Career Trajectories of design talents non-existent	*Structure of design community – growth limiter? *Relationship-based work *Ad-hoc leadership	*Creative Industries Policy and DSI – impact on designers and leaders in Singapore *Singapore's Globalisation/shift towards adopting a Knowledge-based Economy

Problems and Challenges raised by scholars in Empirical Literature				
Flexible Roles	Life-Long Learning & Continuous Upgrading	Managing Talents	Fragmented Eco-system	Asian Design Hub
*Increasing Role Flexibility, Enlarged responsibilities *Constant focus on client's needs *Increasing shift towards gate-keeping roles for design leaders	*Global trend towards Life-long learning and continuous upgrading *Need for training that aligns with business realities	*Need to have Good Management of Design Talents *Scholars recommended the need to under-stand how talents respond to circumstances	*Difference in designer and design leader mindsets/paradigms	*Vision, Strategy, Initiatives of the Asian Design Hub

(Continued)

Table 3. (Continued)

Problems and Challenges raised by scholars in Empirical Literature				
Inclusive Design Culture	Professional Development	War for Design Talent	Service Orientation	Design Value, Design Environment
*Work is Relationship based *Need for inter-cultural sensitivity *Need to over-come cultural disadvantages *Need to be more inclusive and encourage diversity	*Failure of Design education (stuck in 1960s) *Need to adopt best practices in leadership development and succession.	*War for talents and implications for designer recruitment	*Failure of Top-down style of leadership	*New/Changing definitions/ paradigms in Design, as such, current policy based on an old paradigm *Creative Environment that requires creative conflict
General Research Questions				
What does it mean to transit to being a design leader[***] In Singapore?	Why would Singapore need more Design leaders? How can they achieve that?	What is its impact on managing design talents In Singapore?	How would design leaders in Singapore perceive their future roles To be?	How would design leaders gauge the success of Singapore's desire to become an Asian Design Hub?

Table 4. Who-what-where-how framework

Case Study Level 1	*Case Study Level 2*	*Case Study Level 3*	*Case Study Level 4*	*Case Study Level 5*
"Who" of Study				
Future (Concerns)	Current (Needs)	Potential (Growth)	Eco-system (Survival)	Policy & Strategy (Success)
Design Leaders	Design Leaders (As a Case)	Design Talents	Design Vendors/ Specialisations	Design Administrators
"What" of Study				
Process	Programme	People	Prime	Purpose
Position and Perspectives	Career Trajectory and Professional Development	Impact & Talent Management	Perspective on Needs and AFI for community	Policy and Strategy
"Where" of Study				
Sub-sector	Sector	Industry	Singapore	International
Industrial Design/ Product Design	Applied Arts/ Design Sector	Creative Industries	Creative Cluster	CIDS/ DSI
"How" of Study				
Transitioning "Process"	Educational "Needs"	Talent "War"	Leadership "Types"	Policy "Success"
The "process" of becoming design leaders	The "need" for design leadership education	The "war" for talents in SG design industry	The new leadership "types"	The "success" of Asian Design Hub

CHAPTER 4

METHODOLOGY

INTRODUCTION

This chapter presents the methodology adopted for this study in four main sections. The first section describes the conceptual framework. The second section describes the research design and sample. The third section describes the methods of data collection and data analysis. The fourth section outlines the steps taken to ensure that issues of trustworthiness and ethical considerations are met.

CONCEPTUAL FRAMEWORK

The study employed a qualitative methodology because it sought to develop theory on design leader's transition to design leadership and management positions in Singapore from their perspectives as key stakeholders in this phenomenon. This study adopted an interpretivist approach, using qualitative methods to generate theory.

According to Blackledge and Hunt, there are "four assumptions" in the qualitative interpretivist inquiry (1985, p. 234). The first assumption is that everyday activity is the building block of society. Secondly, everyday activity is never totally imposed but there are always some autonomy and freedom. Thirdly, everyday activity always involves a person interacting with other people rather than acting in isolation. Fourthly, everyday activity involves a process of negotiation of meaning and, through this; people come to modify their understandings and views. The most basic idea of interpretivism is that "all human actions are meaningful and hence have to be interpreted and understood within the context of social practices" (Usher, 1996, p. 18). As such, the concern is with the study of "how people define events or realities … and how they act in relation to their beliefs" (Chenitz & Swanson, 1986, p. 4). This research provides a voice for the participant's lived experience.

Symbolic interactionism as a theoretical perspective within the interpretivist paradigm was chosen for this study because it emphasises the nature of human interaction, implying that human beings constantly act in relation to each other. Symbolic interactionism, with its key concepts defined as self, interaction, self-interaction, volunteerism and common symbolic language, is used to articulate the interpretive research paradigm because it relates directly to the way people attach meaning to, and act towards, particular objects and phenomena (Mead, 1934; O'Donoghue, 2007).

Blumer (1969, pp. 3–6) highlights "three key principles in symbolic interactionism" that help align interpretivist paradigm to this research. The three principles are that: firstly, "human beings act towards things based on the meanings that the things have for them" (Blumer, 1969, p. 2); secondly, "symbolic interactionism sees meanings as social products, as creations that are formed in and through the defining activities of people as they interact" (Blumer, 1969, p. 5); and thirdly, while the meaning of things is formed in the context of social interaction, it is a mistake to think that the use of meaning by a person is but an application of the meaning so derived.

In this context, the researcher is "concerned with revealing the perspectives behind the empirical observations, the actions" people take in the light of their perspectives and the patterns which develop through the interaction of perspectives and action over particular periods of time (O'Donoghue, 2007). The researcher uses symbolic interactionism as a theoretical "lens" to explore and generate theory regarding the perspectives of design leaders in Singapore.

Within the symbolic interactionist tradition are two types of research, the frozen-in-time and deal-with studies (O'Donoghue, 2007). This study adopted the frozen-in-time approach and is concerned with "generating theory about the perspectives which a group or groups have with regards to some particular phenomena at a particular point in time" (O'Donoghue, 2007, p. 32). The phenomenon is design leadership development in the context of the Design Singapore Initiative Phase Two in Singapore.

The Concept of Perspectives

The perspectives of participants were central to this study. According to Woods, perspectives are defined as "frameworks through which people make sense of the world" (Woods, 1983, p. 7). Similarly, perspectives are also defined as a "conceptual framework" or "a point of view," which highlights that "perspectives are interrelated sets of words used to order physical reality" (Charon, 2001). In a definition that is closer to the spirit of this study, Becker et al. defined perspectives as "a coordinated set of ideas and actions a person uses in dealing with some problematic situation" (Becker, Geer, Riesman, & Weiss, 1961, p. 34). The problem with perspectives is that they act like "filters" that prevent us from knowing things "completely or in any perfectly accurate way" (Charon, 2001, p. 6). Similarly, perspectives are "situational" and they "change many times throughout our lives, but they can also change from situation to situation, and can do so many times during the same day," according to symbolic interactionism (O'Donoghue, 2007, p. 28). O'Donoghue pointed out that "this means that while human beings are limited by their perspectives in that they cannot see outside of them, these perspectives are also vital in that they make it possible for us to make sense of the world" (O'Donoghue, 2007, p. 27).

The Guiding Question "Unpacking" Process

The guiding questions for the study were developed according to the concept that perspectives act as frameworks through which people make sense of their world (Blackledge & Hunt, 1985). Following O'Donoghue (2007), the process outlined in Table 5 was followed in order to 'unpack' the guiding questions The process takes up O'Donoghue's view that guiding questions have five key components. First, they explore the participants' aims and intentions regarding the phenomena studied. Secondly, they attempt to understand the strategies adopted to achieve their aims and intentions. Thirdly, they discover the significance the participants' views on their aims and intentions and the strategies they had adopted. Fourthly, they uncover the outcomes that the participants want or desire, in the light of their aims and intentions, strategies adopted and significance regarding the phenomena studied. Fifthly, they attempt to consolidate the reasons the participants give regarding their aims and intentions, strategies adopted, significance and desired outcomes. Similarly, the areas for further research recommended by scholars found in the contextual, conceptual, and empirical literature review are located within the above framework.

Table 5. Unpacking the guiding questions

Part 1: Principles, Outline, and Rationale				
(O'Donoghue, 2007, p.39)	1. Aims & Intentions	2. Strategies	3. Significance	4. Desired Outcomes from their intentions
Blumer's Principles (Blumer, 1969)	"…human beings act towards things on the basis of the meanings that the things have for them"	"…the meaning of such things is derived from, or arises out of, the social interaction that one has with one's fellows"	"…these meanings are handled in, and modified through, an interpretive process used by the person in dealing with the things he encounters"	
Outline (O'Donoghue, 2007: 33)	"…the perspectives which the participants have on a phenomenon at the outset"	"…how the participants act in the light of their perspectives"	"…the changes, if any, which take place in the participant's perspectives as a result of their actions"	"…there are two steps in this process. Firstly, one points out to oneself the things that have meaning".

(Continued)

Table 5. (Continued)

Rationale	Meaning and Perspectives for the meaning	Social Interactions (of Perspectives) and (how) Meaning changes over Time	Interpretive process adopted by participants and how it changes according to varying Context	Desired Outcomes "One then selects, checks, suspends, regroups and transforms the meaning in the light of the situation in which one is placed and the direction of one's action" (O'Donoghue, 2007: 19

Part 2: Research Question Framework

	1. Intentions (Meaning)	2. Strategies (Over Time)	3. Significance (Of Context)	4. Outcomes (Results)
	"What are the aims or intentions of the participants with regard to The phenomena under investigation…?"	"What strategies do the participants say they have For realising their aims and intentions…?"	"What do the participants See as the significance of their aims or intentions, and their strategies?"	"What outcomes do the participants expect from Pursuing their aims or intentions…?"
5. Rationale (Reasons)	"…and what reasons do they give for their aims and intentions?"	"…and what reasons do they give for utilising those strategies?"	"…and what reasons do they give for this?"	"…and what reasons can they give for this?"

Part 3: Guiding Question Framework

Definition

What are their perspectives on the phenomena? (How do they see the phenomena?) What do they mean for them?	What perspectives do design leaders hold regarding… What does the aims and intentions mean for them…	How are their perspectives influenced by their interactions at their workplace or community?	How significant are these strategies for them?	What are their perspectives on the success of these strategies?

Activities				
Does the meaning change over time? Does the meaning change over different context?	How would the aim and intentions change over time?	Do the strategies change over time?	How would the significance change over time? Does the significance change according to differing context?	What do they hope to achieve with these strategies?
Judgement				
What outcomes do them expect…What reason do they give for…	"…and what reasons do they give for their aims and intentions?"	"…and what reasons do they give for utilising those strategies?"	"…and what reasons do they give for this?"	"…and what reasons can they give for this?"

RESEARCH DESIGN

Case Study Method

This study utilises a multiple case study approach to set the research boundaries between phenomena and context and to cover contextual conditions that might be highly pertinent to the phenomena of the study (Klanke, 2008; Yin, 2003, 2009). The case study method was considered appropriate because investigates a contemporary phenomenon within its real-life context. Stake (1995) refers to case study as a "study of a bounded system, emphasizing the unity and wholeness of that system, but confining the attention to those aspects that are relevant to the research problem at the time" (p. 258).

Punch (1998) describes case studies as "aiming to develop as full an understanding of that case as possible" (p. 150). It aims to understand the case, as a whole, in depth, in its natural setting, recognizing its complexity and context. In particular, Brewer and Hunter (1989) indicate that case studies are effective when exploring actions and interactions. Sarantakos (2013) adds that in the case, the participant is perceived as an expert and not just a source of data. The four key characteristics of a case study, as described by Punch (1998), are that it has clearly described boundaries, it is a case of something, the wholeness of the case is preserved and multiple sources of data are likely to be used.

The main advantage of the case study is its potential to provide a detailed depiction of the phenomenon under consideration, as Punch (2005) notes:

The case study aims to understand the case in-depth, and in its natural setting, recognising its complexity and its context. It also has a holistic focus, aiming to preserve and understand the wholeness and unity of the case. (p. 144)

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Table 6. Framing the five guiding questions

Levels	Keyword/s	Topics	Question
1. Focus on (and analysis of) Individuals (Questions asked of specific participants)			
Sub-sector: Industrial Design	Process: Position & Perception	Transitions to Leadership & Management: Transitions to Design Leadership & Management Positions	What does it mean "to become" a design leader in Singapore?
2. Focus on (and analysis of) Patterns within Individual Cases (Questions asked of the individual case, as part of the multiple case study)			
Sector: Design	Programme: Career Trajectory & Professional Development	Design Leadership Development: Design Leadership Development Programmes	Why would Singapore need more design leaders?
3. Focus on (and analysis of) Patterns across Multiple Cases (Questions asked of patterns of findings across multiple cases)			
Industry: Creative	People: Impact & Talent Management	Managing Design Talents: Asia-Pacific War for Talents/ Management of Design Talents	What is its impact on managing design talents in Singapore?
4. Focus on (and analysis of) Patterns Across Entire Study (Questions asked of the Entire Study)			
National/Singapore	Prime: Perception of Needs & AFI	Design Eco-system: Global Design Generalist or Chief Design Officer	How would design leaders in Singapore perceive their future role to be?
5. Focus on (and analysis of) Macro-view & Policy Recommendations (Questions about policy recommendation, going beyond the narrow scope of this study)			
Global/World-view	Purpose: Policy & Strategy	DesignSingapore Initiatives: Singapore as Asian Design Hub	How would design leaders gauge the success of Singapore's desire to become an Asian Design Hub?

Punch (2005) identifies three types of case study. Intrinsic case study involves understanding one particular case for its own sake. Instrumental case study involves examining one case to shed light on an issue or to refine a theory. Collective, multiple or comparative case studies involve extending an instrumental case study

to encompass several cases in order to gain insight into a "phenomenon, population or general condition" (Punch, 2005, p. 144). This multiple case study consists of three bounded interpretive case studies. Case Study 1 is the case of design managers, Case Study 2 is the case of design consultants, and Case Study 3 is the case of design entrepreneurs. The five guiding questions shown in Table 6 were framed into the five levels of the case study approach recommended by Yin (Yin, 2003, 2009).

Sampling

Maxwell pointed out that the term "sampling" is problematic because it implies "representing the population sampled" (2005, p. 88). He added that this view ignores the fact that in qualitative research, the typical ways of selecting settings and individuals "are neither probability sampling nor convenience sampling" (p. 89). Similarly, Weiss (1994) argued that "many qualitative interview studies do not use samples at all but panels" (p. 17). He explains that panels comprise "people who are uniquely able to be informative because they are experts in an area or were privileged witnesses to an event" (Weiss, 1994, p. 17).
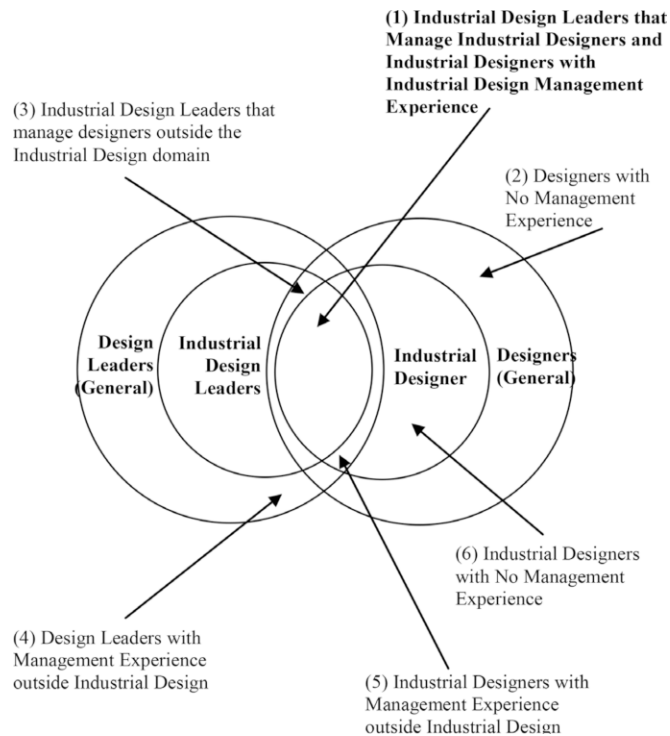

Figure 3. Framework for identifying industrial design leaders as panels

This study adopted the approach of selecting a panel of participants. The framework for identifying the panels of design leaders is shown in Figure 3. Panels, like theoretical sampling, fall into a category called "purposeful selection" (Light, Singer, & Willet, 1990, p. 53), "criterion-based selection" (LeCompte & Preissle, 1993, p. 69) or more commonly, "purposeful sampling" (Patton, 1990, p. 169). Purposeful sampling "is a strategy in which particular settings, persons or activities are selected deliberately in order to provide information that can't be gotten as well from other choices" (Maxwell, 2005, p. 89). Seidman (2006) suggested two criteria for the recommended number of participants in a study; namely "sufficiency" and the "saturation of information" (p. 55). Sufficiency addresses not only the number but also the "range of participants and sites that make up the population so that others outside the sample might have a chance to connect to the experience of those in it." The saturation of information determines a point in the study at which the interviewer begins to hear the same information reported such that nothing new is being reported (Seidman, 2006, p. 55).

Criteria for Participant Selection

It was considered that three panels with a total of 12 to 15 participants would overcome issues of attrition and un-planned cancellation of interviews. The participants were selected purposively, in order to gather the most relevant data about the phenomenon under investigation (Corbin & Strauss, 1990) and to provide a panel of maximum variation across a range of criteria, namely specialisation within the industry, gender, highest education achieved, and years of experience in managing design talents. All participants were Singaporeans or located in Singapore.

Design specialisation. The first and most important selection criterion was their design specialisation. Design leaders had to be currently working in the industrial design industry (e.g. electronic product design, medical product design, furniture design, jewellery design etc.).

Gender. As the design industry is predominantly male, priority was given to the selection of female participants if they meet all other selection criteria as well. However, the researcher was able to find only one female design leader to participate in this research.

Design Education. While most designers working in the design industry are trained in design, there are design leaders from other industries (e.g. banking & finance, engineering & manufacturing and electrical & electronic design etc.). In selecting the participants, the researcher considered their educational background (e.g. local or foreign), the level of education they received, and the kind of training orientation that they have (e.g. arts-based, cultural-focused, research-based, technical, entrepreneurial, business administration etc.) to provide maximum variation.

Table 7. Three types of design leaders in Singapore

Qualifications	Reporting Structure	Peers	Terminology
Type I: Corporate Design Leaders or Design Managers			
Corporate design leaders are likely to be managers from design services within multinational corporations, have postgraduate qualifications and some formal training in management.	Corporate design leaders in Singapore would normally report to a senior management staff within the company.	Their peers are often technical support, business development, and product research specialists.	While there are no formal terms used in Singapore, these corporate design leaders are more commonly known as design managers.
Type II: Consultant Design Leader or Design Consultants			
Consultant design leaders have little postgraduate qualifications in design.	Design consultant leaders are generally owners or partners as well as project managers.	They have few designers within their company as peers (Wolf et al., 2002).	Consultant designers are also known as design consultants in Singapore.
Type III: Technical Design Leaders or Design Entrepreneurs			
The third and emergent group are technical managers with foundational qualifications are either in IT, Business or Engineering who are tasked to manage design teams or become design entrepreneurs themselves.	Technical design leaders differ depending on where they are found. They can report to a senior management staff within in MNC environment or they could be business owners.	Similarly, they can have technical support, business development or product research specialist or a few designers and engineers within their company as peers	More commonly known as technopreneurs, not many are associated with any professional design organisations in Singapore. These technical managers are more likely to be young and driven, who had risen to the Singapore government's call for more entrepreneurs within the arts, business and technology community.

Management experience. Design managers were selected based on their experience in managing designers or a team of designers. The panel included design leaders with more than five (5) years of design management experience in the industrial design industry, with preference given to those with at least seven (7) to ten (10) years of leadership experience. The panel of participants represented the three types

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of design managers in Singapore, as described in Table 7. From anecdotal evidence gathered from the ICSID World Design Congress held in Singapore in November 2009, thirty (30) individuals were at that time design leaders within the industrial design industry.

The final panel of about fifteen (15) therefore represented about half of all possible design leaders in Singapore. Table 8 provides a summary of the panel in relation to the selection criteria.

Table 8. Panel of participants

Selection Criteria	Design Managers (5 person selected)	Design Consultants (5 person selected)	Design Entrepreneurs (5 person selected)
Nationality: Singaporeans/Others	Yes	Both	Yes
Professional Qualifications: Design Education (Diploma/Degree)	Yes	Yes	Both
Gender: Female Managers	N.A.	Yes	N.A.
Services: Provide Design Consulting Services	No	Yes	Both
Talent Management: Managing Designers/ Design Teams	Both	Yes	Both
Business Management: Managing Business	Yes	Yes	Yes
Product Launch: Launch Innovative Products Globally	Yes	Yes	Yes

METHODS OF DATA COLLECTION AND ANALYSIS

Data Collection

The primary source of data was face-to-face, semi-structured, in-depth interviews (Klanke, 2008; O'Donoghue, 2007; Seidman, 2006), triangulated with supporting or secondary data in the form of documents and researcher field notes, memos and reflective journals (Punch, 2005, 2009). A set of guiding questions aimed at "understanding the phenomena through semi-structured or open-ended interviews with the people involved and in their own surroundings" (O'Donoghue, 2007) was utilised by the researcher.

Pilot interviews were held from August 2010 with two participants (1 design consultant and 1 design manager) who had expressed an interest in this study. The pilot interviews allowed the researcher to verify the effectiveness of the aide-memoire and provided experience in executing the in-depth interviews and the research protocols. This facilitated the testing of scripts for starting and ending the interviews. The data from these two interviews were of sufficiently good quality that they were eventually incorporated into the study.

During data collection, the researcher focused on gaining the participants' meanings and intentions and securing information (or interpretations) related to the research problem. The focus was not on the researcher's meanings nor those expressed in the literature by other researchers. To ensure that data collection was thorough, a data array in a shell format was used as a verification tool. The researcher also used several tools in data collection, including interview Records, Researcher's Interview Debriefing Questions, Informal Member Check, and Memo.

Semi-structured in-depth interviews. Semi-structured, in-depth interviews were the main source of data collection for this proposed research, as they allow for greater depth than other methods of data collection (Cohen & Manion, 1989, p. 308). Each of the 15 participants was interviewed three times, for approximately 90 minutes each time, with some exceptions as explained below. Depending on the availability of the design leaders, a spacing of "three (3) days to a week apart" (Seidman, 2006, p. 21) was set aside for interviews with each participant in order to "reduce the impact of possibly idiosyncratic interviews" (Seidman, 2006, p. 21). Where possible an interim period was set between the interviews for data reduction, data display and the drawing of preliminary conclusions before the next session. This period allowed the participants to reflect on the research questions and to respond with further clarifications or insights in the following interviews.

In preparation for the interviews, a contact list of participants and selection considerations were drafted, but not included in this book to protect participants' privacy and confidentiality. A copy of the aide memoire was emailed to each participant one week prior to the interview. This enabled them to think of their experiences, jot down notes, and prepare their answers to some degree. The aide memoire kept the focus on the main research questions and guiding questions and facilitated cross-case analysis (O'Donoghue, 2007). The content, sequence and wording of the interview questions was utilized in a "flexible" manner (Kerlinger, 1970).

The first interview with each participant focused on their experiences (or perspectives) in the context of the phenomena. The purpose was to establish the context of their experience (Seidman, 2006, p. 7). The second interview focused on details of the participants lived experiences regarding the phenomena. The purpose was for the participant to reconstruct the details of their experience in the context in which it occurs (Seidman, 2006, p. 17). The final interview reflected on the meanings and concerns of leadership development of design managers and designers in Singapore. The focus was to create meaning in the context of the first

two interviews (Seidman, 2006, p. 17). With the contact visits, the telephone calls, letters or electronic mails to confirm schedules and appointments and the actual three interviews, the researcher had "an opportunity to establish a substantial relationship with participants over time" (Seidman, 2006, p. 21).

However, a number of design leaders had chosen to fit the interview sessions around their tight schedules instead. As such, several interviews were conducted in one session of about three-hours, with short breaks every ninety (90) minutes or less, as recommended by Seidman (2006).

Field notes. Field notes of participants' demeanour were documented when it was deemed relevant. During interviews, notes were made of key phrases, potential emerging theme, as well as information about the participants' manner, particularly if such information appeared to underscore the meaning of their words. Charmaz (2006) recommends that researchers code such fieldnotes at the same time as the interview transcript, because "revealing data resides in such observations" (p. 70).

Documents. Documents which pertained to point made during interviews, or that was relevant to emerging theory, were also gathered. Various Government, industry and workplace policy and procedural documents were studied, as well as documents originating from the participants, including work plans, designs, schedules and work diaries and personal reflections.

Memos and reflective journals. Researcher memos and reflective journals were also part of document study. The reflexive journal logs the field experience and any possible learning points regarding the research (Hicks & Williamson, 2012). According to Denscombe (1998), a reflective journal has three elements, namely a factual log of events that had occurred, a list of significant incidents and reflection of events and critical incidents (Punch, 2005). The documentation of events, incidents, and the participant's reflection will possibly indicate the level of their importance for the participants. Memos, focuses on "personal thoughts, speculations, feelings, problems, ideas, hunches, impressions and prejudices" (Bogdan & Biklen, 1992, p. 121). This self-reflection helps "clarify the bias the researcher brings to the study" (Creswell, 2009, p. 192).

Data Analysis

The researcher applied a set of data analysis strategies after data collection. An inductive data analysis process according to Miles and Huberman's three-step "interactive model" (1994, p. 12) was employed to constantly review, make sense of the data, and to organise it into categories and themes that cut across all data sources. The three processes are not only closely related but occur concurrently (Punch, 2009, p. 175). The constructionist approach was taken collaboratively and participants had a chance to shape the themes or abstraction that emerge from the

process "that accounts for the world they describe" (Flick, 2009, p. 173; Guba & Lincoln, 1989, p. 173; Silverman, 2006, p. 126). As such, the focus is neither on the researcher's meaning nor on those expressed by other researchers in the literature. The interpretations are influenced by the background, history, context and prior understanding of the researcher, participants, and readers, who will eventually be involved in interpretation of this study (Silverman, 2006).

Step 1: data reduction or coding. Data reduction is part of data analysis and occurs continually throughout the process. The objective of data reduction is two-fold. First, the researcher must ensure that in removing data, there is no loss of information quality. Second, the researcher must not strip data from its context. The researcher must be aware of data reduction that happens in three (3) stages of research. In the early stages, when data is edited, segmented, and summarised. In the middle stages, through coding, memoing, and related activities like finding themes, clusters, and patterns. In the last stage, data reduction happens through developing abstract concepts by the conceptualizing and explanation process.

The objective of step one (1) of data analysis was to simplify and organise the data from the transcripts into manageable components. Simplifying the data involved using a two-step coding process. At the first (1st) stage, descriptive coding, also known as first-level coding or low inference codes were used. Descriptive code summarised segments of data about the cases that were studied. At the second (2nd) stage of topic coding, also known as second-level coding, inference or pattern codes were used (Punch, 2009, pp. 175–176). The third (3rd) stage of coding was required to gather and regroup the topics to a meta-level.

Step 2: data display or memoing. Qualitative data is voluminous, bulky, and scattered. The researcher needs to use data display to organize, summarize, compress and assemble information at all stages of the analytic process (Miles & Huberman, 1994). Step two (2) therefore involved data display to map and consolidate second level topics onto a chart in a simplified outline. Miles and Huberman suggested that "better displays would help improve qualitative research" (1994, p. 11). They suggested different ways to display research data like graphs, charts, networks, diagrams of different types (e.g. Venn diagrams and causal models), as long as "it moves the analysis forward" (Punch, 2009, p. 175). This chart is a visual representation of how categories relate to one another and will assist in identifying emergent ideas and major themes in the research. Data display is important, because "they show what stage the analysis has reached, and they are the basis for further analysis" (Punch, 2009, p. 175). Major themes from each interview were consolidated into a new chart and thereafter validated.

Step 3: drawing & verifying. Data reduction (or coding) and data display (or memoing) helps in drawing conclusions. It seeks to establish themes from the analysis of each interview transcript and noting their similarities, differences and uniqueness

emerging from the cross case comparisons. Step three (3) seeks to offer propositions on these emerging themes. The aim of drawing conclusions is to integrate what will be done into a meaningful and coherent picture of the data (Punch, 2009, p. 175). In this study, conclusions are in the form of propositions.

Using ATLAS.TI as CAQDAS

This study followed Beazley's recommendation of the use of Computer Aided Qualitative Data Analysis Software (CAQDAS) for managing the entire project database (2002, 2007). This entailed having the literature reviews and its findings coded and annotated, together with the transcripts and its codes. The researcher explored this data during the literature review stage for potential categories and knowledge gaps to guide the research. These knowledge gaps and categories would then refine and enlighten the questioning process during the interviews. CAQDAS allows the researcher to crosscheck his findings with his literature and vice versa. This study used Atlas.ti qualitative software, a package designed to process large amounts of data, code original data sources, keep track of connections among codes and represent coding (Friese, 2012, 2014).

TRUSTWORTHINESS AND ETHICAL CONSIDERATIONS

Trustworthiness – This chapter conforms to the four criteria for trustworthiness in qualitative research, namely "credibility," "transferability," "dependability" and "conformability" (Lincoln & Guba, 1985, p. 300). They are the naturalist's equivalent for the conventional (quantitative) terms such as internal validity, external validity, reliability, and objectivity.

   Credibility –The credibility of this research comes from a prolonged engagement with the participants in the field, coupled with persistent observation and the triangulation of data collection methods, as recommended by Schofield (2002). According to Lincoln and Guba (1985), prolonged engagement "is the investment of sufficient time to achieve certain purposes like learning the culture, testing for misinformation introduced by distortions either of the self or of the respondents and building trust" (Lincoln & Guba, 1985, p. 301) and "to be certain that the context is thoroughly appreciated and understood" (Lincoln & Guba, 1985, p. 303). Credibility was also established through informal member checking with participants. Member checking is "the most crucial technique for establishing credibility" where "data, analytic categories, interpretations and conclusions are tested with members of those stake-holding groups from whom the data is collected" (Lincoln & Guba, 1985, p. 314). It also establishes meaningfulness of the findings and interpretations with the panel and help the researcher convince the readers and critics of the authenticity of the work, especially if there is an agreement from the participants on the credibility of the researcher's work (Lincoln & Guba, 1985, p. 314).

Transferability – This study sought transferability, rather than generalisability. For transferability, the researcher should "enable someone interested in making a transfer to reach a conclusion about whether transfer can be contemplated as a possibility" through the provision of "the widest possible range of information for inclusion in the thick description" through "purposeful sampling" (Lincoln & Guba, 1985, p. 316). In this study, trustworthiness was influenced by ensuring databases that facilitate the transfer of judgement with "purposeful sampling" and the use of a panel.

Dependability – An audit trail was maintained to facilitate and ensure the dependability or trustworthiness of the results. The audit trail was guided by Yin's Case Study Protocol (Yin, 2003, 2009, 2011, 2012) and Halpern's algorithm (Lincoln & Guba, 1985) which has "numerous payoffs in helping to systematize relate, cross-reference, and attach priorities to data that might otherwise have remained undifferentiated until the writing task is undertaken" (Lincoln & Guba, 1985, p. 319).

Confirmability – The audit trail ensured confirmability: the degree to which the data and interpretations of study are grounded firmly in the evidence collected from the participants, rather than the researcher's own imagination (Lincoln & Guba, 1985). The audit trail of all records was maintained to help 'track' the research process and to attest that the findings were reviewed from the participants' experiences and their understandings of the phenomenon under study. Help from associates who are Chartered Accountants to assist in executing the audit trail was secured and data triangulation also helped ensured confirmability (Lincoln & Guba, 1985).

Ethical Issues – This study conforms to and abides by the university's Human Rights and Ethics guidelines and requirements, including participant's expressions of interest and informed. All data protected the confidentiality, and anonymity of participants and their company. The whole experience with the research participants was one of integrity and respectfulness (Macfarlane, 2009, p. 63). Integrity as "respecting the intrinsic worth of each individual and their human dignity" and "respectfulness means a lot more than respecting the needs and interests of the individual but extends to the community, group, or family to which the person belongs" (Macfarlane, 2009, p. 69).

CONCLUSION

This chapter provides an overview of the conceptual framework, multiple case study design, and methods of data collection and analysis. It also described how trustworthiness and ethical considerations were addressed. The findings are presented in the next two chapters.

CASE STUDY FINDINGS

INTRODUCTION

This chapter presents the analytic findings of the three case studies, which are Case Study 1: Design Managers, Case Study: 2 Design Consultants and Case Study 3 Design Entrepreneurs. The case studies portray design leaders' experiences in transitioning to design leadership and management positions.

Each case study is structured into three segments; the profile of the design leader, their definition of design leadership, and a summary of their transition experience to design leadership and management positions. The case studies present the participants' lived experiences and illustrate the range of issues and complexities of leadership transition experiences in Singapore according to each group of design leaders. The case studies were constructed using extensive direct quotation from design leaders in order to present their voice. Direct quotation allowed participants to convey experiences in their own language, capturing personality, emotion and reflecting individual nuances. Where possible, all transcripts were verified by participants. The summary provides design leaders' intimate perspectives and detailed accounts of their responses to circumstances and events during their transition to design leadership and management positions. To achieve brevity, the participants' narrative accounts are condensed and a linking narrative provided. As such, these case studies provide an insider voice on the lived experience of design leaders, and contextualise the theory presented in the next chapter.

Table 9 shows relationship between the research questions and research gap according to the five levels of the case study approach recommended by Yin (2003, 2009). This framework informed the structure and procedural approach of the case studies.

It would be beneficial at this time to revisit the definition of design leaders, design leadership, and design management found in Chapter 1. Design leaders are individuals who find themselves in a position of leadership or who choose to lead in a design team or design organisation. They act as advocates, promoters, or interpreters that connect and support design expertise according to the company's agenda and competencies. Their role is to direct and control, eliminate uncertainties, deal with variances from the grand plan, understand the whole system, see its connections, foresee the responses of people and design and

Table 9. Research questions and research gap relationship

Level 1	Level 2	Level 3	Level 4	Level 5
Case Study				
Questions asked of specific participants or individuals	Questions asked of individual case, as part of the multiple case study	Questions asked of patterns of findings across multiple cases	Questions asked of the entire study	Questions about policy recommendations, going beyond the narrow scope of this study
Topic				
Transition to Design Leadership & Management Positions	Design Leadership Development Programmes	Managing Design Talents – Career Trajectory of Designers	Design Eco-system – Global Design Generalist or Chief Design Officer	Asian Design Hub – DesignSingapore Initiative
Question				
Transitions to design leadership positions: What does it mean to become a design leader in Singapore?	Design leadership development programmes: Why would Singapore need more designers?	Asia Pacific War for Talents: What is the impact on managing design talents in Singapore?	Global design generalists or Chief design officer: How would design leaders in Singapore perceive their future role to be?	How would design leaders gauge the success of Singapore's desire to be an Asian Design Hub?
Emphasis				
Design Leadership & Management Positions	Development programmes	War for Talents	Future roles	Success of Asia Design Hub
Focus (In one word)				
Transition	Leadership	Talents	Eco-system	Asian design hub
Design Leaders' Perspectives on				
Transitions	Design Leadership	Managing design talents	Design Ecosystem	Design Leaders
Context				
Singapore (Design Industry)	Singapore (Design Education)	Asia Pacific/ Singapore (Design Management)	Global/ Singapore	Asia Pacific/ Singapore (Design Policies)

Concerned with				
Design leadership & management positions	More designers	Career Trajectory	Design Generalists/ Design Ecosystem	Creative Industry Strategy/Applied Art Stream/Object Design
Persons/Roles				
Design leaders yesterday	Potential design leaders	Designers	Chief Design Officer	Design policy makers
Justification 1 (Rationale for Research)				
Little/No research done globally on design leadership transition (Research Gap)	No professional design leadership training programme, except WSQ programmes for lifelong learning	Failure of Design Education/ Need to understand how talents respond to circumstances	Increasing Project-based Work	Globalisation (International Information Age)/ Knowledge-based Economy (Transformative Change)
Justification 2 (Rationale for Research)				
Little/no research done in Singapore on design leaders (Research Gap)	Problems with middle-level design managers globally	Ad-Hoc Management of Designers (better design leadership)	Multiple Roles/ "Gate-keeping" Roles	Significance of the Creative Industry Development Strategy (CIDS)
Justification 3 (Rationale for Research)				
Scholars identified need for cross-disciplinary perspectives/ Qualitative Research (Research Gap)	Need for champions in design management academia/ Need for them to talk to practitioners	Need for Standardisation & Recognition of Professional Development	Relationship-based Intercultural sensitivities, overcome social & cultural disadvantage	Changing Definitions of Design

execute appropriate interventions. Design leadership is defined as having the aim of helping organisations envision the future and ensures that design is used to turn those visions into reality. Design management, on the other hand, focuses on the management and integration of assets, activities, resources, and processes to foster creativity and originality to create sensible solutions that achieve corporate objectives.

CASE 1: DESIGN MANAGERS

This segment explores the perspectives of those participants who were design managers regarding their transition to design leadership and management positions. As with all three case studies, Case Study 1 is organised into three sections: definitions of design leadership by the case study participants; transition experiences of the participants; and concerns of the participants regarding the transition to design leadership.

Profile of Design Managers

The term "design manager" was selected to reflect the job scope of this group of design leaders. Design managers are either Singaporeans or located in Singapore. Participants who are design managers are also design directors or senior directors of their respective design companies. The youngest design manager is in his mid-thirties and the oldest was about to retire when the interviews were conducted. Almost all have a basic degree in design; this is with the exception of one design manager who is a trained Architect but a practicing product and graphics designer, and another design manager who is a qualified accountant. All design managers work in the area of audio, computer, and consumer product design. This is with the exception of one design manager, who does primarily design promotions. Most design managers selected for this research work for multinational corporations; as such, they do not provide consultancy services to external parties, but only to their internal customers. Most design managers have vast experience in managing designers and their design teams. They also have complementary skills in managing a design business at some point in their career. Of the five participants, three design managers have experience with Singapore's design education scene. They have curriculum and assessment advisory appointments with higher education design institutions. All design managers interviewed have vast experience launching products for the international markets, which includes Japan, China, Korea, America, and Europe. Design managers are articulate in providing their feedback, eloquent in communicating their ideas, and persuasive in their arguments. Interviews with them were often tempered with their concern for the sustainable growth of Singapore's design industry.

How Design Managers Define Design Leadership

For design managers, design leadership is thought leadership. They define thought leadership as a thinking leadership that creates the future. The consensus is that design managers create the future by challenging existing paradigms, practices, and bias that their client or their organisation have. Participants emphasised that design leadership does not always relate directly to a leadership role. The following interview excerpt illustrates the typical view.

…I am referring more to having the ability to challenge the organisation, to challenge the client that you work with, to think (with them), to have the thought leadership and that is not necessarily translated to a position.

In their quest to achieve thought leadership, design managers find ways to establish practices that have no fixed paradigms, routines, or procedures. They also expect their potential leaders to be an inspiration to the design team by being consistently updated, and constantly keeping their thoughts and ideas fresh. Design managers are aware that thought leadership requires a lot of self-motivation and personal discipline.

So that you are continuously being seen as an inspiration to the rest of the team…and that will require a lot of self-motivation, to be updated, to keep the thoughts fresh.

To add, design managers expect potential design leaders to acquire international exposure, new experiences, and develop empathy. They do not see design talents in terms of their age, gender, or the countries that they come from. Design managers are more concerned with the fit that these design talents have with their company. They define this fit as meeting the industry's minimum expectations in skill-sets and maturity. More importantly, design managers feel that Singapore has been regimental, static, systematic, and mechanical in its past approaches in nurturing design. They want designers and design managers to put their emotions into their work in the form of empathy and recognition for the unspoken needs of their clients and customers.

In this regard, design managers and design consultants agreed that for one to become an efficient design leader, one needs to acquire and develop "soft power." They define soft power as the ability of design leaders to achieve their objectives without using force. Similarly, they defined "hard power" as being authoritarian, a common approach used in the military, and its archetype. Design managers feel that authoritarian leaders would require a different approach when managing a department or company in an industry where soft power is the general expectation or norm.

…soft power is the most important power for everything, so you apply (that) to design leadership, apply (that) to all kind of leadership …except when you are in the army …and that troubles me…

In the same light, design managers point to the similarity between design leadership and cultural leadership. According to design managers, cultural leadership provides a premium in terms of brand position in Singapore. Design managers are aware that both the cultural and design policies are linked and they recognised its potential benefit for design businesses in Singapore. They see the importance of cultural leadership and its role in supporting design leadership as shown in this quote:

…I think design is linked to…cultural leadership…so it is not just in the area of design that if we pushed, we would have a high standing.

Globalisation has brought about higher consumer expectations and discerning buying habits. This is due to pervasive technologies that allowed consumers to stay up-to-date with trends, consumer preferences, and perceptions. Participants urged for greater emphasis on developing cultural leadership as one design manager explained:

…businesses are changing, the world is changing, customers' habits are changing, and buying habits are changing. The consumption habits are changing, on the whole. Perception of the world is changing. "Savvies" of what's going around in the world is also changing…its key factors as to why we need to run along quick and leadership is important because of that.

Design managers recognise that cultural leadership is emotional. They recommend that potential design leaders develop empathy in order to serve their clients better.

We're not putting enough emotions into the way we do things in design, for the design industry.

Transition Experiences of Design Managers

Design managers agree that the transition to leadership starts by having the right fundamentals and practical hands-on experience as a designer first. The transition to leadership only begins when the designer makes up their mind to take on added responsibilities to prepare himself for design leadership roles. The potential design manager must then be prepared to both manage and educate people inside and outside of the design team. They must also accept that their new responsibilities may no longer be related to design. Design managers emphasise that leadership transition is ad hoc, and has no clear goals or objectives. They highlight that promotion to leadership positions depends largely on designers' potential, the opportunities that are available to them, and their capacity, inclination, and willingness for responsibility.

I don't have such (career) stages in my mind and there is no time-line (because) I don't believe in such time-lines. …It is more like the opportunities (that are available) and (the) readiness of the talents (to take on that added responsibility).

Design managers emphasise that leadership transition must be supported by grit, defined as a combination of passion and perseverance. They expect all design leaders to demonstrate this passion until the end of their design careers.

…going down the visionary path, it is a natural path, anyway. You got to have passion, you started out with passion, (and) you want to end with passion.

Design managers identified two distinct and divergent leadership paths for design leaders in Singapore. They recognise that leadership transition is a natural path for all designers, especially if they take on a strategic role. The strategic role starts naturally with the designer gradually enlarging their job scope to fulfil responsibilities in strategic design leadership. Potential design leaders are expected to think strategically, but limited to a product's identity, market, or product features. Upon becoming design leaders, they are expected to plan strategically for a range of products and the experience it creates for the users. Design leaders are generally expected to champion the use of design in all aspects of their organisation. Ironically, for many potential design leaders, this transition is so natural that they do not identify it as a promotion.

There is no transition actually. I see designers coming out from school working on design, moving onto management as a transition because …that's not what you went to school for.

The second leadership path deals mostly with operational issues in design. While design leaders in operational matters may have similar responsibilities to one placed in a strategic role, their priorities are mostly with the operational aspects of a business. According to design leaders, operations-based design work is both routine and predictable. These "operational" leaders tackle human resource, financial and accounts management, client relationship management, design studio management, and concept delivery concerns that are related to the strategic road maps. Design managers highlight that the "operational" leadership path is different as it involves managing people, not products, or strategy. As such, they consider the promotion to operational roles the "real" career transition as it draws the new leader away from products, experiences, features, and strategy.

Yeah, as opposed to "managing products" and then "managing people" and "managing a vision." So the "managing the people" is a step away from the design path.

Many design managers consider this a real transition as management skill sets are not taught in most design schools. As such, potential design leaders are most ill prepared for such roles.

In school, they don't teach you how to manage people. In Army, they do … in schools, they teach you how to think design, how to look at design, how to appreciate design, and how to do design.

Having dual roles in both the operational and strategic aspects of the design business is the reality for design managers and design consultants. While the job scope is broad, they admit that some design managers can handle both operational and strategic role well.

I'm not saying everybody is like that (unable to handle both roles). There are people who are potentially doing both (roles) relatively well but it's always hard.

The reality, however, is that design managers feel that strategic work takes up all of their time, leaving them with little opportunities to attend to operational matters. Design managers feel stretched to fulfil their roles effectively and find the current circumstances untenable.

> *So you see what I mean, it's actually very tough for an individual to manage people, manage operations at the same time think ahead, you know, and kind of explore, redefining approaches and processes.*

Design managers wish for distinct career pathways that recognise both the design experts' career as well as the design managers' career. For many design managers, this is still a sign that the design community is still immature and more time is needed to grow it. To add, design managers note that the design management path contributes at a higher level within organisations in Singapore. As a result, they are keen for better recognition of the expert career path. However, the greatest fear for design managers is for them to be promoted out of design and its related responsibilities. In this light, it is common to observe design leaders working closely with their design teams. As one design leader eloquently put it:

> *…because there is also the notion that once you go higher (into management), you will be detached from the actual doing part of it, that you start to change your pencil for a mouse.*

Concerns of Design Managers

Design managers highlight two areas of concern regarding design leadership transitions in Singapore. Design managers prefer ad hoc career transition, and they are concerned with the many mid-career switches into the Singapore design industry.

Similar to design career strategies adopted in America, design managers feel that an increasingly ad hoc career transition works better for them and their company's strategy. Many participants do not believe in a structured career path with a fixed promotional ladder. They find a fixed career strategy an unrealistic and impractical approach and do not offer them the opportunistic flexibility in achieving their management goals. In general, they highlight that the transition to design leadership depends on the alignment of three main considerations. First, the design talent must be ready to take on additional responsibilities over and beyond their current job scope. Second, the design talent must demonstrate the potential to be a leader. Third, career opportunities must be available within the company. These three considerations will differ slightly according to the nature of the company and the strategy that it adopts to become a market leader.

Similarly, design managers are concerned with the trading mindsets that come from the many mid-career switches into design in Singapore. While these new design leaders have benefited the design industry by bringing in bringing in their expertise in business and technology, design managers are most concerned with the trading

mindsets that these new leaders have. Having a trading mindset is the antibook of having a strategic mindset, which all design leaders and designers are expected to have. The trading mindset came from both the engineering and business paradigm. It is concerned with being fail-safe, survivalist or being risk-adverse, and focuses on being pragmatic, addressing areas like return-on-investments, maximizing resources, cost reductions, and sticking-with-existing-norms or protocol. Design leaders want to see a stronger strategic approach in design, risk-taking, entrepreneurship, and developing a creative-strategic outlook. They feel that the trading mindset is hurting the industry and eroding confidence. As one design leader puts it succinctly:

We have built a country based on economic efficiency and everything is being designed, created, (and) installed, for efficiency. Nothing wrong with that but we have passed that phase. So, the next phase is beyond efficiency.

CASE 2: DESIGN CONSULTANTS

The second case study explores the perspectives of design consultants regarding their transition to design leadership and management positions, following the same structure as the other two case studies.

Profile of Design Consultants

The term "design consultants" was chosen to reflect the consultative roles these design leaders play in providing design services. All design consultants are Singaporeans, with the exception of one who had relocated to Singapore. Most design leaders within this group are established design consultants with between 8 to 15 years of experience in the Singapore design industry. The youngest design consultant is in his early thirties and the oldest is in his early fifties. In general, they are younger than design managers are. All design consultants have the basic qualifications in design, which is either a diploma or a degree in design. Many in this group participate actively in adjunct teaching at local institutes of higher education for design. One design consultant has advisory roles in a local design institution. All design consultants provide design consultancies and have far-reaching influences. Several design consultants specifically focus on industrial design interests in East Asia, South East Asia, and European markets. As expected, all design consultants are males with the exception of one. All design consultants have experience in managing designers and a design team. Similarly, design consultants have vast experience in managing a design business in Singapore or Asia. The researcher noted that, of the various types of design leaders in Singapore, design consultants have the widest interest in design that includes design strategy, design research, innovation and patents creation, and education. Out of the five design consultants, one had moved their consultancy business to China, while another provided strategic design education for start-up companies in Singapore. Similarly, another design consultant

is conducting user-centred product research and another had started a restaurant, designing its unique identity, promotions, services, and food. Design consultants are frank and direct in providing their feedback, they provided clear analogies to support their arguments, and their arguments are intuitive and simple to understand. Design consultants furnished the conversations with many reflective insights. They are concerned with building relationship-based networks within the design community.

Definition of Design Leadership by Design Consultants

For many design consultants, design leadership is a personal challenge, as it requires them to have sustained cultivation and a continual quest for excellence. As they are already the leader of their own design business, design consultants and design entrepreneurs needed more motivation, deliberate effort, discipline, and self-directed learning. For them, design leadership means taking on additional knowledge and it could be in the form of postgraduate studies or professional development programmes. The final objective is for this knowledge to contribute back to their work and society. Very often, such sustained motivation requires hard work and requires of them much time for reflective thinking. It is not surprising that design consultants encourage potential design leaders to start their leadership journey early.

More importantly, design leadership for design consultants is about reinventing oneself continually. In this light design consultants, more than other design leaders, pride themselves on being "self-made" through continual self-improvement. For them, a true design leader is one who can make it through this journey alone and without the guidance of a coach or mentor.

> *When you say that "successfully transited to become a design leader," I would say that…you can do that without the presence of a higher leader or another leader around; that you can do that on your own means you have successfully transitioned, I think.*

It is not surprising then that design consultants tend to favour access to the latest books, magazines, and research articles in their search for trends, consumer insights, and unmet customer needs.

Most design consultants said that leadership transition required a major mindset change. For them, they have never thought of becoming design leaders as they are constantly caught up "in the flow" of being a designer.

> *I started wanting to be a designer, not really a design leader, so just to let it go took a long time. Even today, I still need to step in once in a while (to design with my designers).*

"Flow" is an all-consuming, immersive experience where design consultants become deeply involved in the product creation process. Often, design consultants can be found working very closely with their industrial design teams on a product's aesthetic or language, and its unique features. This is despite the fact that design consultants are

aware that they are also responsible for fulfilling the company's strategic vision and its operational success. This self-awareness is reflected in this excerpt:

But I think honestly that it wasn't even so obvious to me at the point when I had reached this critical juncture. So maybe, in my own experience with my own personal (business), I was too much focused on the creativity side, the fun side of design and maybe not always looking at the bigger picture.

Transition Experiences of Design Consultants

For most design leaders the transition to leadership is a natural process, but this is more so for design consultants and design entrepreneurs. For them, being a design leader involves a gradual enlargement of their role as a designer to that of a design leader. The focus changes from that of product aesthetics or features, to one that emphasises strategic vision and forward planning for a department, or a company. Increasingly the norm, many graduates from university studies are making this transition to leadership positions. For design leaders, there is no indication that this transition process is forced, artificial, or unnatural as is shown in this excerpt:

For my case as I mentioned earlier, it is like not so much of a transition ... when I started, it was just one year of apprenticeship overseas, and when I came back ...the only managers I have were actually my customers and not anyone else.

For design consultants, the transition to leadership is a journey of personal excellence, which is deliberate and required a lot of motivation. For some, this journey may have a clear beginning; however, this may not be so for all design consultants. Most, however, agree that this journey is personal and that it does not end.

Yeah, it is still you…back to your own individual (talent) and it is your own journey and there is no end, no start. To me, I don't think there is (a beginning or an ending).

Interestingly, design consultants believe in the experiences that come from studio practice, or a practice-based leadership. They insist that the transition to leadership revolves around the management of the design team, the design studio, and the development of the studio's unique culture. For design consultants, they value the multiple daily interactions with the design team, its administrative staff, its project vendors, and suppliers. This focus on relationships featured strongly in a design consultant's leadership transition to leadership development. Not surprisingly, design consultants value the ability to communicate at all levels. This is especially so with their client, their most valuable asset.

…I feel that all this has to come from practice – (being) hands-on. …I try to introduce them and let them take on these (kinds of) customers…slowly.

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I would always be with them in the beginning, so I think that is one way to slowly learn and speak to different people.

The difficulty of the design consultant's task is underscored by the fact that they are the leader of a very small team of about three to five designers. Naturally, they would have to oversee both the operational and strategic aspect of their projects and company simultaneously.

Concerns of Design Consultants

Design consultants highlight two areas of concern, it is the awareness of the roles of design leaders, and how the roles of design leaders are shared within a design consultancy. Regarding the awareness of the roles of design leaders, design managers and design consultants feel that design schools in Singapore generally do not teach designers about design leadership. They feel that more could be done in the area of sharing about management transitions so that awareness is created about its strategic and operational duality. For design consultants and design managers, they view this transition to operational role, which can be people-oriented or resource-oriented, as extremely significant for designers. For them, this is where the real transition to leadership and management position happens (also see page 81).

A majority of participants have undergone military training in Singapore, and they contrasted their experience in school with their experience in the military. Design leaders generally feel that schools have not prepared them enough for any design leadership role. Ironically, some feel that the army has taught them much about managing people. This is contrasted with the opinion of other design leaders who feel that an authoritarian approach is generally not beneficial for managing creative staff.

In school, they don't teach you how to manage people. In Army, they do.

What is unique to design consultants is the sharing of leadership roles with their senior design staff within the design studio. While design consultancy teams may be small, the fundamental design functions are still expected of all consultancies regardless of their size. The sharing of leadership roles provides unique opportunities for senior design staff to lead the team operationally and tactically. It also allows the design consultant to explore the strategic leadership and broader needs of his company while still maintaining some form of control over the quality of deliverables to the client.

And (as for) the leadership, I actually use a system to spread it among the two senior staff so they are (shouldering) part of the leadership role. So I am not saddled with a job where "I just sit here and do paperwork and work on the calculator," I still feel that I am productive and contributing (to the team). At the same time, I don't neglect the leadership within the company and that seems to work out fine.

CASE 3: DESIGN ENTREPRENEURS

The third segment explores the perspectives of design consultants regarding their transition to design leadership and management positions, following the same structure as the other two case studies.

Profile of Design Entrepreneurs

The term "design entrepreneurs" was chosen for this group due to the entrepreneur type activities that they often engage in. All design entrepreneurs are Singaporeans and had taken a either a diploma or degree in engineering as part of their basic education in Singapore. Like design managers, this group is predominantly male and this could be attributed to their engineering educational background. Most, if not all, had mid-career switches from engineering into the design industry. A number of them had taken postgraduate education like an MBA qualification to expand their understanding on running a business. Many of these design entrepreneurs had branched into providing design consultancy services, however their focus is more likely to be in the areas of product development rather than industrial design. They are also more likely to embark on cutting-edge technology project work, to patent their ideas or register their designs. Many within this group have already produced globally recognised products. To add, they have tackled projects like luxury product design, global consumer electronics, medical product design, and new product development for start-ups. One participant is an adjunct at a higher educational institution for design. The others do not actively engage in providing advice on academic committees in institutes of higher learning with design. Many design entrepreneurs like to work with fresh design talents. They are actively engaged with design institutions to collaborate on design projects. Three of the design entrepreneurs have their own start-ups and run their own business. The other two work for multinational corporations, one German and the other American. All design entrepreneurs have established experience in managing designers and design teams with the exception of one who prefers to engage professional design services provided by reputable design consultants internationally. The design entrepreneurs are generally more reserved than the other types of design leaders and it took more effort to 'break the ice' with them during the interview. However, their observations are clear and their feedback precise. They are also more concerned with developing solutions and skills that lead to unique and innovative products for Singapore's creative industries.

Definition of Design Leadership by Design Entrepreneurs

According to design entrepreneurs, design leadership is a process to develop their ability to differentiate and to create unique opportunities for themselves. As such, design entrepreneurs want to be different and they refuse to follow the crowd.

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Design entrepreneurs are competitive and they are always striving to be ahead of themselves and their competitors. They are independent thinkers and they are motivated by the fear of uniformity. Like design consultants, they want to build on their own successes and to continually reinvent themselves. Upon achieving this success, they want to 'keep ahead' by being better than what their competitors are. Like all design leaders, design entrepreneurs believe that the desire to become a design leader is natural.

For design entrepreneurs, differentiation and creating unique opportunities must be coupled with the ability to think differently. Thus, design leadership for them is not about conforming to work requirements, but developing unique personalities.

> *I think this is not just a job but (it is about) personalities. They must have this sort of (independent and unique) thinking by themselves. Thinking (in this case) means that you (will) need to look beyond the job scope, because creativity is difficult to be guided by your supervisor. ...Otherwise, they would have some problem, one way, or another, to do their job well.*

Not surprisingly, design entrepreneurs look for characteristics such as creativity, independent thinking, and the ability to come up with unique solutions intuitively when selecting potential design leaders. For design entrepreneurs, potential design leaders must look beyond their pre-defined job scope. If not, design talents will have problems meeting the unmet needs of design entrepreneurs' customers.

Transition Experiences of Design Entrepreneurs

According to design entrepreneurs, design leadership transition means developing the ability to be on a constant lookout for design talents to hire them. For them this happens naturally, as it determines the survival of their company. Design entrepreneurs are generally bosses of small start-ups and they have a team of not more than five people. The team would normally consist of several interns, designers, and engineers. There is a shared agreement that having a constant supply of experienced talents is crucial for their small business. They are naturally concerned with Singapore's design industry, which they say does not have enough opportunities for young designers.

> *But the whole environment now does not really support a young (under) graduate to have enough experience to become a good designer. So if this is the case, then the leadership might have a problem of getting that (enough experienced undergraduates).*

Design entrepreneurs are constantly on a talent lookout due to their new product creation ambitions. They require designers to have an expanded job scope that encompasses design, administrative and strategic business elements. Design entrepreneurs often do not provide training as they believe this expanded job scope

and intensive studio practice environment provides the crucible in tempering a resilient and multidisciplinary design leader. Like design consultants, they are strong advocates of a studio-based practice and a master-apprentice approach in developing design leaders.

In light of the above considerations, design entrepreneurs, more than the other design leaders, place a strong emphasis on teamwork within the company and a strong design ecosystem in Singapore. For them, this network of design support services enables them to provide their design services globally. Design leadership for design entrepreneurs requires developing the expertise and connection to assemble and disassemble a team according to their project requirements or company's needs. Design entrepreneurs see fine dining as the perfect example, where the most prominent leader of the kitchen is the chef. To achieve the high level of service that he or she has planned for their customers at the restaurant, the chef will need the teamwork, motivation, and expertise of all kitchen staff. Design entrepreneurs draw the same parallels with managing a design studio or a design team.

More significant for design entrepreneurs in their transition experience is the cultivation of a personal design DNA. For design entrepreneurs, design DNA is defined as the quest to experiment and develop a signature style that creates a difference or surprise. Design DNA can also be defined as the integration of a company's signature style.

> *The branding…Yeah, people cannot compare you with your competitors because that becomes your DNA, it is unique to you.*

It can also be the artisan's personal, cultural, or philosophical approach in the use of materials and techniques to achieve a desired outcome, normally an object of desire. This form of branding sells consumers a story that they can relate intimately. It elevates the status of the designer or design leader and allows them to predict consumer behaviour.

Design DNA is highly valued such that students graduating from established design schools or famous design consultancies are recognised as having part of the design school's or company's DNA. These famous design schools or companies have a global reputation for producing excellent designers. This in turn creates confidence in the institutions or companies for having practices and processes that facilitate creativity and innovation. This shows that design DNA, while not taught in most design schools can be learned.

> *…if we look for candidates that we want to hire, we typically look at a few select institutions or companies that they come from where we know that they've been trained properly. We have a certain level of confidence…*

Most significantly, design entrepreneurs believe that a designer only becomes a leader when there is a strong desire to be one. This desire must come with the right opportunity that would allow the designer to be promoted to a leadership

position. Design leaders take the view that training alone does not produce design leaders, especially if they have no desire or opportunity to become a design leader.

> *…can be quite difficult because I think not everyone make (it) into a leader (leadership position). Learning and training is one thing, whether the person who wants to be in that position is another thing.*

Concerns of Design Entrepreneurs

Concerns over design leadership transition for design entrepreneurs and design consultants are similar. For both it is a challenge, as it requires more self-directed learning, motivation, and effort. However, design leadership transition for design entrepreneurs is more challenging for three reasons. First, like design consultants, they are already the leader of their design business, but unlike design consultants, design entrepreneurs are more likely to have smaller three men design teams. Second, design entrepreneurs are also more likely to be widely connected with other community, besides the design community, than design consultants are. Third, design entrepreneurs are more likely to have postgraduate qualification in business or engineering when compared with design consultants. In this respect, design entrepreneurs need a higher level of motivation and drive to achieve leadership status within the design community.

OVERARCHING THEMES FROM THE CASE STUDIES

This research data was managed using Atlas.ti Computer Assisted Qualitative Data Analysis Software (CAQDAS). In the interview phase, memos were written right after each interview to capture every design leaders' responses. Similarly, memos were written during the coding phase in a research journal, as well as within the CAQDAS, to capture thoughts and reflections on the data. These memos, together with the codes assigned during data analysis, enabled the consolidation of interviewees' reactions to the aide memoire and the environment. In the process, the researcher was also able to reflect on and document this approach as the interviews progressed.

In coding for definitions provided by Design leaders, two overarching themes emerged. The first is the definition of what design is. The second is the perspectives of design leaders on the design profession in Singapore.

Definitions Used by Design Leaders

Definition of design.   From the review of literature, it was noted that the definition of design is ephemeral and that there are many diverse definitions. As such, there is no conclusive definition of what design really is. According to design leaders, the

definition of design in Singapore is too traditional, so much so that it limits the range of possible outcomes for the ecosystem.

> *I think it is a better understanding of what design is supposed to do. I think that is very important. So right now, I think they are still defining (it) in a very traditional manner and that is why our expectations and KPI is based on that. That limits (the range of possible outcomes within the ecosystem).*

Ironically, some design leaders felt the definition of design in Singapore is unclear, too broad, diluted, and somewhat misaligned. Design leaders are especially confused over the definition of industrial design, which now includes photography.

> *…but in terms of product design, it is still not really clearly defined. (This is) because when you do Architecture, it still comes with a product, even fashion is still a product, but now, they go into photography. I don't know how to classify it.*

Design leaders pointed to the need for a better understanding or a completely new definition of what design is, as emerging definitions now include design research.

> *There is no new definition (now) but we need new definitions. Our areas are, maybe early. I am not sure. I am not a policy maker but on the surface intuitively, maybe design and research could be our new forte.*

Definition of design leadership.   In general, design leaders view design leadership as an extension of general leadership and management. They easily relate to general management theories and how it applies to their practice. They see the distinction between general leadership and design leadership as being the focus on the complex appreciation, understanding, and use of design thinking and its processes. Design leaders are experts in the application and influence of the design and research process on product design within an organisation (Bonollo & Hoyos, 2014). This is seen in design leaders' abilities to manage a design team to achieve the desired product or service outcomes.

Of significant interest is how design leaders define design leadership as having two very distinct roles. According to them, a design leader takes on a strategic or visionary role and a design manager takes on an operational or tactical role. They believe it is a more natural transition to go from a designer role to a design leader that has a strategic and visionary design leadership role. Both designers and design leaders manage products but at different levels and scope. As such, both designers and design leaders are already playing a strategic role within an organisation in the formulation, planning, design, development, and execution of a product or service for a specific market.

Design managers are seen as having a more distinct and difficult path to leadership. This is because they transit from being a designer who manages a product to someone who manages the client account, finances, and human resources on a daily basis, which is more of an operational and tactical role. As such, design managers have to

be specifically trained to take on operational and tactical responsibilities as this was never part of their fundamental design education.

> *…because somewhere along the line you made up your mind and say, well I want to go into managing people. I want to go into managing the team, I want to go into managing the people outside the team, to help them understand design, educate other people in design. And not so much doing it or defining it or redefining it, for example. So to me, the management path is more a (career) transition.*

Design leaders' advice to young designers is to reflect on their specific strengths and unique capabilities to further strengthen their strategic and visionary capabilities. Over and above that, young designers ought to be familiar with the operational and tactical aspects of the design business especially if they are planning to have a larger role within the organisation.

Most significantly, design leaders expressed concerns that both visionary and operational roles are increasingly being blurred within organisations. They think that the merging of these two distinct roles is due to the lack of understanding of design leadership and the role it plays within organisations. Design leaders point to the detrimental effects the integration of these two roles have on the performance of current design leaders and their ability to perform adequately in a competitive environment.

According to design leaders, there is no difference in the definition of design leadership between the East and the West. However, they expressed the need to study what it means to be a design leader in Singapore.

> *Talking about Singapore, to be a design leader, if there were some time (spent) to capture what is it exactly that we need, and what our capabilities are.*

For design leaders in Singapore, designers transit from a narrow, operational, or creative-only design job scope to one with a broader, strategic, or enlarged job scope, when they become design leaders. This enlargement in design job scope requires multidisciplinary skills that interact with business and manufacturing, where an understanding of the whole product creation process is expected of a design leader.

> *A design leader has to transition from that particular aspect or focus into a broader focus…what you are designing for …for whom your designing for … are interfacing with a lot of different disciplines that are involved in the whole product creation process.*

It is generally agreed that, as a design leader, one has to "step away" from the pure creative focus and process to the broader focus of what it takes to take an idea from this initial ideation phase into production and into the market. As such, a design leader is someone who has to spearhead, oversee, and manage the full design process, within the context of a design strategy. This process would include more real

world constraints and issues than what a normal designer has to deal with on a daily basis. Some design leaders associate design leadership with elements of military leadership, especially in its strategic initiatives, as one participant explained:

If you can marry these two, then this is what design leadership is (all) about… military leadership come from the sense of being able to blend, being able to strategise, and in a very different sort of context…

Analogies and Examples

Interviewing design leaders was a delightful experience as they use many analogies to make their ideas easy to understand. As Singapore has a rather strong food culture, analogies related to food featured rather predominantly in the conversations.

Analogy 1: Celebrity chefs and cookbooks. According to one participant, designers are like celebrity chefs. They take common ingredients but are able to create a unique dish. Designers, like artists, are seen to be passionate about their work and can be very attached to their ideas and creations.

…It is just like cooking. To me, cooking is no different from design. The (celebrity) chef is no different from (professional) designers. We are working with (common) ingredients and there is a lot of attachment (passion) to it (the idea/work/craft).

Similarly, designers need to know their cookbooks (craft) by familiarising themselves with their objectives and processes. They are expected to know the fundamentals related to their materials (ingredients), technology (preparation methods), and processes (cooking styles).

…and it is very simple, if you want to cook something, you must know what you want to cook, and then you look for the ingredients, right? Otherwise, what taste or what kind of food (will we end up with), we don't know. So there must (be) a target in that sense…"Oh, I want to cook chicken rice," for instance. Then, you must look for a chicken and other thing to go with it. That is it, you have a chicken rice dish…because it is similar to being a designer, and you must have an objective.

Analogy 2: Durian trees and durian fruits. Another analogy used by the design leaders was that of the durian tree and its fruits. The durian tree and fruits are related to the designer and his works. The durian fruit analogy demonstrates the time needed for the durian tree to mature and produce their first batch of fragrant fruit, which is about ten years. Plucking the fruits shows a lack of understanding of harvesting the fruit, which naturally drops to the ground when ripe. Similarly, to consume its fruits early shows a lack of appreciation and taste. It demonstrates a lack of knowledge of the true potential of the fruit (in this case designer). Design leaders use this analogy

to describe the impact of the design industry expecting quick results. This is a common practice by many project managers not acquainted with industrial design, made worse by the recent push for invention, innovation, and patents.

(First), I (will) use an analogy to describe this…all these new designers are…like durian trees, (they) take 10 years before (they) fruit. So if you don't understand durian, you'll think when it is young (and when it fruits before its time), maybe 2–3 years (old) …you go and pluck it and say this (fruit) is so crappy. So, it is the same thing…like (when) you hire any new graduates and then expect so much from (them)…you have made a mistake.

The durian analogy continues with the negative experience of consuming the young unripe flavourless fruit and thinking that it is normal. Participants believe there is a mismatch of expectations as to the value of young designers and their works. This happens when companies engage young designers to create new products. The companies who are not familiar with industrial design and its practices can often misunderstand the works of this young designer, thinking that professionals produce the same quality of work. The bigger issue being highlighted here is that the whole design ecosystem (plantation) is deemed incomplete (unripe) due to these widespread practices that need addressing. The following comment exemplifies the common view:

Second, you'll have a different opinion and impression (from eating young durians). So, when somebody tells you durian is very, very nice to eat, then you can't understand why people pay so much for durians – because you have been plucking the wrong durians all this time…the design industry is in this state – the whole ecosystem is (incomplete).

The Spirit of Design Requires Authenticity and Empathy

The design leaders are particularly concerned with authenticity and empathy. That is reflected in their quest for appropriateness and sense making. They prefer to grow the design industry organically, with a strong focus on community and inclusiveness. They are against artificially growing the design industry, especially in areas that will not thrive if continuous funding is not provided. Similarly, the design leaders want to see funding benefits trickle down to the larger design industry and community. The vast majority of participants pointed out that there is a need for greater awareness of the spirit and nuances of various visual art forms, in this case between graffiti and mural drawings. As one explained:

For example we say we want to allow graffiti art to happen in Singapore, so that there is more buzz. We build a wall and tell people "you can go paint on that wall. That is not graffiti. That is not in the spirit of graffiti, that's called… mural.

PERSPECTIVES OF DESIGN LEADERS ON THE DESIGN
PROFESSION IN SINGAPORE

Design as a Profession That Is Not Limited by Geographic Boundaries

Most designers generally assume that their influence is limited to the company or
the market that their product is launched. Design leaders however, are aware that
their potential can shape design and views within a region. This shows the growing
importance and influence design has in Singapore and Asia in general.

> *Yeah, being a design leader he needs to be able to funnel, channel, and shape
> the design energy within the region to achieve something useful because design
> is a profession.*

Professional Designers Are Now Recognised for Management Positions

There is shared agreement that the industrial design community has always consisted
of a small group of design professionals and that, until recently, most within this group
were design academics, design consultants, or worked as design managers/directors in
multinational corporations with design departments in Singapore. Participants explained
there is also an increasing influx of entrepreneurial talents due to mid-career switches
from business but mostly from manufacturing due to the migration of companies to
China. The opening of management pathways for designers is considered a positive
development for introducing design strategies into management and planning.

> *Singapore workers (designers) are treated as professionals, only now are they
> …headhunted for management posts.*

> *I think what we also have to keep in mind that product/ industrial design is
> still a little bit of an anomaly in today's business world in the sense that it is a
> relatively small field of professionals.*

Design as an Industry and Community Needs More Professionalism

Design leaders have the closest interaction with many designers within and across
design specialisations. Often, they would make comparisons of different skill sets and
practices that could benefit different aspects of each specialisation. Design leaders
feel a need to develop professionalism, especially for designers in their dealings with
one another. They look to the architecture profession as exemplars, citing established
undergraduate programmes and continual professional development supported by
the architecture industry.

> *I mean, look at architects, the architects have a much higher level of respect. In
> addition, I think it is the way they are trained (at degree level), and accreditation
> (professional development) plays a role in this. In some way and in the way*

they act towards each other, which is much more mature and professional than what I have encountered with product designers. Unfortunately, this is sad to say as a product designer myself that we are not at the same level. Therefore, we have to move beyond that.

Design Education Had Helped, but Designer "Behaviour" Needs Work

For design leaders, design education has done fairly well in training designers in Singapore, and providing them with an international perspective. However, they see more work ahead, especially in the area of character development specific to the design and service industry. They define this as a combination of worldly behaviour, outlook, understanding, and paradigm. They believe these aspects are not covered in its entirety by current design curriculum at local design institutes.

…our education do arm us fairly well, contrary to the earlier criticisms, we are armed with the relevant language skills. To a certain extent, we are quite worldly in our work. We may not be worldly in our behaviour but we are worldly in our outlook, our understanding, and yeah, our paradigm.

Leadership Development Is a Form of Professional Development

Design leaders espouse life-long learning, continuous upgrading, and professional development. They see the transition to leadership as a natural process and expect designers to develop a strategic mindset with experiences gleaned on-the-job. Professional development is vital to help designers stay relevant; it will also benefit the careers of future designers who plan to become leaders.

So leadership is important in those aspects. It's a form of professionalising themselves or ourselves in (our) organisation.

Design Industry Needs Better and More Diverse Talents

Singapore's survival has always depended on putting its best talents into its engines of growth. According to design leaders, for design to kick-start, thrive, and become the future engine of growth for Singapore, the focus should be on design education that prepares design talents to enter the cultural and creative industries.

Then if the design field gets less quality input into its training programme you would have less quality output versus the other industry. I don't see an upward progression; I see a downward (spiral)…

Design leaders generally feel that design educators are outdated and as such, unsuited to teach them. Design leaders also highlight the dissonances between the MNC work cultures, with the local design education culture. Regarding continuing education and professional development, design leaders debated the

difference between accreditation and accomplishments. They also debated the need for standards and standardization. Design leaders provided an outline of career trajectories of designers in MNCs as well as design consultancies. They highlight four problems with the war for talents, namely manpower, career, manufacturing, and hiring. Design leaders provided reasons on why careers are hindered. There are some indications that a new leadership style (Altrocentric leadership) is emerging, and the current focus on transformative and authentic leadership is helpful. This is due to design's concern for appropriateness and sensibilities. Design leaders highlighted the concerns with Pinkerton syndrome at all levels of the industry. There were also some concerns about the trading mindset of some design leaders.

Singapore's Design Profession Is New, Definitions Are Helpful

According to the design leaders, Singapore's creative industry has great and untapped potential. They see Singapore's creative industry still growing for many more years, especially in the light of Singapore being situated in the crossroads between China and India. Many are proud of Singapore's achievements, especially how it has positioned itself as a major player in increasingly crowded creative industries of the world. They believe that, while design is beginning to take hold in more established local companies; an agreed definition of design leadership would help accelerate and make it accessible to mid-and-smaller companies in Singapore.

> *…and i think specific to design; it is still a very early profession, in that it is very hard to give a measure of what really defines a design leader.*

CONCLUSION

This chapter presented the analytic findings of the three case studies on design leaders' experience in transitioning to design leadership positions. It then presented the emergent themes from the overall multiple case study in two parts; the definitions of design used by design leaders and, the perspectives of design leaders on the design profession in Singapore. There are five key findings. First, Singapore's globalisation strategies have benefited the design industry, and it is now more mature and no longer limited by geographical boundaries. Second, the expanding design industry has enabled designers to increasingly take on management positions. Third, job scope for designers has expanded and it now involves both design and management; as such, designers need better professionalism and work behaviours to cope. Fourth, design leaders are themselves role models in continuous improvement and lifelong learning and they see leadership development as an extension of professional development. Fifth, the design industry requires better and more diverse design talents. Most significantly, design leaders defined the spirit of design as being authentic and having empathy. The next chapter presents an overview of the findings of this according to the research questions and the five levels of the multiple case studies.

CHAPTER 6

OVERVIEW OF FINDINGS

INTRODUCTION

This chapter presents an overview of findings from the qualitative data analysis according to the research questions. The aim of this overview is not to provide answers to the research questions, but to provide a voice for design leaders' experiences in transitioning to design leadership and management positions in Singapore and to generate theory on this phenomenon.

FINDINGS ON DESIGN LEADERS

Design Managers

Design managers are articulate, eloquent, and persuasive in their arguments during the interviews. Their feedback is often tempered with concern for the sustainable growth of Singapore's design industry. Design managers define design leadership as thought leadership that is cultivated through exposure, experience, and empathy. For them, design leadership is all about the soft power of persuasion and subtle influences. Design leaders see many similarities between design leadership and cultural leadership. They highlighted the development of a core Singaporean culture as further refinement of the currently globally influential Singapore branding. The transition to leadership and management for design managers starts when one, as a designer had decided on a leadership path. Potential leaders must continually support their transition with passion and perseverance in developing their outlook and their skills. For design managers, this transition to leadership is mostly ad-hoc and has no clear processes. It depends on the designers' potential, the opportunities available to them, and their readiness to take on additional responsibilities. Design managers, more so than the others, are concerned with their dual responsibilities in operational and strategic matters. They expressed a hope that these roles could be specialised along parallel paths as they are more than what one person can handle. Similarly, design managers are concerned with being promoted out of design. They highlighted that the real transition to leadership happens when a potential leader is assigned operational roles in managing people, finance, and resources.

Design Consultants

Design consultants are frank and direct. They provide clear analogies to support their arguments, which are intuitive and simple to understand. Design consultants

furnished many reflective insights and are concerned with building a relationship-based network within the design community. Design consultants define design leadership as requiring deliberate effort, disciplined self-directed learning, sustained personal cultivation, and a continual quest for excellence. Most design consultants consider themselves self-made; this is because they are constantly reinventing themselves. For design consultants, more so than the other design leaders, this transition to leadership involves a major mindset shift. This is because design consultants see themselves as designers and enjoy the process of designing such that they lose themselves in it. It is only until this reaches a critical point do they attend to business exigencies. For design consultants, much like design managers, this transition to design leadership and management position is a very natural process. For design consultants, this journey is highly mysterious as it has no beginning and no end. What matters most for design consultants is that this transition journey focuses on developing studio practices and the management of the studio culture within their company.

Design Entrepreneurs

Design entrepreneurs are generally more reserved than the other two groups of design leaders. It took more effort and time to break the ice with them for the interviews. In responding, their answers are precise and succinct. Often, probing questions are required to flesh out a subject and to explore the intentions of their feedback. Design entrepreneurs are more concerned with developing solutions and skills that lead to unique and innovative products for Singapore's creative industry. For design entrepreneurs, refusing to follow the crowd and the ability to think differently is what sets a person apart in becoming a design leader. They see design leaders constantly on a lookout to hire experienced design talents. Design entrepreneurs value teamwork, as they believe that design leadership exists as an ecosystem. More importantly, design entrepreneurs and design consultants see cultivating of design DNA as vital to their design leadership transition. They define design DNA as the integration of a company's branding with its consumer experience strategy. The most significant point for design entrepreneurs is that the transition to leadership begins with a strong desire to be a leader. This desire must be coupled with available opportunities to facilitate this transition process. For design entrepreneurs, training alone does not produce design leaders especially if they have no desire to become one.

LEVEL 1 FINDINGS: DESIGN LEADERSHIP TRANSITION (DLT)

Level 1.1 DLT Meaning

In-depth understanding of designers' and design leaders' roles. Design leaders emphasised that becoming a leader requires an in-depth understanding of the roles of

both designers and design leaders, which are strategic in nature. Designers in transition must have also internalised these roles and demonstrate their understanding through their design projects. Design leaders consider the transition to design leadership (strategic) position a natural career pathway and a highly desirable career transition for all designers. This is because the role of the designer and that of the design leader (strategic) is one that looks after a customers' experience with a product, albeit, in the case of the designer, this role is limited to the creation of a new visual language for a product or a family of products. Design leadership transition in its strategic approach is contrasted with becoming a design manager, often considered an operational approach, which design leaders say is where the real transition to design leadership happens.

Young design leaders increasingly promoted out of design. Designers making the transition to design leadership positions are strongly encouraged to keep an open mind in the transition phase of their career. This is especially so for young design leaders within small design consultancies and Small and Medium Enterprises (SMEs). Increasingly, these design leaders are being promoted to design management (operational) positions instead of design leadership (strategic) positions. As such, they may have to settle for roles that may not be related to design, and to undertake responsibilities that they are not skilled for. These roles and responsibilities include payroll (finances), talent management (human resources), studio culture, and client and business management. One reason is that smaller companies are still formulating an understanding of design and its business strategy. To add, the competitive environment often requires design leaders to play both an integrated (strategic and operational) role in smaller companies.

Blurring leadership roles and responsibilities. Design leaders report that they are increasingly expected to take on responsibilities that span both their visionary and operational roles. This is especially so with design leaders found within Multinational Corporations (MNCs). While some design leaders had reported some success in adapting to these blurring role boundaries, most design leaders pointed to the difficulty of managing both roles simultaneously as they often require very contrasting capabilities. Design leaders hope that the design industry would have a better understanding of design leadership. They also want both strategic and operational design leadership roles to unfold and develop more independently in the near future.

Change from trading mindset to design mindset. According to design leaders, the trading mindset is a way of thinking and working in many companies that focuses on seeking out opportunities for a profit often as a broker of deals between manufacturers and channels, as these companies have little or none of these capabilities themselves. It is a pragmatic and survivalist way of thinking that came about due to Singapore's

entrepot position to the world. In the design industry, a trading mindset means a legacy work pattern influenced largely by engineering and manufacturing companies (mostly from Korea and China) that focuses purely on very short production cycles, the aesthetics and styling of a product for a new market niche, without any considerations for product innovation or customers' expectation or experience. The trading mindset is tactical and it focuses on the immediate needs of the business, as contrasted with a design mindset which is strategic and more holistic in its approach.

Level 1.2 DLT Strategies

Self-cultivation and personal excellence in a life-long quest. The transition to design leadership and management positions is often related to having a dialogue or a conversation between two people. This leadership transition process varies from company to company and is as different as the design leaders overseeing this process. Sometimes, its sharpness, vigour, and intensity turn this conversation into an intellectual sparring match between two design experts. More often, it requires humility from both parties as there is much they can learn from one another. Design leaders emphasised that design leadership transition have a beginning, which is when a designer is fully awaken to the idea of self-cultivation and personal excellence. However, design leaders do not see this process having an end, as design leadership is often viewed as a life-long quest.

Level 1.3 DLT Importance

Leadership develop opportunities, relationships, skills & mindsets. Four reasons were given according to their level of importance for becoming design leaders. First, design leaders enable a company to create new opportunities and strategies to meet unique business and market needs in a competitive environment. Second, design leaders develop people and relationships within a company that makes it conducive for an empathic approach to problem solving. Third, design leaders establish skills and capabilities that keep the company competitive. Fourth and last, design leaders mould mindsets that enable the creation of a common vision for the company. All design leaders expects potential design leaders to have strong design fundamentals as an indication that they are ready to lead within the industry. The following excerpt tells of the bad experience a design entrepreneur had in the hiring a local designer without the right fundamentals.

> *…I have personal experiences with (foreign) designers …they already know how to do it. Whereas the processes that we are doing …we are still fiddling with it, trying to find a way out in the dark.*

In this light, design leaders want their apprentice to shadow them and to learn on-the-job through keen observations, active interactions, and frequent discourse.

Level 1.4 DLT Outcomes

Develop a personal signature style and corporate design DNA.   More significantly, designer who are training to be design leaders are expected to develop within them a personal signature style and to assimilate corporate design DNA as part of their unique aesthetic and visual language. According to design leaders, developing a working knowledge of this personal signature style and corporate design DNA is the beginning of understanding the true spirit of design leadership.

> *...our international status, our efficiency, the security ...We need something that is the DNA of what we have built over the years.*

Cultivate unique perspectives towards life and society.   Designers are expected to work with their eyes, hands, heart, and mind to cultivate their unique perspectives towards life and society. This unique perspective helps keep them competitive as it enables them to address complex issues with a familiarity that no other designer could. With time, these designers will be able to expand on their skill-sets and capabilities and establish their reputation and influence locally and in Asia. These pay off in the long term as they are able to secure better commissioned projects and in return, secure for themselves better remuneration, recognition, and fame.

The spirit of personal excellence.   To achieve all the above, designers in transition need to have a lot of conviction that comes from in-depth soul-searching, self-reflection, and self-awareness. They must also have grit, adaptability, and resilience and are expected to think creatively and innovatively under pressure. According to design leaders, it is crucial that designers internalise these values everyday as part of their design practice. In their opinion, all designers will be challenged and stretched to their limits at some point in their journey towards being a design leader. To perform at their personal best every day, they would need a very positive outlook in life. This includes the ability to accept that design leadership is a journey and not a destination, and that design leadership is a responsibility, not a position to aspire to. In this light, they saw that it was crucial that designers cultivate the spirit of personal excellence through their work.

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LEVEL 2 FINDINGS: DESIGN LEADERSHIP DEVELOPMENT
PROGRAMME (DLDP)

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Level 2.1 DLDP Meaning

Practice-based approach in design leadership development.   In the practice-based approach, design leaders want potential design leaders to secure strong design fundamentals through a studio-based approach and a deep working knowledge in

design practice and project work. The practice-based approach is largely favoured by design managers and design consultants. In fact, they believed in it so strongly that they suggested that qualifications are perhaps not the most important consideration for potential design leaders, especially if they already have strong real-life practice-based studio work and project management experiences. This quote demonstrates that outlook:

> *To be honest, you don't need to go into that kind of training. It is a matter of practice. It's a matter of what you can do in order to produce, to invent something or something which can be recognised that you have done something; not so much the qualification. This is what I believe (is required) to become a design leader.*

Practice-based approach to focus on Singapore and Asia. Design leaders also suggested that future design leadership development be conducted as a sharing session between design leaders in Singapore. Such high level sharing sessions should include real-life case-studies, articles, and write-ups that are more Singapore or Asia-centric. Design leaders want future leaders to be extremely familiar with the developments across Asia, especially around Singapore. They would also prefer if more local design leaders be engaged in activities in building up the community.

Academic-based approach in design leadership development. In the academic approach, design leadership development is secured through postgraduate programmes. This solution is strongly supported by design entrepreneurs who themselves had secured an MBA or an entrepreneurship-related postgraduate programmes and had benefitted from a more structured and business-focused approach. Design entrepreneurs are also strong supporters of mid-career transitions into the design industry as they believe in diversity within the design community. Interestingly, design managers are the strongest critique of postgraduate programmes for design leadership development for designers in Singapore. Design managers are especially concerned with an oversupply of design leaders in Singapore.

> *My opinion is that if you are talking strictly within the context of the Singapore (creative) industry, then I don't think we need (more design leaders). In fact, we probably would not be able to accommodate a lot of design leaders.*

Academic-based approach may create paper chase. Similarly, design consultants oppose using postgraduate programmes to train design leaders as they see it as a formality, with no real value-added skills or capabilities that could be useful for the company. In fact, design consultants are more concerned that postgraduate programmes would create a paper chase within the design community. To add, they are also concerned that these academic pathways may not produce the type of design leaders that the design industry expects or needs. Design leaders are anxious to state

that design leadership development should not lead directly to a position. They see it as the responsibility of design schools in Singapore to regulate these leadership development programmes and to ensure that the right number of design leaders with the right skills, mindset, and outlook are prepared for the industry.

Level 2.2 DLDP Strategies

Master-apprentice approach in developing future design leaders.   While design leaders generally remain divided on the specifics of the leadership transition process, many agree that it takes on a master-apprentice approach regardless of the size of the company. Almost all participants agree on the master-apprentice approach in developing future leaders in Singapore.

> *…design leaders are responsible to draw (out) the creativity from these individuals…and to create the environments and training for them. So (their) relationship) will be more like a master (and an) apprentice.*

Design leadership transitions in MNCs.   Design leadership transitions in Multinational Corporations (MNCs) are more established, specific, and consistent, but longer. According to design leaders, design leadership transitions for MNCs in Singapore takes about half the time. In contrast, design leadership transitions in Germany or Japan, where design is more established, may take up to 10 or 15 years. Listed here is an example to highlight the five-year transition process in becoming a design leader within an MNC in Singapore. In the first year, designers are hired as associate designers or designers, depending on their qualifications. They are expected to understand and appreciate the company's portfolio of current and planned products, fundamental market strategies and its related aesthetic and styling strategies. They are consistently pushed beyond their comfort zones and are expected to help out more established and experienced designers in executing their responsibilities. In the process, they are expected to observe, learn, and emulate good practices within the organisation. In the second year, designers are expected to create their first range of products for the company. Generally, a lot of mistakes are expected and the senior designer's assistance is required to closely guide the designer on the details and the technical solutions for the product range. The designer is again expected to create their second range of products for the company before the year is out. This time, an improvement on his design approach and technical detailing is expected. By the third year and depending on their performance the last two years or more, the designer may be promoted to a senior designer. They are expected to be able to independently create his first range of impressively styled products that is aligned with the company strategy and market needs. In his fourth year, the designer is again expected to improve on his previous performance, releasing his second range of impressively styled products with further improvements and refinements. In his fifth year, the designer is expected to be completely assimilated into the company's design culture, having acquired the ability to reproduce a full range of aesthetically pleasing

products according to the company's strategy and market needs. Upon the successful completion of this tour of duty and being proven to perform, the designer is further promoted to a lead designer. As a lead designer, they can opt to take on an increasingly strategic or operational role within their company.

Design leadership transitions in SME/consultancies. On the contrary a smaller number of design leaders, especially design consultants and design entrepreneurs, do not believe in design leadership development. In this light, leadership transitions in smaller companies can be said to be limited to advice and guidance to potential design leaders on project related work. Sometimes, it is almost non-existent. For these design leaders, they see design leadership development happening naturally to potential design leaders who had internalised the challenge for personal excellence. It is an opportunity for them to be adaptable, to meet the evolving design needs of the design industry, and to grow with the industry.

> *So I know once I get you, you're so good in that area you immediately can contribute, right?*

> *Another point is that we tend to think that we (should) bring people in and train them. Not true…*

> *Today we are in an environment of "hire and fire." So based on that, you know, most companies are reluctant to train staff…*

Interestingly, some design leaders do not see the need for advanced-level training in design as it does not automatically make them a better designer or design leader:

> *But I don't think you need to go advance training for, particularly, on industrial design. That doesn't make you a design leader. It doesn't make you a good design manager, that's it, or designer.*

Level 2.3 DLDP Importance

Design leaders develop creativity, procedures, strategies and policies. For design leaders, design leadership develops creativity, an understanding of standardised procedures within the company, an appreciation of government strategies and policies, and an understanding of a common design future for Singaporean designers. Rather than focusing on the company spending more time and resources on training outcomes for designers, almost all design leaders prefer that potential design leaders make pragmatic contributions and address immediate projects demands as a priority.

Level 2.4 DLDP Outcomes

Design thinking & sensibilities, unique perspectives, and insights. According to design leaders, the process of developing design leaders enhances design thinking

and sensibilities. This design thinking and sensibility is defined as the appreciation of the finer things in life and having the ability to expound on its merits coherently, especially in the context of the lifestyle in Singapore. Design leaders also view having a unique perspective and having local insights as important for all potential design leaders. For design leaders, foreign design champions have a unique thinking style that is embedded in their history and the culture of the society that they come from. For this reason, they are brought into Singapore's design schools to provide inspiration and influence as a role model for aspiring young designers. The aim is for young Singaporean designers to develop unique ways of seeing things and eventually, their own philosophies and approaches.

Develop unique perspectives & insights with design research. Design leaders agree that Singapore needs its own research to support the education of its design leaders and the creation of its own unique global perspective. Design leaders are confident that research, as a strategy for Singapore's design community, would put us in a better position than Korea, Japan, China, or India. This is in contrast to the current strategy of securing international recognition by financing participation in international design shows.

> *So, because of that you need just brain power and to do that successfully today you need global perspective. So we are perhaps in a better position than Korea, Japan, China, or India, in this region (South East Asia).*

They felt that the market is already saturated with many furniture design companies and furniture designers, especially in Europe. Design leaders reiterated the importance of design research for Singapore and how it would help the design industry focus on potential areas for growth and to define a niche for Singapore in the global economy.

> *Yeah, I would support you to Milan, but not to do an exhibition on your furniture because there is 10 million and one furniture company out there. You want to beat them? Right? I will send you to Milan to conduct research. You know?*

Design research that guides design entrepreneurship. Design leaders want more design entrepreneurship. They want young design leaders to undertake unique research projects and to start design research agencies. Design leaders say this move into design research would reflect the progress the industry is making. They do not want to see the current paradigm of design with an emphasis on the fine arts as the new normal. Design leaders would like to see the merger of the strategic elements found within design, business, and research as the new paradigm in design.

> *Wow! In the Institution (academia), (with) young designers coming out (graduating), (if) they are doing this (design research), instead of them doing furniture design, they would be starting some design research agency. Then I say, yeah, we are moving. Or else, it's just wishful thinking and they will be*

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just keeping going to the thing that we don't, that is off tangent. The Venice Biennale…what's that?

Make room to cultivate local insights & design talents. What concerns design leaders is that these inspiration and influences more often create a dislike, or disdain for Singapore's own history and cultural sensibilities. Design leaders are concerned that it will inhibit the development and growth of these vital sensibilities due to these powerful role models. As one design leader puts it succinctly:

And we've always been tapping on external "taste" for design anyway. We never did acquire our own. … The worst thing was that the European MNC is still very much engrossed in its philosophy and culture. They will prefer their own design compared with Singapore design.

<div align="center">LEVEL 3 FINDINGS: WAR FOR TALENTS (WFT)</div>

Level 3.1 WFT Meaning

Not war for talents, but a fight for talents. For design managers, the war for talents is a fight for design talents. This is a fight where design managers have the upper hand. As such, the impact of the war for talents for design managers is distant and indirect. For them, securing design talents revolves around project considerations, available budget, and having the right capabilities for the work anticipated. More often, design managers have no problems hiring the design talents they desire due to their company's brand and its international markets for product design and development as demonstrated by this quote:

I don't see it, to be honest. I think there is a constant hunt for talent but I wouldn't use the word "war" (because the word) "war" sounds to me to be a lot more intense. There is a fight (or struggle) for that talent. You hear of one or you meet one, you go all out to get the person (into your organisation)…but I don't see the attitude of most design companies around this region being like that. I don't see an aggressive poaching for people. It tends to be always about – it tends to be a very conservative approach to headhunting.

Not war for talent, but a contest to secure talents. For design consultants, the war for talent started with increasing globalisation of the Asian economies and the migration of talents into Singapore. For them, the war for talent is a contest to secure talents. Design consultants are affected by the war for talent, as they are more likely to lose out in a talent hire. This is due to design consultancies being made up of not more than five men teams. Due to their project considerations, which include short notices, tight deadlines, and lots of overtime work, design consultancies generally prefer male designers who have completed their national service as shown below.

Definitely. See, the problem in Singapore is (that) if it is a guy, I need to wait for another 2 1/2 years before I get the talent because (of) the NS (National Service). If it's a lady, most of the time design houses prefer men than ladies because at night, 11:00pm (in the middle of) the project, (her) mother will call (for her to go home).

War for talents is pervasive and challenging.   For design consultants, the war for talent is pervasive but it is viewed as a direct challenge for them to secure design talents. When compared with design consultants and design managers, design entrepreneurs experienced the war for talents most intensely. However, it should be noted that not all design entrepreneurs are negatively affected by the war for talents. Design entrepreneurs who are specialists in medical product design or luxury product design were not affected as severely. Like design managers, these design entrepreneurs were relatively unaffected by the struggle for talents and had no problems hiring design talents.

Level 3.2 WFT Strategies

Talent management: ensure pipeline of design talents.   Two general strategies were adopted by design leaders in their struggle for design talents. In the first strategy, design managers and design entrepreneurs are concerned with establishing a consistent supply of quality design graduates directly with design schools. They specifically ask for design graduates who are most unlikely to job hop. Among all design leaders, design consultants and entrepreneurs are likely to hire polytechnic graduates while design managers are likely to hire designers with degree qualifications.

Talent management: fast-track promotion of design talents.   In the second strategy, design managers and design entrepreneurs have indicated a strong preference for young designers who can both think and work through their ideas; they would not consider hiring young designers who are only skills-based. Design consultants and some design entrepreneurs, on the other hand, utilise strategies to promote young design talents to management positions as part of their retention strategies. Design leaders in general see many tiers of design leadership within an organisation, each with increasing responsibilities and scope of work. It is not surprising for young designers to be offered management status within a design company once they had proven their mettle. One design leader describes the design leadership hierarchy:

Okay, because there are different levels of a design leader, I mean you are talking about a senior designer; he is also a design leader, yes, yes, and a group to work with. Then of course, you have the principal designer. So his design leadership is in another level. Then of course, you have the management level,

design management level, and being a leader in that design management level. So these are sort of like different aspects of leadership within the hierarchy of a design organisation.

Talent management: avoiding clashing with government strategies. Interestingly, design consultants highlighted that some Singapore government agencies had started to hire young designers. They blamed the Singapore government's practice of paying above market rates for snatching away fresh design talents from their existing talent pool. This has inadvertently affected their ability to hire the best design talents that come straight out from design schools.

There are some…local agencies related to statutory boards, they are hiring designers…offering much higher pay…because I believe most consultancies will not be able to offer them a pay that they would get in places like that. So yeah…

Level 3.3 WFT Importance

Strong fundamental skills and soft-skills for designers. According to all design leaders, the most important consideration in this war for talent is the development of strong fundamental skills of young designers. Design leaders, especially design managers are highly desirous of design talents that are strong in providing upstream or conceptual design skills, which they deem rare. It is illuminating to quote at length:

Design Leaders also look for soft-skills defined as having the right attitudes, passion, and drive that are generally lacking in most local designers' training.

Design managers explained that they "go all out to get the talent" if they fit their projects at hand. More often, this process is just "a very conservative approach to head-hunting." While design leaders had always preferred hiring local designers, they are increasingly looking out for international design talents.

…and with the economic development of this part of the world, there are a lot of Asian-based companies, Asian-grown companies who really want to move up that ladder (value chain). So there is a sudden shortage of such people (designers). So the war for talents continues.

Level 3.4 WFT Outcomes

Career trajectory and professional development for designers. The war for talent had created an urgent need to address designers' career trajectory and their professional development in Singapore. The environment is such that design talents have to perform at their maximum best upon being hired, leaving little room for personal development. To add, design leaders' bad experience with job-hopping

resulted in a general reluctance to send designers for formal courses. However, design leaders had all indicated that they were willing to engage in informal sharing of their experience and knowledge with young design talents so that they can be more productive at work.

Globalisation of the design studio. The war for talent had also created the global design studio. It had forced design consultants and design entrepreneurs to remain highly adaptable and opportunistic with their studio practices. Some design consultants had transferred their studios to be nearer to the manufacturers in China. They had already anticipated China's move from being a manufacturer to a global innovator quite a few years ago.

> *…I noticed there has been a qualitative shift in Chinese companies thinking and I think this is also again to some extent driven by strategic initiatives that come from the Chinese government. There is a general objective or goal to step up to the next level …*

Global demand for creative talents in local design schools. In addition, the global creative environment has gone upstream into design research and business strategy. This global competition is pressuring design leaders to expect local design schools to keep up with a supply of global quality design talents consistently. As such, design leaders felt that the global environment had outstripped local design schools:

> *It is simply that the rate of development within the company, say for design, outstrips what the education field is providing. We are still providing designers, but organisations have moved a lot faster and higher up in how they want to use design.*

LEVEL 4 FINDINGS: DESIGN ECO-SYSTEM (ECO)

Level 4.1 ECO Meaning

Champions, unique Singaporean identity and survival. For design managers, the primary concern with the design eco-system is with the design champions that brings about the business innovation aspects of the design industry. They want more design champions and expressed how the incomplete design ecosystem affects their product innovation efforts. They highlighted the need for more designers to move into the business domain and a stronger emphasis on entrepreneurship and project management at design schools.

Design consultants are mostly concerned with a design industry that has a more unique Singaporean identity. Unlike design managers and design entrepreneurs, design consultants are the most unlikely to use outsourced design services. Design consultants noted with resignation that Singapore's current fresh design graduates have weaker fundamental design skills. Design consultants want the Singapore

government to adopt a more consultative approach in managing the design ecosystem. They want more collaboration between the public and private sectors.

Design entrepreneurs are the most pragmatic of the three groups of design leaders as their concerns revolves around their ability to survival in the design industry. Design entrepreneurs worry about operational costs in Singapore and they pepper their conversations with concerns over the size of Singapore's economy, its small market size, and the high business running costs, especially in the hiring of talents and maintenance of a design business. Many design entrepreneurs lament that Singapore is too small for them to grow adequately to compete on a global stage, as this excerpt shows:

> *Unless you are a very big country, like German, Japan, you still can do very high level of design but (for) Singapore will be difficult because we are too small.*

Design entrepreneurs are also the most likely group of design leaders to dismiss the idea of design champions as they consider it most unlikely to happen given the current pragmatic and survivalist environment. They suggested that Singapore search for a unique formula, instead of following existing global solutions.

Level 4.2 ECO Strategies

Recognition, balance and ability to determine markets.   Design managers wanted more recognition for top-level design positions and for the value of design within the company. They wanted recognition for the position of Chief Design Officer or similar position to be on par with the Chief Financial Officer, and Chief Operating Officer.

> *At the end of the day, you cannot hire a Chief Design Officer (CDO), and put him in the industrial design department reporting up to the CFO, for example.*

For design managers, to have a Chief Design Officer (CDO) reporting to a Chief Financial Officer (CFO) is a formula that is likely to scenario for Singapore due to its emphasis on financial prudence. However, design managers cautioned that this approach will only be doomed to failure as design strategy requires a different paradigm. Similarly, design managers wanted more recognition of the value of design within companies. While design managers acknowledge that there are many definitions of the value of design, they felt that more staff at senior positions should educate themselves on the value of design that fits their business model due to its increasing importance for business. They highly recommended design strategy education and exposure for business owners, entrepreneurs, and staff at senior positions.

Design consultants are unique in their desire for balanced ecosystem. While they also desire to have design champions, they seek a balance between the number of leaders and followers within the design industry. According to them, the design industry cannot be made up of only design leaders. Design consultants would like to see a design ecosystem that have various types of design skill-sets, specialisations, designers, and design leaders.

Design entrepreneurs are the most pragmatic and opportunistic of the three groups of design leaders. They are highly desirous to be able to dictate what a market or customer wants. This is due to them having job scopes with the least structure, as they have to attend to all aspect of a design business and their constant concerns with the financial aspects of their design business. They seek for innovative solutions that would help them dominate the market, even if it is for a short period of time.

Level 4.3 ECO Importance

Builds confidence, maintains industry health and encourage risk-taking. Design managers expressed the desire to have a more unique, confident, and self-assured design ecosystem that is respectful of local talents and local contents. Design managers felt that the emphasis on the Singaporean difference is what matters most for them. They want all design leaders to be more confident of their Singaporean identity and to be proud to proclaim that to the world.

> *I wish I could see some something local. …That is what will make us different. Again, it's about confidence. It's about… having the confidence to stand up and say "this is us."*

Design consultants are more concerned with the overall health of the design community. While design leaders acknowledge that the Singapore design industry is small, they highlighted the need to further grow and actively develop the industry to break away from its restrictions. Design leaders expressed that they are disturbed by and lamented that fact of how some government agencies are contempt of local talents and how they consistently bring in foreign talents as a showcase to develop Singaporean design talents. Design leaders also want to avoid the gossip, politics, and turf wars. Design leaders want to build an industry where all designers are not only friends but encourage each other to be better designers and leaders. In this light, it is unsurprising that many design leaders in Singapore would like to see more local talents acknowledged for their contributions and achievement by the Singapore government and its agencies.

> *I am so surprised that Singapore is such a small country and they can generate so much politics (in the design industry). (Interviewee can be heard thumping on the table several times at this point). In Singapore, there are so much gossips and politics…, which is detrimental (to the developing design community). Design leadership, you look at (it) ecologically, it is crazy, it is very crazy.*

> *…everybody knows each other… so unless the (design) ecology is so big, there are so many design leaders around (that) it become a common playground (such that the politics stop). I think that will be (the) ideal (scenario).*

> *And, what else is the community not doing? Again, (not) giving ourselves (enough) credit, and giving each other a pat on the shoulders, and urging each other on, instead of thumping (each other) down. We tend to do too much of the*

thumping down within ourselves. It's like this internal turf war that we don't like one other, hate each other's faces, hate each other's guts, I don't know why. It is just a small community but we cannot be friends. It is interesting. Then we go bring in Karim Rashid and Fukazawa, and then we call them (design) "gods." That (makes me angry).

Design entrepreneurs in Singapore are most likely to create their own range of innovative products for new markets. What is important for them is for the Singaporean design ecosystem to nurture a risk-taking culture. Design entrepreneurs gave an example of how they had taken risks by undertaking research and development work even though their funding was not endorsed by the Singapore government. Design managers and design entrepreneurs want Singapore's design ecosystem to produce more unique and innovative products using advanced skills, craft, and technology. In this light, they view Singapore's design ecosystem as being weak and underdeveloped. Design entrepreneurs also want a one-stop shop to serve their customers. For them, it is the ultimate dream to control their design capabilities, manufacturing facilities, and their own retail store. Design entrepreneurs see design as the first and most important step towards product development and its commercialisation. They want designers to further the growth of his shop and to build up the design industry.

Level 4.4 ECO Outcomes

Business innovation, complete design skill-sets, and unique SG formula.   Design managers want the design ecosystem to address their business innovation concerns. They want Singapore companies to place design at the core of its business and be led by design strategy.

Design consultants are more concerned with the weakening design skill sets in product realisation in Singapore, especially in the area of physical mock-ups. Design entrepreneurs want better policy integration with financing, funding, or subsidy programmes offered by government agencies. They wish that government agencies can empathise with the realities of running a design business and how banks are more likely to withdraw lending privileges, even from rather established design companies.

Design entrepreneurs suggested the need to understand the role of design champions in Singapore and the need to search for a unique Singaporean formula instead of following existing global solutions.

LEVEL 5 FINDINGS: ASIAN DESIGN HUB (ADH)

Level 5.1 ADH Definition

Visionary leadership, implementation & clear measures for success.   Design managers see the design policy as demonstrating visionary leadership, streamlining

implementation, and defining clear measures for its success. They view this visionary leadership as ensuring the creation of a complete design ecosystem. It has activities that include nurturing talents, developing capabilities, developing unique strengths, establishing reputable design schools, creating a portfolio of internationally recognised designed-in-Singapore products and services, and the strategic leveraging on Singapore's global branding.

The purpose is to develop a group of design leaders that can debate and envision the future of Singapore's design industry. Design managers want the design policies to broaden the current definition of design and for it to take on a multidisciplinary thread.

Similarly, design managers want design policies to focus on creating scholarship, expanding research, and facilitating the use of advanced technology for the creation of unique products. They observed that Singapore already has the intrinsic ability to accept unconventional ideas and that should be our advantage. Design managers want control of up-stream activities that facilitates the formation of design ideas. This will allow them the first chance of refusal for a lot of things.

Most importantly, design managers want design policies to demonstrate continuity through long term strategic planning. They believe this is needed because it takes a long time to nurture a design hub.

Creating relationship-based leadership in Asia. Design consultants recommend a stronger relationship-based leadership within Asia. They noted how top-down leadership had not worked for them and suggested a grassroots approach regarding Singapore's design policy. However, they are keen for any approach to grooming the design industry to be done naturally and sustainably, not hurried nor forced. Also, design consultants want government agencies to engage, and be familiar with the nuances of all levels of the design industry. Design consultants lauded Singapore for its strong global brand presence, which they say helps them establish business overseas easily. However, they look to the Koreans and wish for a Singaporean design ecosystem with a strong Singaporean brand to support their business internationally. To add, design consultants are most heartened by the government's continued strong support for the design industry and they are excited about Singapore being at the cultural cross-roads between the emerging giant economies of India and China.

Create unique identity and products with higher margins. Design entrepreneurs view the design policy as creating a unique identity for Singapore. Like design managers, they see the need for visionary leadership to streamline the administration of design policies. For them, the purpose of the creative design policy is to benefit every designer within the community. Design entrepreneurs, like design consultants, praised Singapore's unique advantages, however for design entrepreneurs, they see Singapore's advantage lie in its ability to sell unique quality products and services. Design entrepreneurs believe that consumers from Asian markets are ready to pay for good quality product design, services, and branding. They anticipate that

design values and the integration of services will become increasingly important in innovative product design. As such, design leadership and policy needs to be flexible to adapt to these emerging market needs.

> *So the designer of services, the design leadership status comes with a lot of spin off in intangibles and it is the intangibles that (makes) what design is all about, it is always intangible.*

Level 5.2 ADH Strategies

Policy formulation and implementation, global mindshare. Regarding design policies in Singapore and the strategies they use, design managers and design entrepreneurs are more concerned with how design policies are formulated and implemented. While they recognised that setting up the environment for a creative hub to flourish is not an easy task for the government, design managers and entrepreneurs want policies to create a global mindshare for Singapore.

Rebranding Singapore and establish consistent good track record. They envision it happening in two ways. First, they see the need to rebrand Singapore in the eyes of the world to secure better recognition and for government agencies and their partners to work strategically to achieve that goal. Second, they see the need to establish a consistent good track record for Singapore in order to secure the recognition of being an Asian design hub. Design leaders define a track record as the demonstration of key capabilities found within Singapore and the demonstration of its accomplishment as an international gauge.

Policies that benefit all in the design community. Design leaders stated that they do not see the benefits of an aggressive promotion campaign to highlight Singapore as a design hub. For them, any promotional activities must be supported by the government and demonstrates the design capabilities found in Singapore. More importantly, it must have outcomes that directly benefit the local design community. In other words, design leaders felt that they have yet to benefit from the outcomes of current design policies.

Level 5.3 ADH Importance

Building on Singapore's global brand presence. For design consultants, having a Singaporean brand presence internationally is helpful as it enables them to promote their company services overseas. Having their business in Singapore also gives design consultants the advantage of having customer insights into design opportunities in Asia.

> *I use my Singapore base as a way to promote my company services. What I emphasise to our customers or clients is that being in Singapore…has the*

advantage of insights that this location offers from a marketing point of view, from a consumer point of view. So yes, I certainly leverage (on) that…

Singapore's competitive factor: being at the crossroads of asia. Design consultants and design entrepreneurs are appreciative of Singapore government's continued support to grow the cultural and creative industry. They express empathy for the Singapore government's strategies and agree that growing the industry with pre-determined targets is mechanical, messy, unpredictable, and difficult to show results. For them, the greatest advantage for Singapore is being at the cultural cross-roads in Asia. Design consultants are the most excited regarding the prospects of riding the waves of growth that will come from being situated between two emerging giants, China and India. They believe Singapore has strengths to tap into and provide a catalyst to expand this growth into South East Asia.

Singapore's great potential to be a cultural hub in Asia. More importantly, design consultants draw inferences that Singapore is like the New York of Asia as it is able to bring all these differing cultural elements together and provide a blend that is unique and surprising. They want the Singapore government to provide the leadership in filling the gap to assemble these cultural elements and facilitate the private sector's organic growth so that Singapore can become an influential cultural and creative hub in Asia.

> *I think the government's role is to bring in all the ingredients and then the chef has to be somebody from the private side and it can be a collection of people and collection of forces, but that part, unfortunately is still missing.*

Singapore's market potential as a cultural hub. What excite design consultants and design entrepreneurs most is the market potential possible with the right design strategy. Besides the ability to sell quality products, design consultants and design entrepreneurs see the potential of "extraordinary profit" from Singapore's unique brand positioning.

> *You can make extraordinary profits because you are not comparing with any other country.*

Singapore can be cultish in design. Among all three groups of design leaders, only design entrepreneurs expressed concern with Singapore's potential to become rather cultish after achieving success as a design hub. Design entrepreneurs are impatient for the design economy to mature. They look forward to a maturing and more discerning community that is not obsessed with a personality, a group of designers, a product, or the country of origin.

> *…and if we become a design leader we can be quite cultish. We can be quite cultish because there will be a following. Whenever people quote Singapore*

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> *as being "corruption-free," it is always Singapore. There is a cult following, people begin to adore you, adore your products, people begin to have a "buy only" if it is Singapore made.*

Level 5.4 ADH Outcomes

Inclusive, holistic, nurturing, and participatory design community. All design leaders wants the Asian Design Hub Policy to be inclusive and to create a future that preserves the Singapore spirit. They recommend that Singapore can do this by nurturing its designers, grooming its own design leaders, and providing more opportunities for the design community to make their lives better. Design leaders recommend the need to take a holistic view of the design industry, create more awareness, facilitate more dialogue within the community, and to integrate the various specialisations within design. Design leaders like to see Singaporean designers participate more actively and make a stand on globally important issues.

> *We need to appreciate different perspective of things. Be able to have the society be able to appreciate things from a very global perspective, understand things from different lens and see things through different lens and at the end of the day, understand where they stand in this world, in Singapore, and have the confidence to do that. I think that's very important.*

For design leaders, what must be achieved is an atmosphere where all designers and design leaders, regardless of their specialisation, participates actively in the community dialogue to steer the national agenda to make Singapore an Asian cultural and creative hub. Design leaders recognise that this is not an easy task and it will not be achieved immediately, but this work is vital in providing the foundation for Singapore to achieve global distinction as a design hub.

OVERVIEW OF THEMES

Overview 1: Duality and Contradictions

Level 1: From external to internal challenges and from self to group loyalty. The transition to design leadership and management positions presents two major paradigm changes for aspiring design leaders within the first level. The first paradigm change is the transition from a challenge with others (generally with international design competitions) to one of personal challenge and excellence (character and competency development). The second paradigm change is the transition from loyalty to self (individualism), to that of loyalty to others (teamwork).

Personal challenge: challenge with others versus personal challenge. The current paradigm in training designers is to encourage them to participate in local and international design competitions to compete with the best ideas and skills in their country and around the world. The purpose is for young designers to gain exposure

on expectations and standards locally and globally. While design leaders are not against such external competitions for designers, they are more concerned with aspiring design leaders developing a spirit of personal challenge and excellence. Design leaders want future leaders who are grounded in their personal values and yet are able to articulate their design thinking fluently in the context of international practice.

Loyalty: loyalty to self versus loyalty to others. Most designers focus on their creations that come from the thoughtful application of their knowledge and skills. They are so committed to their works that it sometimes becomes a rather self-centred process, very much the same way an artist is wrapped up in his own artistic creations. The transition to design leadership and management positions requires designers to shift their emphasis to the team. They are expected to ensure that whatever they were able to do well alone, is now translated into a team effort. Aspiring design leaders are expected to multiply the productivity of the group and to increase the quality of their outputs, just like they were able to successfully create products, systems, and services through their own personal effort.

Level 2: From word to action-orientation and from guided self-practice to self-directed learning.   There is an irony, or duality, at level two (2) developing expertise. First is design leaders' preference to focus on action, not words. Second is the need for self-directed learning and learning on-the-job, as contrasted with current practices like the master-apprentice approach (mentorship) or the formal education route for aspiring design leaders' professional development.

Action-orientation: words versus action orientation.   While design leaders have very high expectations of aspiring design leaders to have the ability to pitch and sell ideas convincingly to their clients and customers, aspiring design leaders must also have the ability to make things happen and to produce results.

> *So he can make things happen, he doesn't just talk. I don't think you can be a leader by just talking.*

Therefore, it is not surprising that throughout the interviews, design leaders emphasised the need for all designers to have fundamental practical skills and capabilities.

> *...but again, just a philosopher, just words, there's nothing really coming out (that is) good where I can feel and look. With words, maybe they can talk. (That's) fine, because they borrow words... (I have been) in design for so long, I've never come across a person (designer) who can think and (without doing), become (a) brilliant (designer)...*

It is also standard practice for experienced designers to lead teams; however for design leaders, these considerations are only part of their need to establish an eco-system of designers at all levels within their studio:

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The positive side would be the design department or consultancy (being) led by an experienced designer. That would be, something that is more healthy and probably the (expected) norm. ...So I would not over-hype the leadership part of designing (because) it exists as a system.

Design leaders emphasised the equal importance of both the need for design leadership and the need for experienced designers in Singapore.

...in a sense, design leadership is important but experienced designers are equally, if not, just as important.

Currently, design leaders are in a "war for talent" in hiring designers at senior levels. They are specifically looking for designers who are not only highly skilled but have the relevant experience in design that fits the capabilities of their team.

I think there is some war (for talents) over (design) leaders from a senior design level up (wards). That is because there are not that many good ones around. I think "there are" but "there are good ones" are two different things altogether.

Design leaders prefer experienced designers who can tackle a wide range of projects and who are loyal to the company. As many design leaders operate within very tight budget constraints, they don't have adequate resources to rapidly train or replace experienced designers when they leave.

If I am looking for talents who can tackle a wide range of unpredictable projects in an environment as ours, I think it's quite tough. In the sense that if one or two of our guys, the leaders do leave (the organisation), the replacement (for these design leaders) would be quite tedious.

Design leaders point to the lack of experienced designers who can be leaders within their teams.

Since my definition is based on execution, experience or rather their ability to tackle a wide range of projects. (As such) my definition may differ from others. From the definition, there is a lack (of design leaders).

However, design leaders don't see the need for experienced designers to work on strategy, product planning, and corporate (design language) forecasting as they only need one person to oversee this aspect of the project.

We cannot have a bunch of leaders with no one to execute (the work). ...Just one leader I don't know, just to monitor and to maybe in an institution or rather in a corporate environment to regulate design languages. I do not think there is a serious lack (of design leaders).

Self-directed learning: self-practice versus on-the-job training – From the description of Level 1 and Level 2, design leaders support formal training that

leads to professional design qualifications, formal internships programmes with companies in the design industry, and specially arranged mentorship programmes between design schools and industry. What is significant for design leaders is the spirit of continuous learning even on-the-job:

> *So to me, I think if an individual has this always wanting to improve ourselves (mindset), then I think it is good.*

> *A lot of times, it is learning on the job.*

Design leaders may seem unreasonable in their expectations when it comes to developing designers, however, their situation could be better understood in light of the massive transformation in the design industry. Several design leaders have already highlighted the transformation from a tangible to an intangible design economy, in other words, the transformation from product design (tangible) to a service (intangible) driven design economy.

> *But I think design carries a much bigger role rather than just something that is physical.*

> *…of course, right now they moved from the tangible to the intangible. …Media and things like that which requires designers as well. So you see that inherently, you still need an industry base to support designers.*

Level 3: At an individual level, the concern is with being authentic, instead of being artificial. At the community level, the concern is with being supported by the community, instead of being self-made. There is a duality at Level 3 grooming talents. First is design leaders' preference for designers who are authentic individuals. This is contrasted with some designers who would instead fake their talents just to create an impression. Second is design leaders' desire for future leaders to support the community. While design leaders constantly promote the need for self-directed learning, the knowledge gained must benefit the design community.

Individual: artificial versus authentic – Design leaders expect designers to be authentic and unique individuals who are talented, creative, and have a mind of their own. Design leaders consider these traits as inborn talent and are qualities all designers must possess in order to do their jobs well.

> *Creative people must be individuals (with) that kind of inborn talent. If we look at such design leaders, I think, this is the quality that they should possess. Otherwise, they would have some problem, one way, or another, to do their job well.*

Design leaders expect designers to understand the ideation process, right up to the product commercialisation process, and how the industry applies it in Singapore. Once the designer understands this process, they are expected to share their knowledge with the industry so that everyone can learn from them.

…the main strategy is to support the idea or the way to commercialisation thereby the success story, the creative individual of the company can further his growth and help to build up the design industry.

Design leaders expect designers to have professional ethics and integrity. At the very least, designers should not infringe on the intellectual property of other designers in the process of building their portfolio of works. Designers should not assume that learning from past designs and inventions would naturally allow them to copy an idea; instead, they should just be inspirations for new ideas. Designers are expected to constantly and consistently come up with fresh and novel ideas in the course of their careers.

I think the reason being most, the biggest piece of these creative individuals is really infringing other people's idea. Because the world is so big so huge and most of the things out there are already invented, so in order to really to come up with a better invention so it is really important for them to have a knowledge into digging out past designs and inventions.

Design leaders expect designers to have an appetite for learning and be opportunistic in their career development, regardless of their career aspirations. For them, designers need to understand that companies now prefer to develop individuals from their strengths, not weaknesses. This is so that designers can reach new heights, instead of designers all levelling off in mediocrity.

…so, coming back to the training (and) exposing, we expose people in very different ways. We train people in very different ways. It's not-and we used to say we look at your strengths, good; we look at your weakness, we fill it up by giving you training. We don't do that anymore. We say you have weaknesses, it is okay, and everybody has. I'll make your strengths stronger. That's, I think, a different approach, a different (paradigm) shift from where we were before.

Design leaders also expect all designers to try their best in promoting design in Singapore. Designers can promote design by doing their best in their various roles and in executing their job. Designers need to have faith and hope that the day will come when they get international recognition.

But I can think of many, many individuals, just trying their best to push design in Singapore. Is trying their best in their own role, own job, to do well in their own design job and hopefully at the end, design in Singapore gets recognised, you know, internationally.

Community: self-made versus community supported – According to design leaders, many Singaporean designers are self-made and had taken a unique approach towards securing recognition in the global community. However, design leaders felt that there is a need to shift towards inclusiveness and community support for individuals and organisations. For example, Singapore had always pitched itself as an international hub of design activities. Many activities, events, and promotions at international

and government level are such that Singaporeans find it hard to understand. Design leaders pointed out that events, activities, and policies in Singapore must be inclusive, and not operate at too high a level. This is to ensure that design can be easily understood by everyone, and that design can be incorporated into everyone's lives. This way, design activities and event can be made accessible and inclusive for everyone in Singapore.

I don't really see the design community doing anything to help the situation, unfortunately. We've been trying too hard to do things at too high a level, at a policy level that does not connect to the grass-roots. And that definitely doesn't help because, and we have too many people playing at that high policy level. At least, (and) it seems to me (that) they are just going round and round in circles. And to nobody's gain.

Leaders in the design community must also have the interest and concern of the community at heart as their first priority. Leaders within the design community must not rub shoulders with international organisations and policy makers for their personal or organisational advantage. Design leaders are looking for leaders in the community that believes in serving the community and fair-play.

So, that's from a policy level but unfortunately that's coming from the design community as well. They go in. They mingle with the policy makers in the government sector and they kind of become one of them. That irks me. They speak in a language that the grass-roots doesn't understand, doesn't appreciate. They do things that the grassroots doesn't understand or appreciate. But doesn't resonate too. And that's really strange.

Design leaders pointed out the need to build a mutually respectful culture within the design industry. They would also like to see designers acknowledging people who had contributed to the progress in the past. Somehow the focus on mutual respect appears to be a shift away from the top-down hierarchical approach in most organisations today.

I think we are too concerned about "looking forward," "pushing forward," trying to "reinvent ourselves," trying to "keep up." I think we tend to forget about what have we done which resulted in a lot of us forgetting about all the good things that we have done in the past, all the designers that have contributed to the Singapore design and have retired and left us. We are not able to build a respectful culture even within our own design industry.

Most significantly, design leaders wanted the current warring tribe culture in Singapore to stop. They want Singaporean designers to get the credit and recognition they long deserve. Design leaders acknowledged the presence of the tall poppy syndrome or the practice of the Law of Jante, derived from a book by the Danish author Aksel Sandemose (Sandemose, 1936). Design leaders are concerned with design elitism, as such, they support egalitarianism. However, what worries them

most about egalitarianism is mediocrity, especially if Singapore designers are to stop striving for excellence in their careers.

And, what else is the community not doing? Again, giving ourselves credit, giving each other a pat on the shoulders, urging each other on, instead of thumping them down. We tend to do too much of the thumping down within ourselves. It's like this internal turf war that we don't like one other, hate each other's faces, hate each other's guts, I don't know why. It's just a small community but we can't be friends. It's interesting.

Level 4: Entrepreneurship models and shift from experience design to design research. American or German entrepreneurship models – Design leaders discussed about entrepreneurship models, and the difference between American and European models. Interestingly, they found the European model fits Singapore's culture adequately, even though it is not as responsive or dynamic. This is because of our culture of nurturing or spoon-feeding our young designers, and leaving them dependent on instructions from higher authority once problems develop. Design leaders believe this model is a better cultural fit because it reinforces the paternal leadership style that exists in many Asian societies.

A German company would actually require a person to have knowledge of all tracks. The manager or leader in the group should also know how to solve the problem of his guys. And I find (this characteristic) useful because in the Singapore context, through the old days of spoon feeding, they (would normally) wait for a solution because in schools, the teacher actually give them the solutions or actually plan for a solution for them. So when they come to (the) work (experience) and when they hit into a problem, they're also waiting for the boss to save them. Or (in this case), it will be good for the boss to save them because that will tell you that their boss is a capable person to believe in. That is the experience with a European MNC.

Design leaders felt that the American model is very hostile and predatory, as they are required to question, contradict, and eventually demolish the arguments of their colleagues in finding a better solution. As such, designers are not only working on their designs but also spending a lot more time thinking of how they can defend their ideas. Singapore appears to be more receptive of the American entrepreneurship model as it had proven success in many global businesses. Design leaders felt that design leadership can emerge from both entrepreneurial styles, but the quality of leadership would be drastically different.

However, in (an) American company like Motorola, they may not have such a practice. They are moving into what I call it, "teasing" methods. They would use a known method to say that, "Did you try this?" "Did you try that?" (And) let you think through the process (of) how to get (your own) solutions. Some

people may even criticize your design so that you would think back (and say to yourself), "Why didn't I actually think of that formulation to prevent their critics?" So you would think, the next time it happens (again), (you would work on) a preventive measure, like preparing all the different (counter-actions) for the review. So that is the difference (between) these two different companies and that is how they would expect a design leader to emerge.

Transition from experience design to design research – Design leaders said that there are many experienced designers who can create new products in Singapore, but what is lacking are designers who are capable of thinking, and analysing design critically. They are the brain power of the design industry and in this respect; Singapore is still ahead of Korea, Japan, China, and India, within the South East Asian circle of designers.

Design leaders felt that more young designers should shift their aim to design strategy eventually by starting their own design research practice. This ability to tackle research within South East Asia would give Singaporean designers an advantage in terms of the cultural literacy, the appreciation of a multi-cultural Asia, and an Asian global perspective. Design leaders felt an urgent need to channel energies to address this need for research, instead of the current focus on branding Singapore and creating a unique Singaporean image. This new research strategy should address consumer market concerns throughout Asia and issues pertaining to culture and aesthetics within Asia.

And then you also provide training in design research, how to do a good design research. You can provide seminars and updates on design trends. Then all these things would sort of like help to make people become design leaders.

Design leaders felt that government agencies and government-linked companies had not been successful enough in establishing Singapore as a centre for design research. They felt that government agencies and government linked companies should come together to build stronger Singaporean research-based companies, and not just focus predominantly on aesthetics, as is the current practice. Design leaders suggested many areas in design research that Singapore could lead, like consumer research, trend research, integration between product and services, and the bundling of new services that are technology related.

Design research has many other focuses as well. It can be consumer's research, trend research, and things like that. It can be even newer forms of integration between service and products and delivering new bundling of services. It could be technology-related research….

While Singapore is ideally located as a strategic design research centre for Asia, design leaders are concerned that such an advantage is only ephemeral, and may fade when other Asian countries catch up with newer and better technologies.

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Level 5: From sympathy to empathy. Similarly, there is a shift from sympathy to empathy. Design leaders today must be more than what they have been yesterday. Design leaders of tomorrow must put their emotions to work for them and the industry. They must focus on people, relationships, connections, and empathy.

> *(Exhales) we kind of screwed up in the way we approached things. It is very regimental. It's very static. It's very systematic. It's too mechanical. We're not putting enough emotions into the way we do things in design, for the design industry.*

Overview 2: Warnings to Avoid Survivalist and Trading Mindset

One significant concern is the trading mindset within the design industry today. Trading mindsets come from Singapore's survivalist approach, its use of quantitative measures for design success, and a trading mode that focuses purely on developing aesthetics within the design circle. Design leaders warned that design cannot be managed with a trading mindset, a desire for quick profits, or a general lack of desire to understand design for what it is and its differing processes. They highlighted manufacturers in Singapore, SMEs and small design houses that are almost always in survival mode and could not sustain themselves with technology, innovation, and strategy due to the pervasiveness of this trading mindset in Singapore. Design leaders want these companies to adopt design thinking and strategy, and emphasised that design can indeed command a premium if these companies can get their vision and strategy right. They want manufacturers to be ready to consider a shift away from volume manufacturing to small batch production as Singapore markets become more sophisticated and diverse.

> *Therefore, they really are intermediaries and we typically refer to them as trading companies…typically sales and marketing specialists, not… product development…, internal, so they rely on other companies, design houses etc. to supply them with the product that they then sell to a third party. Moreover, that is traditionally the kind of company you would see in Singapore because Singapore is being positioned in the way between very large consumer countries like Indonesia, China and India. They are well positioned to be that kind of trading position. Sourcing something in China selling into the Indonesia, India, or American companies (that) want to sell into India or China. They use a trading company here in Singapore as a "go-between."*

Overview 3: Urgent need to Move to Design Strategy

Most significant in design leaders' thinking is the shift from survivalist thinking to strategic thinking for the whole design industry. Design leaders want a whole of government approach where they actively and collectively look for blue oceans for Singaporean businesses.

Blue oceans: areas where there is less competition. Design leaders compared differing strategies that current design consultancies use by contrasting them with small and medium enterprises. They felt that more Singaporean companies should learn how to target blue oceans. The current red ocean strategies which are the common denominator for these businesses forces them to compete based on costs and volume, leading to huge losses for the company.

> *I think there are many other opportunities for which you can explore rather than to be cornered into an area whereby you are competing with others based on price, on some other blood-letting (red ocean) strategies that would only allow you to live in the short-term but with pain in the longer term.*

Branding and mindshare: Singapore tourist promotion board. Design leaders are surprised that not more companies are using Singapore's hugely popular branding and presence globally. Singapore's brand experience includes the "golden stamp" of trustworthiness, high quality products, and efficient service, very creative and good industrial designs.

> *How are we going to provide goods and services that are about Singapore? That labour, that golden stamp of trustworthiness, high quality, efficient, bloody good design, creative.*

> *Singapore's unique branding creates mindshare and it is easy for people to remember Singapore for things that make it unique, like the Esplanade.*

> *I think that is what being successful means because his (the designers') intention is now being spread by word of mouth so they (the tourist) come to Singapore for only one thing…the Esplanade for its durian-shaped rooftop.*

Design leaders are concerned over quantitative approaches towards measuring success in the design industry and how it is hurting the design industry today. This preoccupation with measuring success is forcing Singapore to grow in an artificial and unbalanced manner. They want a stronger qualitative emphasis in the way design progress or success is being measured in Singapore and a stronger engagement between government, community, and society. Taking a combined qualitative and pragmatic approach would benefit the design industry in the long run.

> *I think our contribution to the strategy is that we have participated, we have contributed. I think we have also benefited as well. Again in typical Singapore fashion, we are eager to show results. So it is not like building a building. It is like "Oh, within how many days we can build such a tall building."*

Design leaders feel that greater accountability is in order for those in position of power to influence the industry. They are concerned with the power churn at the director level and the chop-and-change approaches they have towards the industry. Design leaders highlighted that civil service leaders, especially ministerial level

leaders, who are overseeing the industry should have a concern towards people and businesses in an industry that is currently undergoing rapid changes.

Design leaders emphasised the need to eradicate the trading mindsets that still exist in many parts of the industry. A trading mindset is one that engages only in trade, or in the buying and selling commodities and goods. It is not concerned about design, its value or strategy, neither is this mindset concerned about the industry's development and growth. A trading mindset exists only to reap rapid profits from every transaction with no intention of developing the business or people for tomorrow.

Overview 4: Design Leadership Transitions Is a Natural Process

Design leaders want the transition to leadership and management positions in Singapore to be a natural and organic process. They want it to be a process that is determined more by the aspiring design leaders' natural capabilities and performance, rather than a process that is pre-determined by a fixed transition of time. Many design leaders are of the opinion that many of the design leadership capabilities and skills cannot be explicitly taught. It has to come from within the aspiring design leaders themselves instead. As such, they emphasised the importance of personal motivation and self-learning.

Overview 5: Design Leadership Development, Cautious and Considered Approach Needed

Design leaders are especially concerned with formal design leadership development programmes that train designers for a specific leadership or management position. They are troubled with the possible sense of entitlement an aspiring design leader might have once they have been tasked to attend such a programme. Design leaders also questioned the effectiveness of such formal design leadership training programme in meeting the needs of the industry, especially when design academics who are not as updated as design professionals, teach these programmes. Many design leaders have critically questioned the relevance of training practices for developing design leaders for the industry.

All in, design leaders urge a broad-minded and considered approach in training design leaders through a mix of formal and informal training programmes. They suggested that training programmes could be taught by fellow industry professionals who may have expertise in a related area that design leaders might be interested in. Design leaders don't seem too concerned if the courses are not accredited. For them, the learning they glean from the programme should enable them to solve real-life problems. They specifically cautioned that Singapore should actively avoid taking a top-down, market-driven, or quantitative approach in training design leaders for the industry and the future.

> *I think we should not consciously go and get more leaders as it is very popular (now) with top-down management…*

…you cannot simply decree it; it has to sort of organically grow from this mixture of things happening in the same place.

CONCLUSION

This chapter presents an overview of the findings from the qualitative data analysis according to the research questions. The next chapter presents the theory of the transition to design leadership and management positions in Singapore that was generated from the analytic findings.

CHAPTER 7

THEORY AND DISCUSSION

INTRODUCTION

The theory of the transition to design leadership and management positions was developed from emergent themes outlined in the previous two chapters in this book. The theory is in the form of five propositions, which relate to the five levels of the case study respectively. The five levels of the design leadership transition theory are: Level 1 Self-cultivation; Level 2 Developing expertise; Level 3 Grooming talents; Level 4 Building industry and community; and Level 5 Improving policies. This chapter describes each of these propositions and levels, drawing on the emergent themes from the three case studies presented in Chapter 5 and the overall findings presented in Chapter 6, and supported by relevant management literature that expands and provides insights into each level. The discussion traces the development of the propositions and provides insights into the characteristics, practices, and expectations of designers and design leaders at each level.

Design leadership transition begins at Level 1, with aspiring design leaders developing self-awareness that leads to self-cultivation, internal organisation, and role modelling. These aspiring design leaders conform to the expectations of them, their roles, and the differences between the roles of designers and design leaders. Aspiring design leaders must desire to make productive contributions to their work, team, and organisation through the use of their knowledge, skills, and capabilities (Collins, 2001, 2005). The journey into design leadership begins with their commitment to set an example to model the way for their organisation or team, where they seek to clarify their own values by finding their own voice and affirming shared ideas and aligning their actions with these shared values, a view shared by Kouzes and Posner (2011, 2012). Aspiring design leaders should seek to gain self-awareness, to learn from themselves especially their strengths and weaknesses, and to know their own life story, with the purpose of cultivating personal commitment and self-awareness to focus on their personal development and learning. Research shows that, in this endeavour, they will often put learning at the centre of everything and for the whole community (MacBeath, 2010; MacBeath & Dempster, 2009; OECD, 2013). Aspiring design leaders seek to cultivate their ideal self and personal vision through aspirations that would lead them to engage their passion and to catch their dreams (Boyatzis, 2008).

LEVEL 1 DLT THEORY: SELF-CULTIVATION

At the first level, aspiring design leaders need to understand that people would only follow them because they have to, and that their experience will not extend beyond the lines of their job description.

According to Maxwell (2011), aspiring design leaders should note that the longer they stay in Level 1, the higher the turnover and morale for their team. Design leaders support lifelong learning, continuous professional development, and wants to see aspiring design leaders develop a desire for personal excellence. They also expect aspiring design leaders to develop character, competencies, and thought leadership.

Table 10. DLT theory level 1: Self-cultivation

Level 1 Proposition	Focus: Self-Cultivation
At Level 1 of the design leadership journey, an aspiring design leader is awakened to the desire to lead, a self-awareness of how his actions affect others, and develops a desire for continual self-cultivation. Aspiring design leaders seek to develop character, competencies, and thought leadership.	

Characteristics\Positions (Who)	Aspiring Design Leaders
1.1 Self-cultivation via character development that focuses on dedication to continuous personal growth and team leadership	Focus on personal growth that builds passion and motivation to be a persuasive and convincing role-model Focus on team leadership that builds vision, credibility, inspiration, and an unwavering belief in design.
1.2 Self-cultivation via competency development that focuses on disciplined mastery of design fundamentals and multi-disciplinary skills	Focus on mastery of design fundamentals, especially in using the eyes and hands. Focus on mastery of multi-disciplinary skills, to develop a distinct personal style and a unique aesthetic DNA.
1.3 Self-cultivation via thought leadership development that focuses on refining the mind and spirit	A humble, open, and disciplined mind that produces fresh insights, having the ability to accept the personal challenge of questioning one's own assumptions daily. A spirit that strives for design excellence, creating novel sensibilities via solution finding.

1.1: Character Development That Focuses on Dedication to Continual Personal Growth and Team Leadership

The focus on character development is the first of the three parts of self-cultivation for aspiring design leaders. Two distinct themes emerged from analysis of the data related to character; they are personal growth and team leadership.

Personal growth that builds passion and motivation to be persuasive and a convincing role-model. Aspiring design leaders need to be awakened to the desire of wanting to lead design. This is because design leaders can continue to grow in their profession as design experts instead of design leaders or managers. From the perspectives of design leaders, that is a viable career option too as they are contributing positively to the team with their expertise. However, most design leaders see the transition to design leadership position as something positive and a natural process. This is due to the natural expansion of a designer and a design leaders' job scope within the strategic and tactical domain in design.

> *...absolutely ...there must be a desire. That's quite fundamental I would say ...because there are some occasions where we thought that certain members of our team, we want to move them to (a) design manager (position) but they just kept resisting. It boggles us (as to) "why don't you want to be a design manager?" because that seems to be the natural path to (a management position), or (a) natural (path) at least within the organisation to grow. Then they say, "You know what, I don't want to be a manager, I don't want to be managing the team, and I just want to be a designer." So I think in professions like design, there is the opportunity to just be a designer.*

To become a design leader, a significant change in skill set is required. Aspiring design leaders need to exchange the passion for creating designs, to the passion for design strategy. They will need to develop skills in inspiring, motivating, and leading design teams to create beautiful products just like how they are able to create it themselves. Aspiring design leaders have to externalise their thinking, values, and techniques, and persuade team members to follow. They need to resist the fear that once they are on the management path, they will lose touch with their original passion in design so much so that they "exchange their pencils for a mouse."

> *Because there is also the notion that once you go higher, you will be detached from the actual doing part of it, that you start to change your pencil for a mouse. I don't say it is a fear but it is the passion of really being hands-on in creating. That is still a very strong desire for a lot of designers.*

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Team leadership that builds vision, credibility, inspiration, and an unwavering belief in design. Design leaders expect aspiring design leaders to demonstrate team leadership. Design leaders expect leadership traits like confidence, personal motivation, decisiveness, charisma, professionalism, resilience, and drive. Interestingly, design leaders are also tolerant of quirkiness and eccentric behaviours in aspiring design leaders. However, aspiring design leaders must prove themselves to be adaptable to different people and environments. They are also expected to take risks, overcome obstacles independently, and accept the diverse challenges that come with that position.

> *I will try different things but that means there is big chance for failure too. But, hey that's design. That's what we learn from school as well. You try, you fail, you try again, you succeed, and success becomes a lot sweeter.*

It is crucial that aspiring design leaders continually translate their efforts into serving the design team, the company, and the community. As design leaders deal with people constantly, they are expected to be emphatic, authentic, and collaborative in their interactions. More importantly, aspiring design leaders must be able to demonstrate a visionary strategy for their team or company, credibility through repeatable successes, the ability to inspire the team with a wide variety of experiences, and a strong belief for the positive contribution of design within the organisation. Beyond these capabilities and skills, aspiring design leaders need to show loyalty and commitment to their organisation.

> *You need a very strong visionary, but how many people can be a good visionary? That remains pretty challenging for the role of design leaders.*

1.2: Competency Developments that Focus on the Disciplined Mastery of Design Fundamentals and Multidisciplinary Skills

The focus on competency development is the second of the three parts of self-cultivation for aspiring design leaders. When it comes to developing competencies for aspiring design leaders, design leaders want them to work with their eyes and hands first. Design leaders believe that by working with their eyes and hands, they develop an awareness of materials and processes that are needed to create products, systems, and services. This desire for a return to the mastery of fundamental skills is a consistent feedback from many design leaders. Similarly, design leaders expect aspiring design leaders to move beyond the fundamentals and into multidisciplinary or trans-disciplinary skills as they increasingly engage more specialists and experts on design teams to provide unique solutions. Design leaders emphasise the need for aspiring design leaders to develop a working knowledge of the roles that different design leaders play within organisations.

Mastery of design fundamentals in using the eyes and hands. The attributes for character is not neatly segmented when it comes to defining competencies. In fact,

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attributes and attitudes continue to have an impact on the development of the aspiring design leader. When it comes to competencies, they are expected to be humble, disciplined, and able to demonstrate mastery in the fundamentals of design. Design leaders are careful to emphasise the need for the direct application of learning in a disciplined manner over a sustained period of time. Similarly, they cautioned aspiring design leaders against being impatient and consequently accelerating the process of mastering the fundamentals in design competencies just to become a design leader in the shortest span of time possible. Such a design leader, without the appropriate design fundamentals, would have a difficult time sustaining their careers in any design industry.

> *Some of them remain as designers but they should not put themselves at a certain level first. (They must) be humble and don't be choosy. Even a simple furniture that is just four legged, just do it ...it doesn't matter. From there you can start mastering (the basics) because if you're fresh and straight away you want to be somebody ...that is a bit difficult.*

Multidisciplinary skills in developing a distinct personal style and a unique company aesthetic DNA. Aspiring design leaders must already be committed and driven to living a life devoted to design, demonstrating continuous learning, and self-improvement. At this stage, some would have already embarked on their task of becoming design leaders through their own efforts. Others would have secured mentors to guide them through this process. Often, a master-apprentice relationship results where the aspiring design leader undertakes the arduous task of mastering deep skills and competencies through the training of the eyes and the hands. In Singapore, this basic training often happens in the context of a formal education in an institute of higher learning. The main purpose is to create in the aspiring design leader, an understanding of styling and semantics, a distinct personal style, and to expand their capabilities to design for a brand and the aesthetics of a company through the understanding of the company's unique design DNA.

1.3: Thought Leadership Development That Refines the Mind and Spirit

The focus on thought leadership is the third and last of the three parts of self-cultivation for aspiring design leaders. These aspiring design leaders must develop differing thinking strategies that would lead to fresh insights and eventually to a personal outlook or framework for understanding and interpreting the world. The objective is to create personal sensibilities that will provide unique solutions.

> *A humble, open, and disciplined mind that produces fresh insights, having the ability to accept the personal challenge of questioning one's own assumptions daily.*

Character and competency development would culminate in thought leadership. Thought leadership comes about from aspiring design leaders taking up the personal challenge to constantly question their assumptions and to strive to become better, to be the best design leader that they can be. According to design leaders, aspiring design leaders must have humility and an open mind in appreciating differing perspectives in order to develop insights through the application of design thinking. The purpose is for them to cultivate consistent fresh thinking which all design leaders are expected to have.

> *The other, if you talk about design manager in terms of content. I would think that, (it is) not really an area of a (design leadership) preparation programme, but I think that (this) individual must consistently be updated, to be fresh in the mind.*

A spirit that strives for design excellence creating novel sensibilities via solution finding. Similarly, aspiring design leaders are expected to develop within themselves a spirit that appreciates the differing context and sensibilities during solution finding. Through consistent practice and focused application, aspiring design leaders develop a personal perspective or outlook of these various contexts. For design leaders, aspiring design leaders need to have a set of personal values and philosophy to be true to themselves and to guide others in the future path of leadership development. While design leaders are generally not confrontational in their approach, they do recommend that aspiring design leaders positively challenge their client or organisation to implement designs better. An aspiring design leader should display the spirit of personal excellence.

> *I mean predominantly as a designer, we are already thinking and actually creating the future but I am referring more to having the ability to challenge the organisation, to challenge the client that you work with, to think (with them), to have "thought leadership" that is not necessarily translated to a position. I think that is important.*

LEVEL 2 DLT THEORY: DEVELOPING EXPERTISE

At Level 2, the aspiring design leader becomes a lead designer and a contributing member of a design team, working effectively in a group setting to contribute their individual capabilities to achieve the team's objective (Collins, 2001, 2005) through formal practice, relationships, teamwork, and leadership. Lead designers must focus on developing expertise so that they can be "T-shaped" professionals with a broad-based multidisciplinary/ trans-disciplinary approach that is entrepreneurial, through continuous improvement and professional development.

They promote a shared vision within the team and envision the future by imagining exciting and ennobling possibilities, often enlisting others in a common vision by

Table 11. DLT theory level 2: Developing expertise

Level 2 Proposition	Focus: Developing Expertise
At Level 2 of the design leadership journey, aspiring designers would be design team leaders within their company. Design team leaders aim to develop deep expertise via a master-apprentice approach, to diversify design in Singapore, and to develop "T-profile" design professionals in Singapore.	

Characteristics\ Positions (Who)	Lead Designer
2.1 Develop expertise via master-apprentice approach to develop people via studio-based practice and to train them to meet stakeholders' needs using design strategy	Developing people via studio-based practice, as contrasted with formal design training programmes Meeting stakeholders' needs using design strategy
2.2 Develop expertise by diversifying design in Singapore by differentiating the design curriculum across design schools, supporting design educators to create niches in intellectual property and design entrepreneurship	Differentiating the design curriculum across design schools to focus on positive contributions to design careers and the use of design strategy Support for Design educators and creating larger niches for design schools, especially in the area of intellectual property and design entrepreneurship
2.3 Develop expertise by training more "T-Profile" design professional in Singapore with excellent communications and relationship skills, and the ability to manage professionals across a wide span of specialisations	Excellent communications and relationship skills expected of designers at all levels Designers must be able to manage professionals across a wide span of differing specialisations

appealing to shared aspirations (Kouzes & Posner, 2011, 2012). Lead designers, as leaders of a design team, focus on peer leadership with formal and sustained design practice to validate their values and techniques under time and quality based pressures. They focus on creating conditions favourable for learning and aim to create a culture to nurture learning for everyone by creating opportunities to reflect on nature, skills, and processes of learning to vouchsafe the physical and social spaces that stimulate and celebrate learning. The purpose is to enable everyone to take risks, to cope with failure, and to respond positively to challenges, and to be equipped with tools and strategies to enhance thinking about learning and the practice of teaching (MacBeath, 2010; MacBeath & Dempster, 2009; OECD, 2013). The focus is for both the aspiring design leader and the team to discover their real self and the knowledge of their personal strengths and weaknesses to validate their relevance to the industry (Boyatzis, 2008). If design leadership programmes are developed to guide design leaders, design leaders want these programmes to focus

on design fundamentals and skills that are multidisciplinary and with a strong action and outcome-orientation. They also want it to take a master-apprentice approach, to diversify design in Singapore, and to develop more design professionals in Singapore. Design leaders want more design entrepreneurs who are familiar with the use of strategy and pragmatism in design. For design leaders, they need to recognise that people follow them because they want to and it is often beyond the design leaders' stated authority. This level allows work to be fun, but staying too long in Level 2 without rising, will cause highly motivated followers to become restless (Maxwell, 2011).

2.1: Master-Apprentice Approach to Develop People Via Studio-Based Practice and to Train them to Meet Stakeholders' Needs Using Design Strategy

For design leaders, the first approach in developing expertise is to train aspiring designers to meet customers' needs. They do this through a master-apprentice approach and the development of design sensibilities.

Developing people via studio-based practice, as contrasted with formal design training programmes. Generally, design leaders believe that all designers needed to be guided and led into a more complete and thorough understanding of the nuances of design and its industry, and practices within the region. They believe there are two distinct approaches that can be taken to train design leaders. The first is the traditional approach that is from real-life experience gained through a rigorous studio-based practice using a master-apprentice approach. The second way is through a formal training programme with an institute of higher learning. These training programmes could lead to formal qualifications in design like a diploma, bachelor's degree, master's degree or a doctor of philosophy in design.

> *So there (are) two schools of thoughts; the traditional ones (taking) the master and apprenticeship (route).*

Design leaders have a stronger preference for the master-apprentice approach. In general, design leaders want a period of compulsory apprenticeship where design experts pass on their knowledge and skills in a master-apprentice approach. They highlighted that the master-apprentice approach is the most viable option in developing design leaders as it facilitates an effective transfer of knowledge, skills, and attributes expected in the design profession through the context of a studio practice. The master-apprentice approach also gives them more time to observe and act upon the many aspects of design leaders' holistic training and development. One unique aspect of the master-apprentice approach is the professional guidance and counselling that could be specially tailored to meet the individual needs of an aspiring design leader. Another unique aspect of this approach is the sharing of contacts and connections that occur in the course of completing design projects commercially, especially the ability to meet experts in the field, technology-solution

providers, manufacturers, and vendors both locally and internationally. More importantly, it does not have a time limit where the apprenticeship officially ends. For design leaders, structured time-limited training is a preposterous concept, as they felt that all design careers are based on continuous learning, development, and refinement of the person, their knowledge, perception, skills, techniques, and styles. Most design leaders prefer the master-apprentice approach because it is not restricted by the structure of an official training programme. The master-apprentice programme allows them flexibility and freedom and yet, not compromising the professional expectations and outcomes of developing design leaders. However, the most significant aspect of the master-apprentice training programme is the ability of the master or mentor to not only lead by example, but also to encourage creativity and to create the environment for it to thrive.

> *I just give them the "framework" of what to watch out for and the how do I do it. It is up to the individual to practice (and find) their own way of executing (the training plan) but the outcome is still the same (as a formal training programme).*

Meeting stakeholders' needs using design strategy. The reality of meeting customers' or stakeholders' needs is that these needs are constantly and exponentially evolving and changing, sometime in a rather unpredictable fashion and not according to any emerging trends. Not surprisingly, design leaders want lead designers to evolve with their customers' expectations. Often, design leaders would analyse and adapt to their customers' needs and thereafter, chop and change strategies to fit their customers' new and evolving needs for the next project. For design leaders, it is an experiment in survival and a test of how they can thrive by continually creating new trail-blazing trends, memorable branding, and unique experiences for their customers. For ambitious design leaders, they would want to manoeuvre their company into a position where they can dictate the trends for that particular product category or specialisation. Given the latest co-design movement, designers and design leaders increasingly find themselves researching, designing and developing products not only with more non-design experts, but also with more non-experts, like users or customers of their products. These savvy and sophisticated customers want holistic solutions that are specifically tailored for them in ever decreasing lead times and smaller windows of opportunities. According to design leaders, these compelling and urgent needs can only be met with a master-apprentice approach in their studio, working directly with their clients and understanding their requirements. However, the design leader will engage the client in developing strategy while the aspiring design leader will visualise and realise that strategy.

> *So being a design leader, I might not have the software skills or the tools of designing but I must have the talent or ability to judge if the design is good or bad. So we can at least guide our designers to what our customer wants.*

Most significantly, design leaders pointed out that the ability to have "good taste" or the appropriate design sensibilities is crucial for gaining and or securing respect within the industry because younger designers will find the guidance of more experienced designers irrelevant when they are unable to provide insights and better solutions to the problem at hand. This gaining or securing respect via good taste or sensibilities is vital in the education of all lead designers especially when they lead a team in strategic styling for a range of products to be launch in the near future.

> *Imagine (if you are) a design leader and your taste is really, really awful. You have a fine young designer under you and he's doing such great stuff (but) you are saying "it is ugly." It means you do not recognize good looking stuff, I think then, it is terrible.*

2.2: Diversifying Design in Singapore by Differentiating the Design Curriculum across Design Schools, Supporting Design Educators to Create Niches in Intellectual Property and Design Entrepreneurship

For design leaders, the second approach in developing expertise is to diversify design from a focus on styling to a focus on design entrepreneurship. They do this through changes in the curriculum and training of designers, and the upgrading of design schools, and the skills development of design academics.

Differentiating the design curriculum across design schools to focus on positive contributions to design careers and the use of design strategy. In the context of curriculum diversification, they are particularly concerned that there is a lack of differentiation between different levels of studies (i.e. ITE, Polytechnics, and University programmes in design) in Singapore. For them, they saw little difference between the syllabus between the various institution of learning, and very little competitive advantage that each institution brings into the industry through their students. According to design leaders, design schools must produce students who can contribute positively to any design company and who are keen to build their careers within the creative industry. They pointed out that currently only a handful of students meet this measure. To add, design institutions' curriculum lacks a focus on teaching design as a strategy. Design leaders highlighted the need to retrain new hires for specialised skills within the design studio as students are not familiar with some design practices and specialised skills, especially for design work in MNCs.

Design leaders said that Singaporeans are generally not marginalised in the workplace as fair opportunities are provided for their progress. However, they are rather concerned with a group of young designers who self-marginalise themselves. Young designers self-marginalise when they don't build personal confidence, develop a fighting spirit, and live up to the challenge that is expected of them. Design leaders felt that young designers are given so many opportunities in Singapore today that they now have a complacent spirit and a lack of energy in facing up to both local

and international competition. According to design leaders, they expect priorities to be given to them automatically in many study and workplace considerations.

Somehow (the) local community we are quite well-fed, for some reason, it is just that the energy level is less. So in that sense they are being marginalized. They self-marginalize, I think because we can always complain about the fact that "Oh, we should give priority to locals." I mean if you are talking about fair competition, then let us face up to it.

However, design leaders observed that young designers are being marginalised by manufacturers in Singapore. They noted that manufacturers hire designers at the lowest possible wages and put them into teams where an engineering manager makes most of the decisions. This is standard practice because many manufacturers are in direct competition with manufacturers in China and developing third world countries in Asia, like Cambodia and Vietnam. In this case, marginalisation happens as the designer is deprived not only in terms of monthly wages, but also in terms of career opportunities in the long term. Another aspect of marginalisation Singapore designers face is with some government agencies that control the disbursement of funds and organisation of design activities internationally. Design leaders pointed out that these government agencies often prefer internationally branded designers whom they find easier to justify as they are already famous, unlike local designers.

…but most of those people that I (make my) proposal to, have this mindset, especially at a higher management level, if they want to spend money or spend budget on certain things, they want to make sure that it is prominent or it is something that someone knows, something they can be proud of. In short, I can say that maybe they are just not so proud about local designers.

Support for design educators and creating larger niches for design schools, especially in the area of intellectual property and design entrepreneurship. With reference to design schools, design leaders felt that design institutions faced many limitations in Singapore. For one, design schools do not have enough highly qualified design educators. Next, design courses are generally too limited in their spectrum. Design leaders wanted design schools to have different and stronger niches and differentiation strategies from each other and have it reflect in the curriculum. They also want a stronger focus on business and strategy skills, especially for industrial design courses. Design leaders want more design students to stay in the industry after graduation (they called it yield – i.e. the yield is poor or there is a lack of yield) and last, they want design schools to have a stronger focus on professional practice. Most design leaders at this point are not very concerned with the accreditation of design programmes with institutes of higher learning, or its recognition with major industry partners within the creative industries. In fact, design leaders are more concerned with the accreditation of their studio, as part of a learning environment it provides for professional designers.

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In general, I think that the environment actually make a difference, (because) rather than have standardization or accreditation (of courses); maybe we can have the accreditation of (design) companies, or the studios. Then, the studio could have an environment where it encourages individuals or designers to be a leader. I think that would help (the industry). Maybe in a way, there are certain strategies that can be implemented when it comes to dealing with the studio, (like) how the practice is being run that would help to encourage design leaders and maybe at a national level, now that I think of it.

Design leaders highlighted their concerns about the regularity that design schools are working with some parts of the industry, especially in the area of intellectual property protection of student's works. They want schools to protect design student's ideas when they work with companies in Singapore, especially with small and medium enterprises. They felt that this way, student's design work will be better protected and it will be better for the industry as a whole.

Design leaders are most excited when it comes to design entrepreneurship, and they believe that it is the inevitable future for the design industry. For them, design entrepreneurship is where the best students will be if the schools had trained them adequately and integrated a curriculum that has business and entrepreneurship components. They felt that entrepreneurship is more critical than ever for design leaders, and that they have to train themselves to think both from the design and business points of view.

Right now, there are a lot of design consultancies coming up that are actually developing ideas of their own and bringing it to the industry and trying to sell these ideas to people to have them develop and invest in the company. I think that is positive overall for this industry.

As such, design leaders are very positive with the many entrepreneurship activities, sponsorship, and funding programmes that are initiated by Singapore's government agency. However, several design leaders suggested a more considered approach when it comes to government funding for idea validation.

Yeah. Then they'll say, "so what is a good idea?" They all start discussing (like this) "oh, good idea very important blah-blah-blah." Yeah. If I can prove it's a good idea, I don't need government funding. The Venture Capitalist, the companies (will) all come (knocking on my door) already. (So) why do I need government funding? I need government funding because I need to prove that it's a good idea.

2.3: Develop more "T-Profile" Design Professional in Singapore with Excellent Communications and Relationship Skills, and the Ability to Manage Professionals across a Wide Span of Specialisations

For design leaders, the third approach in developing expertise is to develop design professionals in Singapore who are "T-profile" leaders. They believe that it could

only be done through leadership programmes that emphasise people skills and not a top-down, hierarchical approach, that had already been proven not to work for the design industry.

Excellent communications and relationship skills expected of designers at all levels. Design leaders point out that schools are generally not the right place to develop design leadership and management, as many fundamental considerations are still missing. For many design leaders who are themselves leaders in the Singapore Armed Forces, they believed that the army is the best training ground that teaches leadership and people management skills for the real world. However, several noted that like the real world, the army had also upgraded itself with technology and best practices. As such, a different kind of fighting force is now required, especially one that is focused on the use of strategy over and above the command and control exercised by the commanding general of the old fighting force as shared by a design leader below:

> *(When) you ask them (soldiers) charge up the hill, they will go take their infantry gun and shoot. No planning whatsoever, and in the end (all will) die… actually it is not the soldiers that are lousy, you know what I mean?*

For many design leaders, design leadership must be reflected right at the top with the right choice of leader who focuses on developing "soft power," like a stronger focus on building relationships and the use of appropriate people skills.

> *First, I think soft power is the most important power for everything. So you apply to design leadership, apply to all kind of leadership and things like that except when you are in the army, I think. And that troubles me because several admirals run our Art and ministries…*

Designers must be able to manage professionals across a wide span of differing specialisations. Design leaders expect lead designers to constantly deal with situations that are complex and constantly changing. They want lead designers who are "T-profile" professionals who have very broad-based knowledge and skills, and yet possessing very deep capabilities. In addition, design leaders are aware that it is tough for professionals to manage professionals, as there may be many professional differences in opinions and approaches. To add to the difficulty of managing professionals, designers are not exactly systematic and logical in their thinking processes and arguments due to the nature of their training and the general expectations within the profession.

> *…and what we also realise is that in the area of managing people, (general management skills) are also very important. First of all, managing a group of professionals is inherently difficult. Like doctors managing doctors and lawyer managing lawyers. It is very difficult. It is difficult… (And to) add to it, designers are emotional… (As such,) it is not easy to manage a group of*

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designers because (their) arguments are…the discussions (with them), may not be totally logical.

Looking at the professional development of Industrial designers, design leaders noted that industrial design itself is a small field of expertise with wide ranging impacts and influence on the industry due to its many roles and responsibilities. As such, many design leaders look forwards to the continual success of any industrial design related programme in the industry.

I think what we also have to keep in mind that product design/industrial design is still a little bit of an anomaly in today's business world in the sense that it is a relatively small field of professionals. I mean we are talking maybe in all of the US, I think there is only something like 10,000 designers. I mean, these are 10,000 designers that are part of let us say, coming in from schools that are accredited. Practicing designers might be a little bit more. However, essentially there are only about 10,000 designers. Therefore, it is small compared to the numbers of mechanical engineers or other types of engineers that they might be interfacing with. Yet at the same time, the responsibilities we have are huge. I mean sometimes we are very much impacted with our product or if a programme is successful or not in the marketplace.

Design leaders have also expressed concerns on the approach that any design leadership programme may take, especially in the context of an expanding eco-system where design specialisations are emerging within the industry.

So developing design leaders, (you) cannot be like this…you train everybody to be a doctor (first), but you cannot get all the doctors together and train several to be the best medical leader in the field. …so the thing is this, you become specialised in a specific set of design skills when you go out…

LEVEL 3 DLT THEORY: GROOM TALENTS

At Level 3, design managers organise people and resources towards an effective and efficient pursuit of pre-determined objectives (Collins, 2001, 2005), especially in managing collective learning and producing results. Design managers would challenge the organisation's process and search for opportunities by seizing the initiative, and by looking outward for innovative ways to improve through experimentation and risks-taking to constantly generate small wins, and learning from those experiences (Kouzes & Posner, 2011, 2012). Design managers have both passion and compassion because they lead with both the head and the heart. They are also good at balancing extrinsic and intrinsic motivations. Design managers focus on dialogue and collective learning, especially leadership and learning practices. Design managers create a culture where learning is generated and sustained by quality of discourse in which leadership for learning is made explicit, discussable, and transferable. The impact of this is measured by active collegial inquiry, in which

Table 12. DLT theory level 3: Groom talents

Level 3 Proposition	Focus: Groom Talents
At Level 3 of the design leadership journey, lead designers or design team leaders would be design managers. Design managers aim to groom talents, and they do this by managing their design talents, managing their design project work, and managing the experience designers have in their studio practice.	
Characteristics\Positions (Who)	*Design Managers*
3.1 Groom talents by tackling manpower issues and have an appreciation of the nuances of the different experience levels of design talents	Tackle manpower issues in Singapore, and the increasingly temporal nature of design projects Appreciate nuances of different experience levels of design talents
3.2 Groom talents by appreciating design talent's critical first five years on the job and on how to manage design career expectations	Understand design talent's critical first five years of career and its expectations Understand how to manage design career trajectories, which are complex and personal
3.3 Groom talents by managing the design experience in the studio practice, not just manage design talents	Ensure design talents have professional development Ensure design leaders are themselves role models

a commonality of purpose is achieved through the sharing of values, understanding, and practices (MacBeath, 2010; MacBeath & Dempster, 2009; OECD, 2013). Design managers aims to create mindfulness through a learning agenda or plan (Boyatzis, 2008). Design managers need to understand that at this level, people follow them because of what they have done for the organisation and this is where success is sensed by most people as team members demonstrate their favour towards the leader for what they had done. In general, problems are fixed with little effort because of the momentum that already established (Maxwell, 2011).

At this stage, lead designers would have been promoted to design managers. Design managers are expected to groom talents, manage talents, expertise, and careers to pass on their talents and expertise within their organisation. Design managers must shift their focus on problems with design talents to managing them. Design managers must learn how to manage human resources, design projects, design expertise and design careers.

3.1 Tackle manpower issues and have an appreciation of the nuances of the different experience levels of design talents

Design managers are expected to deal with manpower issues within their organisation and are expected to know how to differentiate experience levels of design talents.

Tackle manpower issues in Singapore, and the increasingly temporal nature of design projects. Design managers must tackle manpower issues in Singapore. Manpower issues are often related to the cost of hiring design talents. Design companies offset this manpower cost by finding a better value-added niche as compared with their competitors. For design managers, it is about balancing the value of the product with its manufacturing costs, and the perceived value by the consumer.

> *…and other things, in terms of maybe production, of course it's always a manpower issue where manpower costs a few times more than what is out there in the neighbouring countries. So how do we have an edge over… and then we do really have to look at certain niche products or niche manufacturing methods that will set us apart or at a higher level compared to other people, to others who are offering the same thing at much lower (costs).*

Given the competitive nature of the industry, design leaders strongly discourage the government sector, agencies and institutions from competing directly with design companies providing design services. This is due to smaller design entrepreneurs and their companies losing projects to government institutions due to the lack of equipment, resources, and connections. Ironically, by having government institutions, especially schools, provide low-end design services, it is now possible for design consultancies to charge a higher price for their expert services.

> *…but for us it makes us less competitive and yet at the same time, it means that we are able to charge a lot more for what we're doing. So, that is in a way negative.*

Judging from the feedback from design leaders, there are currently no medium-to-long term manpower issues related to the hiring of designers in Singapore. This is due to Singapore's excellent geographical location, world-class aviation services, and a friendly manpower policy that welcomes designers at all levels from all over the world. Design leaders highlighted that their only manpower issues are in fulfilling short term projects. This could possibly signal the need to manage more temporal work in the future of the design industry.

> *At least we never really had serious manpower issues. We had a very short term one where the project (intakes) almost shot up suddenly but we never have medium or long term one (manpower issues) where we have perpetually have problems filling space. Never…*

Regarding government involvement with design projects, design leaders generally prefer that government intervention in the industry be coupled with a deep understanding of how it works. In their opinion, government bodies should not be actively involved with the design industry to force growth upon the industry in a deliberate fashion. The concern design leaders have is the direction of growth the government is seeking may not be the growth the industry wants.

…why do we even need for the government to get involved? I think they need to ask themselves, why do they want to get involved? Because they want to get involved to accelerate things? …that is (provided) they can accelerate things but if they can't then, they should not get involved. They should just completely get out (of the industry). When they want to accelerate things, they provide the funding, and then things move faster, they go faster. Manpower (becomes) available but the thing that backfires is when they do the wrong things, it makes it worse. So if they cannot get focused and do a proper job, they should not bother (getting involved in the industry) as they would just make the field too uneven.

Design managers prefer that government agencies instead allow the industry some space for creativity, reflection, and growth in a thoughtful and organic way. They felt that government intervention works better with a light-handed approach and with closer collaboration with the design industry to better understand their needs. Design leaders say that taking this more considered approach would better help the industry as it matures.

Appreciate nuances of different experience levels of design talents. This study reveals five types of industrial designers. The five types of designers are (1) Industrial Artist or Design Stylist, (2) Integrators or Design Domain Experts, (3) Implementers or Design Consultants, (4) Investigators or Design Researchers, and (5) Innovators or Design Synbookers.

Industrial artist or design stylist – Industrial artists or design stylists are by definition, the oldest of all industrial and consumer product designers. Their focus is on the aesthetics of the product and the emotion that they create. Generally, artist and stylist pay little or no attention to how products are made and they would require the help of a skilled mechanical surface engineer to realise and produce the product. Their concern is mostly with the joy and excitement that comes from the creation of industrial artefacts for common everyday use like perfume bottles, furniture, sculptures, and table wares.

Artists…they express themselves through industrial artefacts, through perfume bottles, through furniture, through interiors and things like that. So you need a mix of everything.

There are designers that are strong aesthetically, right? Meaning the designer is very sensitive to form, colours, trend for things, right? And these designers' skill-sets would then contribute to the whole design process.

Integrators or design domain experts – Integrators are design domain experts in key functions within a design team. They specialise in areas such as anthropometry, ergonomics, interaction design, interface design, ethnographic researchers, and computer-aided industrial design surfacing engineers. Design integrators in Singapore mostly have basic qualifications in industrial design. They come about

because of the increasingly specialised areas that are needed to develop products, services, and systems that are highly desirable for customers within their companies or consultancies. Their focus is to ensure that specific areas of concern within design are addressed adequately in an increasingly complex and knowledge specific team-driven product design and development environment.

> *Then you need integrators. Design integrators are designers who are able to work with the key functions within the design groups itself, meaning you talk about ergonomics, understanding human factor, the relationship between man and machine which is part of syllabus in the studies of most industrial designers. And also you talk about user interface design, arts and all that right. So these are people who integrate technologies to make products.*

Implementers or design consultants – Design implementers or design consultants are designers who interpret a complex brief, scenario, or situation for a client to formulate a design solution through the implementation of the design process. Design consultants are design experts across the span of industrial design, tackling complex products across all market segments and product types. They are experts in the field and have deep knowledge in the design knowledge domains, including business, technology and the arts. They are also well-informed of global design activities, and are widely connected within the design circles in Asia. Their focus is to educate clients on their unique perspectives and provide surprising solutions that resolve issues of design within the stakeholders' company and an increasingly niche market.

> *Then you have the implementers, people who are able to implement the design. So these people, implementers, would have a very strong sense of other functions that would come together. So this group of designers would understand, say for example, if you talk about the case of industrial design, they would understand engineering function very well to be able to execute that. And then what it takes to get there. Implementers also understand business, what the business needs are, and they can work to what some great solution to balance design in there. These are the implementers. So implementers not only understand mechanical engineering and electrical engineering, they understand software. If you understand the whole lot then you will be able to implement.*

Investigators or design researchers – Design investigators or design researchers are designers who mine, sort, and interpret big data or complex information to create explanations and insights that are useful for understanding companies, markets, or global trends and activities. Design researchers must be able to mine and sort data so that they can correctly and accurately interpret the situation in order to provide solutions to a problem. In Singapore, design researchers are mostly design academics and their focus is on the training of future designers. There have been many discussions about how practice and design schools can integrate; this perhaps is one of the possible solutions where research from academia can benefit the industry.

So you have these people who are the design investigators. There are some designers who are very good at conducting research, design research, to help them get insights, and evaluating trends. It is like a statistician who collects statistics, but they read statistics differently. So there are people who can collect good statistics, and there are people who just can't collect statistics at all. Or they can collect statistics but they don't have that particular strength (in its correct interpretation). So the thing is that if you cannot collect the information correctly, then you cannot solve, be able to interpret the information correctly, right?

So if you are police investigator, you know how to go and find clues. It is the same thing for a design researcher. You must be able to find clues to solve (the problem), like follow the trail and get the leads, do the research, and then you will get good results.

Innovators/formulators or design synbookers (creators) – Design leaders are expected to be at the top of this pyramid as design innovators and people who can synbook design for the common good. Design innovators are expected to have the full range of skill sets, as compared with the design consultants. Design innovators utilises technology, and the understanding of its impact to create future products, services, and systems. They synbook complex data and knowledge to fulfil and exceed stakeholders and business needs. Design innovators apply design thinking and strategy to meet both their business and their stakeholders' business needs.

And then also there are those who are able to synbook things. So designers who can gather research may not be the best people who can evaluate that. It may not be that, okay, some of them just good at both. If they have both then that's good, if they have the whole range of skill-sets.

3.2 Appreciate design talent's critical first five years on the job and on how to manage design career expectations

Design managers are expected to develop the complete range of technical expertise to manage design projects and work within their company. Similarly, design managers are tasked with developing lead design talents and to manage all designer careers.

Understand design talent's critical first five years of career and its expectations. For design managers to develop design talents, they have to understand what design talents go through in their first five years of their career. According to design leaders, the first five years can be seen as (1st year) styling and experimentation, (2nd Year) exploration and refinement, (3rd Year) consolidation and validation, (4th Year) production, and (5th year) confirmation.

In Singapore, industrial design graduates with a diploma in industrial design are employed as associate designers and industrial design graduates with a degree in

industrial design are employed as designers in their first year of work. Industrial design graduates with a master in industrial design are hired as a designer in their first year of work only if they do not have relevant work experience. However, Industrial design graduates with a master in industrial design will have faster promotion opportunities when compared to associate designers and/or designers. As such, the first five years of their design career will not be discussed here as they will normally be on an accelerated career path.

In the first year, associate designers and/or designers pick up the style and styling philosophy of the company they work for. They need to show discipline and determination in understanding and experimenting with the company's aesthetic and brand DNA, its product portfolio, and how these are related to one of the company's market niche. Associate designers and/or designers need to appreciate the interconnectedness between the stakeholders of the company, the clients, and decision makers, and the design director as these relationships affect and determine the style and styling process of a product for a designated market. Contribution levels for associate designers and/or designers in the first year are generally considered rather unproductive as they do not have a strategic impact on the company's performance and direction.

In the second year, the associate designers and/or designers would need to learn how to interpret the current style and styling process of the company and to experiment and to develop a new style that is refreshing, yet maintaining elements of the brand. Associate designers and/or designers will explore, refine, and produce their first range of products for the company, but many mistakes will be made. As such, it is unlikely that the associate designers and/or designers will be left unsupervised or given a free hand to style a full range of products for a client. The associate designer or designer will be closely guided by a design expert who will oversee and be responsible for this process. The associate designer or designer will be given a second chance to design a product, and create its style to test competencies, and improvements from his previous performance are expected. At the end of two years, the associate designer or designer would have completed his "basic apprenticeship." The associate designer may be promoted to a full designer if he had proven himself to be committed to the profession.

In the third year, the designer will continue with skills that they had acquired as an associate designer or designer, and to follow through the advice of the design expert in mastering his basic skills. They will consolidate and validate their skills and will most likely produce the first generation of "wow" products for the company. While the aesthetics and branding may be flawlessly executed, it is likely that there will be some deeper design language issues with this range of product fitting in with the rest of the products within the company. This is a critical year especially for the designers with the degree qualification. Their flawless performance and competencies, coupled with an in-depth understanding of the aesthetics and branding could lead to a quick promotion to senior designer. Designers, formerly associate designers, who had performed exceedingly well, may be also considered for a promotion to senior

designer. As senior designer, they may be tasked to lead parts of a team to achieve specific goals and to develop specialised skills that will benefit the company.

In the fourth year, the designer or senior designer will continue with the 2nd generation of "wow" products for their company. Much of this year will be used for producing a full range of highly desirable products for the company with a unique style and distinctive brand, with some guidance from the design expert. The focus for both designer and senior designer is to reinforce their skills and competencies in achieving a complete understanding in producing a range of products for a company, taking into account its target market segment, its marketing and manufacturing resources. At this point, the designer or senior designer will understand the complexities and relationships that sustain the development team.

In the fifth year, the designer or senior designer will be able to produce the complete range of products with all the above considerations and without much help from the design expert. Upon completing the projects this year, the designer with the diploma qualifications would be promoted to a senior designer.

Understand how to manage design career trajectories, which are complex and personal. Design careers depend largely on individual preference and the availability of opportunities within the company and in the industry. Design career paths are complex and personal, more so because some designers choose to remain as they are, as designers. As designers, they are content to explore new products and to be fully engaged using their skills, which is an acceptable career choice. The seventh year is the sweet-spot where designers become established in their careers. Many designers would have by then decided to either continue as designers, or to take on added management responsibilities. In this light, clearly defined career paths are not feasible, neither are they sustainable in Singapore. What is important is that designers experience the use of the full range of their design skills and capabilities as part of their career development.

From the data, there are concerns about mismanagement of career expectations. The first concern is with job-hopping, where designers switch jobs to secure rapid promotion. Often, these designers are more concerned with status and compensation, instead of developing their capabilities, and careers within an organisation. Another concern is with being promoted to an administrative design manager position. Designers are concerned that they will be promoted out of design and completely lose their well-honed capabilities that they had worked so hard to build up over the years. The last concern is with the availability of design management positions in Singapore. While design leaders are happy to maintain the status quo, there is a possibility of creating frustration for capable design leaders who are not given any opportunities for promotion in a tight labour market.

To better help designers develop their careers, a broad and inclusive eco-system in Singapore help them develop deep skills necessary to sustain their expertise in this field. Of significant concern to design leaders is how students transit to becoming designers. According to design leaders, this is the weakest link in the career

trajectories of designers as many fresh graduates do not have the drive, motivation, discipline, and expertise that are expected in the profession.

The career trajectory of designers can be understood in five levels, similar to the theory of design leadership transition. At the first level, fresh design graduates start their design careers working as freelance designers, associate designers or designers in the industry. Often, they are expected to pick up the skills of the profession in the first two or three years. Job-hopping is not acceptable within the industry as design leaders invest most of their time and energies to groom young talents. As such, young design talents are expected to be loyal and dedicated to their first company.

At the second level, lead designers may be already working in the industry for at least three years. By this time, they are promoted to senior designers or given other leadership responsibilities, depending on their capabilities. As senior designers and lead designers, they are expected to contribute to the team and provide leadership for the next three to five years. This level is the most crucial part of any designers' career development and they are expected to meet very high expectations from design leaders.

At the third level, senior designers or lead designers would have already worked in the industry for about five to seven years. They would also be promoted to principal designer or a design manager, depending on the culture and the career opportunities within the company. It can also depend on the desire of the senior design or lead designer, if he prefers a role dealing with the daily routines of a design project or if he wants to take on a leadership role. More often in Singapore, a promotion at this level would require the design manager to take on added responsibilities like leading the aesthetic and brand, leading the design projects, and grooming young design talents.

At the fourth level, principal designers or design directors would have been in the industry for at least seven to ten years. While principal designers and design directors have very distinct roles globally, in Singapore, both responsibilities are delegated to the design director who is expected to oversee the whole design operation from a design, human resource, finance, administrative and customer relationship management point of view. As the Singapore design industry matures, better role definitions at this level are expected.

As a level five executive, design directors or Chief Design Officers would have at least ten to fifteen years of industry experience and would have accumulated a broad portfolio of project works and experiences within the industry. For SMEs, design directors would be given shares of the design company or made a design partner or owner of a design company. For larger companies, they would be Chief Design Officer.

3.3 Manage the Design Experience in the Studio Practice, Not Just Manage Design Talents

Design leaders must groom and develop design talents, which is part of the responsibility of managing design within a company. They are also expected to manage design research, design consultancy, and the many administrative tasks that come with project management. Future design leaders are now

expected to manage the design experience of their design teams within their company.

Ensure design talents have professional development.   According to design leaders, Singapore is now a hot-spot for design talents around globally, as such; there is no shortage of both local and foreign design talents. Design talents, especially foreign design talents, help design companies address urgent project issues and bring a balance of opinion within the team. To add, a lot of these talents have skill sets that put up on the upstream of the value chain and they are not constrained by families. Generally, design leaders in Singapore do not engage in war for talents to secure talents. Their focus is on retaining design talents in an increasingly competitive market environment. Design leaders from smaller companies avoid training and professional development for their staff because they cannot afford it.

Ensure design leaders are themselves role models.   Singapore has many strengths and one of them is having many good role models. This is especially true for a society that is highly influenced by Confucian principles and a value based system that venerates knowledge and authority. Role models in Singapore are experts in their fields and they had undergone a rigorous design education, a relevant apprenticeship, or mentorship, and demonstrated an outstanding career that is committed to improving the life of people in their community.

Often, role models are Singaporean designers who are not only passionate about what they do, but are patriotic in that they secure international exposure with their projects. In return, they give the Singapore community international recognition and it is a win-win situation for everyone.

Role models can also be design experts from large design companies who are committed to lead their team, and inspire their designers on what is possible with their careers. They walk the talk and are the mouth-piece for the organisation and the community. These role models must not be self-serving. They must understand the industry and its workings intricately, especially when they make decisions that impact the whole community. They should also ensure that the community grows as a whole and not just promote selected segments within it.

Role models can be a chief design officer within a multinational corporation or owners of design consulting companies in Singapore. These role models set design career and compensation benchmarks for all designers within their company. They understand that they cannot pay the best designers a comparable pay with the worst accountants as these designers will be discouraged.

Interestingly, design leaders highlighted Singapore Government-related organisations as both role models and consumers of design, especially when they buy works done by local designers. Singapore government-related companies are setting the example first by promoting the consumption of local design and sponsoring events that promote Singapore-based companies. These government organisations and agencies can set benchmarks that influence the development of the whole design

industry positively. They can be good role models for other government-linked organisations in Singapore, to encourage them to consume design correctly. They are also influential with the implementation of policies that affect designers and design companies in many direct and indirect ways.

Singapore can also be a role model as a country in the Asian region that creates and consumes design for the benefit of government and society. Singapore is the perfect role model for demonstrating how successfully she had structured her companies and economies to produce innovative results that reflect the country's unique position in the world.

As Singapore shifts from managing young design talents to managing the career experience of her designers, design leaders felt there is a need to address several issues with designers who are fresh out of school and have no work experience. Most organisations in Singapore do not want to hire designers with less than three to five years of work experience. So the first three to five years of a fresh graduate's career in design is critical for them. For those who had graduated overseas and had several years of work experience tend to ask for a higher compensation due to their exposure and unique work experiences. However, this will price them out of the industry as compensations can be competitive in Singapore.

In this light, young designers need incubation and mentorship programmes to help them through the first three to five years. These programmes can support fresh graduates with provision of free networked environments, and basic computing equipment. They can connect with the local network of vendors, sharpen their expertise, and develop the friendship of more experienced designers who are already in the incubator.

Young designers also need publicity to secure the interest of potential employers. This publicity can come through a combination of awards from design competitions, newspaper features, and personal blogs, especially if it gives them recognition for their unique styling or ideas internationally. Young designers need to understand how the internet can increasingly help them create a larger than life presence and they should secure these exposures instead of criticizing Singapore for the lack of employment opportunities.

Young designers need help with entrepreneurship and financial advice. Young designers currently do not have the skills to deal with funding, sponsorships, and grants to compete locally and abroad.

What I hope to see is more direct support grant of the designers or the creative individuals to really do design and improve on the concept of the products and to have them commercialized. Because commercializing of products is much more complex, what is probably very lacking in the design initiative is the support of intellectual property of how designer using past inventions, past design, do they look into the database or the patent to see whether such a product exists.

Young designers need design research skills, and being fresh out of school means that they have to work very hard to acquire these skills. However, many potential employers would not want to invest time nor energy to train them as they are considered a flight risk, are unpredictable in their career decision making, and juvenile in their career expectations. Many design employers are extremely concerned with the job-hopping that occurs during the first three years of a designers' career. They wish young designers develop patience and perseverance, and not let their eagerness stumble their future career opportunities through short cuts and unorthodox career trajectories. Young designers need to realise that being consistently unemployed for long periods is bad for their resume, as it reflects how poorly they have managed their design careers. For design leaders, they need to break away from the mindset of managing people and things, to managing experiences and inspirations of their design talents in their company.

LEVEL 4 DLT THEORY: BUILD DESIGN INDUSTRY, COMMUNITY, AND SOCIETY

At Level 4, design managers become design directors. They are able to catalyse commitment to and vigorously pursue a clear and compelling vision, stimulating higher performance standards (Collins, 2001, 2005), showing them self to be an effective organisational leader and people developer.

Design directors enables others in the industry to act by fostering collaboration, building trust and facilitating relationships, as a result strengthening others by increasing self-determination and developing confidence (Kouzes & Posner, 2011, 2012). Design directors build genuine, lasting relationships and support for their teams. To add, design directors share leadership responsibilities and have a desire to train a community of learners into a community of leaders. This shared leadership enables learning practice to happen within organisational structures and procedures. Design directors support participation in shared leadership which is symbolised by a day-to-day flow of activities where experience and expertise of team members are drawn upon as valued resources. Often, collaborative patterns of work and activities cross boundaries of subject, and design directors would value and promote differing roles and status among team members (MacBeath, 2010; MacBeath & Dempster, 2009; OECD, 2013). Design directors focus on metamorphosis; especially experimentation on and practice with new behaviours, thoughts, feelings, and perceptions in their pursuit of fostering a compelling vision and stimulating higher performance standards (Boyatzis, 2008).

At this level, design directors need to note that people follow them because of what they had done for them and this level is also where long range growth occurs. Design directors need to demonstrate commitment to developing future leaders to ensure ongoing growth to the organisation and people. They must do whatever it takes to achieve and stay on this level (Maxwell, 2011). At Level 4 of the design leadership theory, design managers would have been promoted to design directors.

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Table 13. DLT theory level 4: Build industry, community, and society

Level 4 Proposition	Focus: Build Design Industry, Community, and Society
At Level 4 of the design leadership journey, design managers would be design directors. Design directors aim to bring about transformative change to the industry with design strategy, to the community with inter-disciplinary/ multi-disciplinary design approaches, and to society with participatory approaches.	
Characteristics\ Positions (Who)	*Design Directors*
4.1 Transform design industry from survivalist thinking to design strategy to enable Singapore to compete at a different plane, especially in design consultancies and SMEs	Understanding Design in Consultancy Services Understanding Design in Small and Medium Enterprises (SMEs)
4.2 Encourage design community to shift from a focus on specialisation to inter-disciplinary and multi-disciplinary approaches to enable a holistic eco-system	Encouraging the organic growth of a balanced, and holistic design eco-systems
4.3 Promote an inclusive design society by moving away from elitism (top-down approaches) to collaborative design, co-design and participatory design approaches (bottom-up approaches)	Promote Co-design and Collaborative Design Approaches between Industry, Government, and Society Promote Participatory Design Practices, de-emphasise personal achievements and focus more on contribution to society

Design directors are expected to strive to build and grow an inclusive eco-system in Singapore. Design directors must expand their spheres of influence to become interdisciplinary, inclusive, and empathic in their organisations. They aim to grow an inclusive and comprehensive ecosystem, to build personal networks, connections, and relationships. They welcome and accept diversity within Singapore's design industry and enable it to grow in a natural, sustained, and unhurried manner.

…you cannot simply decree it; it has to sort of organically grow from this mixture of things happening in the same place.

This segment suggests two growth strategies design directors can take; namely a design entrepreneurship approach or an experience design approach. At this level, design directors shift from a focus on their organisation to that of the community and society they are in.

4.1 Transform Design Industry from Survivalist Thinking to Design Strategy to Enable Singapore to Compete at a Different Plane, Especially in Design Consultancies and SMEs

Design leaders want the design industry to take a paradigm shift from the current pragmatic, survivalist thinking to one based on strategy. According to design leaders,

there are four kinds of design work in Singapore, namely (1) ad-hoc or freelance design work, (2) turn-key projects in consultancy, (3) product design development in SMEs, and (4) research and development design work in MNCs. The discussion is limited to design work in design consultancies and SMEs in Singapore. The data shows design leaders are concerned with the current survival thinking and trading mindsets.

Understanding design in consultancy services.   Design teams in Singapore are mostly multi-cultural, with designers coming from different design schools from different cities. This very eclectic mix benefits the design teams as they are able to tackle a wide range of design problems that are set out for them. For design consultancies, their environments can be chaotic and design leaders must learn how to thrive in them. As such, design consultancies are mostly run by expert designers. Design consultants' desire entrepreneurship but do not want to be bounded by the constraints of structured design work like those in an SME. Most design consultants have clients that provide them with a consistent flow of projects. Some of their clients may be former colleagues from SMEs or MNCs previously. As such, these design consultants already know the internal protocols and thinking behind administrative decisions on product creation and development.

> *Design consultancies work very hard, and each designer may tackle up to ten projects or more each year. These consultancy projects often have very tight deadlines and consultants work very long hours. That is one of the reasons why they make their studios feel very homely.*

> *A guy (designer) in a consultancy, he may therefore (have worked) five years (and) he may have seen (through) fifty over projects.*

However, design consultants realise that these projects have little or no continuity as they are ad hoc, or relies mostly on the client. Often, clients will decide if they will return to complete subsequent project variants with the same consultants. However, more often, clients will decide to try a new style with another consultancy or get their internal design team to meet their needs. As such, it is unsurprising for consultancies to be fiercely independent and form strategic alliance to survive in an unpredictable environment. Design consultants had to rely mostly on MNCs, and when they pull out from Singapore, design consultancies will be forced to shut down or drastically change their strategy. Most design consultants in Singapore had already reduced their reliance on design work from MNCs, with some creating their own products for mass manufacturing with partners in China.

From a career trajectory point of view, there are no clear career paths when working in a design consultancy. This is because the owner of the design consultancy finds it difficult to manage design careers in a very competitive environment. Design consultants see little value in professional development and accreditations as they benefit little from it. Many see it as an additional administrative burden. Similarly, Design consultancies do not have a succession plan as they felt it unnecessary for a

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small three-man operation. Design consultants are generally aware of government policies on design, but are not familiar with its details. In their survival mode, some find it difficult to relate to any of the policies especially those that concern the Asian design hub. Design leaders saw opportunities for design consultancies to shift their emphasis from design consultancy to strategy, or even research. Many felt the need to drive the further growth of the design consulting business in Singapore for the benefit of the design eco-system.

Understanding design in small and medium enterprises (SMEs). Design leaders noted that SMEs in Singapore had already passed the start-up period and are cruising comfortably. They envision SMEs in Singapore having the potential to be the next wave of entrepreneurs that goes out to establish a Singaporean presence in Asia, with some help from the Singapore government. However, design leaders noted that SMEs are not design savvy. At best, SMEs are superficial in their aesthetics and design. Design leaders want SMEs in Singapore to adopt design as part of their corporate strategy and should consider an early transition to avoid the pain of rapid and drastic change later on. They urge all SMEs to adopt design and business know-how to succeed regionally and entrench themselves around Asia and internationally.

4.2 Encourage Design Community to Shift from a Focus on Specialisation to Multi-disciplinary and Trans-disciplinary Approaches to Enable a Holistic Eco-System

Globalisation also creates a business environment for design that is constantly changing. One of the most significant changes created by globalisation on the design industry is the inevitable shift from a pragmatic to an empathic design economy. To add to this interdisciplinary mix is the increasing importance of personal branding. Designers today must learn how to brand themselves, their company, and their country. This is beyond the general expectation that all designers must create value for new and niche markets and novel solutions that will make the world a better place.

Encouraging the organic growth of a balanced, and holistic design eco-systems. For design leaders, seeking a balance within the design eco-system is vital. The balance comes from clients who are educated on how to consume design. Design leaders saw the need for design to be grounded on research and development work, and wished for a wider definition of designers and skill sets. Design leaders aspire for a design eco-system in Singapore that is bigger, and tackles a wider variety of products. For them, Singapore's design eco-system is small, fragmented, and incomplete. They felt that the design eco-system in Singapore needed revitalisation. Design leaders suggested bringing back skills that had been lost to China, like model-making, surface finishing, and product engineering. Design leaders want the eco-system to support product development efforts and they are concerned that design can't play an adequate facilitation role if this part of the canvas is incomplete. Design leaders

recognised the importance and influence of art on design. They suggested better networking and collaboration with the arts and culture eco-system to better leverage on mutual strengths and a better integration with financial and banking infrastructure to facilitate business and entrepreneurship in design.

4.3 Promote an Inclusive Design Society by a Shift Away from Elitism (Top-down Approaches) to Co-design and Participatory Design Approaches (Bottom-up Approaches)

Design leaders want a shift from elitism to inclusiveness in the design community. They want an inclusive community where everyone, regardless of their background, are considered a part of the community and can get involved in its activities. They felt there was a need to not only accept differences but to celebrate it. The objective of inclusiveness is for designers in Singapore to develop an increasingly broad and global perspective in design. Such an inclusive design community and society will nurture people and provide them opportunities for the future. An increasing concern is with the disconnect design administrators at government agencies have towards the community.

> *Because, it has, my issue with it is, it has a very elitist approach to it. Very elitist slant to it, you know, which I'm uncomfortable with. Design is for everybody. So, I don't like how it has been positioned at the moment. Yeah.*

In this respect, design leaders felt that government led initiatives should be inclusive such that common people are not priced out of design activities and events

> *So, again it's a very, it seems like a much closed door thing. It feels like it is for a group of people. Whereas design is for everybody. It's everywhere, it's not exclusive. It is not an exclusive thing. It's everywhere.*

Similarly, government-led design promotion should be open-minded and authentic, and not superficial, so that the message is not misrepresented.

> *I would like to see that, to see…if the government wants to come in, to allow more avenues for creativity. And have a very open-minded approach to it and encourage a very local way of doing things. And not be superficial about it.*

Design leaders felt that international design activities are good for Singapore as a whole, but these activities and events seldom benefit local designers as they are often excluded. They felt strongly that government and government-related agencies should promote Singapore and Singaporean designers as a first priority. While it is important, government agencies should not be overly concerned with international image and branding of local activities and the amount of impact these activities have internationally.

> *When we say, Oh this place is for, it's for designers to hang out, oh, but it's expensive…, you know, it's posh… You got the big brands, international brands coming in. You import stuff… But hey, what about our own things? Do we*

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allow our own people? Do we give our own community enough time, patience, to trial and error, to grow, you know? Do we allow avenues for them to do that? Do we encourage that? Or do you want results straight away?

Design leaders pointed out that design policies should have a wider impact. It should not be seen that policies are implemented for the sake of it, without considerations for its outcomes.

Yes. I do not know whether they are interested to know this (relevance of design policy). That's one thing. So far it doesn't seem that they are interested to know.

Design leaders observed that industry feedback sessions often require participation involving multiple personnel from similar organisations. They suggested that industry feedback must be managed evenly, consistently and coherently.

I think it is fine (to have groups of expert designers come together for policy discussions) but I think that it needs to be managed properly. I think it is not like it is not been done before but to me, if it is not managed properly what you have is just a lot of noise again. So I think they are already doing something like that, in a sense, they are getting feedback.

Design leaders noted the awakening in the art and culture industries where artists are now required by members in their industry to manage art and cultural policy. They saw it a priority for design administrators and policy makers to be trained in their field at a bachelor's degree level, so that they can understand the nuances within the industry. Design leaders wish for the day that administrators and policy makers are trained in the same field to manage the industry.

In the last 10–15 years. People who are so-called leadership in design whether formulating policy, he himself does not understand or what design is all about. Their understanding could be just academic observations from how other countries practice and trying to implement the same model in Singapore.

Promote co-design and collaborative design approaches between industry, government, and society. Design leaders have actively participated and contributed to design in Singapore. They pointed the way forwards in co-design approaches and strategies, where the government and the people work together to find desirable solutions that are acceptable to both. Design leaders can use co-design strategies to help strategise the future for Singapore.

You see, this again comes back to the situation in Singapore. In parts of the world, the government, the leadership and association or a federation, they will take the first step to get people together.

Promote participatory design practices, de-emphasise personal achievements, and focus more on contribution to society. The focus of design leadership is shifting

from personal achievement to that of their contribution to society, and the significance of the impact of that contribution to society. Design leadership today requires leaders to have the passion to promote the industry, and to mentor young designers to be of significance to the industry.

> *So I would say then to the society these (design leader) roles are important if this guy, because these guys are what we defined earlier as a sort of design leader. So they can chart paths, negotiate; create things, make things happen. This is important if they have greater aims than their own self achievement. If they have the right passion to promote the industry or to mentor young people then I say they're important to the society. If not they're not important.*

LEVEL 5 DLT THEORY: IMPROVE POLICIES AND RELATIONSHIPS

At Level 5, the design owners or Chief Design Officer (CDO) builds enduring greatness through a paradoxical blend of personal humility and professional will (Collins, 2001, 2005), through policy leading and learning, building resonant relationships.

Table 14. DLT theory level 5: Improve policies and relationships

Level 5 Proposition	Focus: Improve Policies and Relationships
At Level 5 of the design leadership journey, design directors would be chief design officers or owners of their design business. Chief Design Officers or Owners of design businesses support, promote, and refine existing policies, and make suggestions for new policies in the creative industries that benefit Singapore, and Singaporeans and their relationship with Asia and the world.	
Characteristics\ Positions (Who)	**Chief Design Officer (CDO)**
5.1 Support and promote existing policies and ensure it benefits Singaporeans and Singapore in general	Help Singapore grow design in a holistic way so that all design companies, government organisations, and companies within the eco-system recognise it for its true potential. Actively engage with government agencies and government-linked organisations to offer them guidance and advice to steer the creative industry effectively and efficiently
5.2 Refine policies to ensure a balance, holistic and organic growth for the industry	Be prepared to be role model and a major influence in the creative industries Be prepared to be set for themselves the highest standards in the industry
5.3 Suggest policies that extends Singapore's relationships with Asia and the world	Builds and extends a broad range of policies and relationships expertly, over and beyond basic leadership and administrative responsibilities

CDOs encourage the heart of the community through the work they do as they recognise contributions by showing appreciation for individual excellence and celebrating the values and victories by creating a spirit of community (Kouzes & Posner, 2011, 2012). CDOs promote self-discipline by integrating their life through staying grounded and by empowering people to lead. They understand the passion and purpose of their leadership. At the policy level, CDOs have a shared sense of accountability and they would not hesitate to lead and learn with the community. More significantly, they encourage a collaborative climate with this shared sense of reciprocal accountability internally within their team and externally, with agencies and engagements with national policies. They interpret, adopt, and adapt national policies to align with their own company's core values. CDOs are able to tell their own story to their organisation, taking into account political realities with a continuing focus on sustainability, succession, and leaving a legacy (MacBeath, 2010; MacBeath & Dempster, 2009; OECD, 2013).

At this level, CDOs build trusting and resonant relationships that enable their teams to learn, to experience, and process each and every one of their discoveries (Boyatzis, 2008). CDOs function at their pinnacle, and people follow them out of respect because of who they are and what they represent. This level is reserved for leaders who have spent years growing people and their organisations. It should be noted that few make it to this level and for those who do, they will appear bigger than life (Maxwell, 2011).

At Level 5, design leaders are design business owners or the chief design officers of an established SME or MNC. They are expected to expand and globalise the community and connections in Singapore. Design owners or chief design officers must champion the design purpose in their company and the community to facilitate better design jobs and policy. They aim to grow a community of leaders that strategically use design in their companies and encourage others to do likewise. Design owners and chief design officers are spokespersons for design and they lead by example. They clear obstacles that enable design to be entrenched in and to benefit society and the country. Design leaders emphasised the need to shift from community to connections, and to develop relationships and strategic partnerships to further the purposes of Singapore's Asian Design Hub policy.

Yeah, to take this concept further there are areas that we should be thinking about like forming the right connections. I mean right now what we have is all these communities. They are on Facebook, YouTube (and) we haven't been very good about exploiting some of these in strategic partner of design development, I mean making this an Asian design hub. We are relying quite a lot on all these Facebook and other technology without having to effect that you know you could have your own version here but its more about design.

5.1 Support Existing Policy and Ensures It Benefits Singapore and Singaporeans Holistically

Design leaders are supportive of Singapore's Asian design hub policies. They felt that the policy had been successful in achieving its purpose and that many have benefited from this policy locally. Government agencies promotion of Singapore as a design hub globally have also increased awareness and brought major design industry players into Singapore. Singapore is now a thriving design hub and there are now more opportunities for young designers than ever before. Design leaders now hope that the Asian design hub policies can help Singapore grow design in a holistic way so that all design companies, government organisations, and companies within the eco-system recognise it for its true potential.

> *(Sighs and long pause) For me I would think that if this initiative is (more) successful, I think our company would recognise it as a more, not just recognise design. Recognise design in a more holistic way. I think, not only in terms of our government and company, other company will recognise it as well.*

Design leaders who had been actively engaged with the government are already familiar with the purpose and workings of the policy. Similarly, a majority of design leaders are aware of the creative industry policy; however, they are not familiar with its details even though the information is available on government websites. Design leaders suggested that government agencies should call for round-table meetings to update on the policy face-to-face and its progress on a regular basis. Design leaders are unanimous with their feedback regarding the policies positive impact on the design community in Singapore.

5.2 Refine Policies to Ensure a Balance, Holistic and Organic Growth for the Industry

> *It's something, again, you cannot simply decree it, and it has to sort of organically grow from this mixture of things happening in the same place. New York is a financial hub because of this reason as well. In the financial world everything is there, insurance, banking, etc.*

Design leaders highlighted their expectations of ministerial level leaders as major influencers within the creative industry as Level 5 leaders.

Design leaders expect the design industry to be administered by designers with at least a diploma or degree in design as the minimum qualification and a few years of work experience. This is so that they will be able to understand the industry and implement policies better. Design administrators must be excellent design implementers with passion and professionalism, especially in the area of networking and communication skills. They must be able to secure feedback from various design communities and specialisation without bias, be able to have empathy, and understand differing perspectives and accept differing opinions. Design leaders are frustrated

with job-hopping situations in Singapore as some design administrators seek better compensation within different government-linked companies. They pointed out that their design projects get stalled or the handing over of administrative duties gets poorly communicated to the next administrator. Design leaders also pointed out major discrepancies and flaws within the government purchasing system that forces many design companies to go against common industry practice like "free-pitching." They complained that this sends conflicting signals to the community and causes all designers to doubt the sincerity of design administrators in Singapore. As such, it is not surprising that some design leaders felt that the design industry is being betrayed by the very people who are supposed to help them.

The highest expectations are set for government design leaders who are responsible for the design industry. They expect them to be constantly thinking about how to improve the industry and to monitor global events that have an impact on the industry in Singapore. Government design leaders should have an all-consuming passion and concern for all levels of designers and design activities, to ensure that the industry is not only sustainable but thrives under global pressures. The person is expected to look into the design industry to ensure its growth and prominence, similar to major design cities like London and Tokyo. He or she must not be distracted between his portfolios and must have a profoundly strong understanding of the nuances of design, an unshakable belief in design, a passion in promoting design in Singapore, and to ensure that the Singapore design ecosystem is not fragmented. Design leaders want government design leaders to be unfettered in their power to help the industry and to tackle design issues seriously and urgency. They have to promote design as a strategy and to promote inclusiveness within the community.

5.3 Suggest Policies That Extends Singapore's Relationships with Asia and the World

Design leaders expect Level 5 leaders to handle a broad range of relationships expertly and this is over and beyond their basic responsibilities. Contextually, relationships changes when a leader is brought in to provide consultancy services, as compared to one that is promoted within the company and given the reins to drive improvement in a specific area. At Level 5, there is still a master-apprentice approach to many relationships at the workplace. Level 5 leaders must be ready to lead and guide their people in a hands-on manner.

According to design leaders, many Asian companies and designers are at the bottom of the totem pole in many organisations. Designers in Asia have yet to realise the vast strategic potential of design as they constantly focus on the economics of the business instead. Designers in Asian companies are also promoted a lot faster than designers from American or European companies, as such, they somewhat lack the necessary work experiences. However, designers in Asia are getting better technically, and they are accumulating more experience, securing more exposure and becoming more successful. Design leaders anticipate that the next design superstar

will be from Japan, Korea, or Taiwan, because of the speed of development of their design ecosystem.

Singapore is a multicultural microcosm of the South East Asian societies and being at Asia's crossroads, a great lifestyle driven market with global influence. While design leaders feel that there may be room for a few more Asian design hubs like Korea and Taiwan, what matters most for design leaders is the ability to translate global influences in order to be an effective Asian design hub. Design leaders are confident that Singapore will continue to expand and grow as an Asian design hub. They also noted that a majority of Asian nations will become competitive very quickly and Singapore needs to be ahead of its game.

CONCLUSION

This chapter presented the theory of the transition to design leadership and management positions in the form of theoretical propositions at five levels. The following chapter concludes the book.

CHAPTER 8

CONCLUSION

INTRODUCTION

This chapter provides an overview of this study, presents the empirical and theoretical findings of the multiple case studies, makes recommendations for practice and policy, and suggests implications for further research.

OVERVIEW OF THE STUDY

This study is located in context of the development of the creative industries in Singapore, with a particular focus on the design sector. International research calls for a new breed of global design generalists, and highlights a gap in knowledge about the experience of design leaders transitioning to leadership positions. The challenge for this study was to review design leadership transition in Singapore in light of the Asia Pacific war for talents and Singapore's drive to become the design hub in Asia. The overarching aim of the research was to develop theory on design leaders' transition to design leadership and management positions in Singapore. To this end, the study sought the perspectives of design leaders in Singapore.

The research gap was framed by concerns of international scholars from the cultural and creative industries on the need for design leadership and a new breed of global generalists (Kyung Won Chung, 1998; Gibson & Kong, 2005; Porcini, 2009; Yukl, 2013). The research gap can be framed in five levels. At the first level are scholar's concerns with problems at middle-level managers globally. At the second level, scholars are concerned about the need for cross disciplinary perspectives between design academics and practitioners and the need for educational policies in design education and design research. At the third level, scholars highlighted the current war for talent in the Asia Pacific and the need to develop design studios with excellent practices. At the fourth level, scholars are concerned with the need for new studio leaders. This is in the context of the failure of the top-down design leadership style. At the fifth and last level, scholars are concerned about the impact of the design policy in Singapore and how these design policies and strategies can help develop a stronger design culture or tradition in Singapore.

To achieve the research aim, the qualitative, interpretivist study sought the experiences and perspectives of industrial design leaders and produced rich

descriptions of their transition to leadership and management positions. Employing a multiple case study design, three case studies were developed: the case of design managers, the case of design consultants, and the case of design entrepreneurs. Data was gathered primarily through semi-structured in-depth interviews with 15 design leaders, triangulated with data in the form of documents and researcher field notes, memos and reflective journals. The data was analysed using grounded theory coding techniques supported by computer aided software.

Findings

The empirical findings of the study, presented in Chapters 5 and 6, led to the development of the development of the Design Leadership Transition Theory in the form of theoretical propositions, as follows:

Proposition 1: Awakened to the Desire to Lead

At Level 1 of the design leadership journey, an aspiring designer is awakened to the desire to lead, has a self-awareness of how their actions affect others, and develops a desire for continual self-cultivation. Designers who aspire to be design leaders seek to develop character, competencies, and thought leadership.

Proposition 2: Develop Deep Expertise

At Level 2 of the design leadership journey, aspiring design leaders are promoted to a lead designer of a design team within their company. Lead designers aim to develop deep expertise via a master-apprentice approach, to diversify design in Singapore, and to develop "T-profile" design professionals in Singapore.

Proposition 3: Groom Design Talents

At Level 3 of the design leadership journey, lead designers are promoted to design managers. Design managers aim to groom talents, and they do this by managing their design talents, managing their design project work, and managing the experience designers have in their studio practice.

Proposition 4: Facilitate Change in Industry, Community and Society

At Level 4 of the design leadership journey, design managers are promoted to design directors. Design directors aim to bring about transformative change to the industry with design strategy, to the community with inter-disciplinary/multi-disciplinary design approaches, and to society with participatory projects.

Proposition 5: Influence Design Policy to Benefit Singapore/Singaporeans

At Level 5 of the design leadership journey, design directors are promoted to a chief design officer or an owner of their design business. Chief design officer and owner of design businesses support, promote and refine existing policies, and make suggestions for new policies in the creative industries that benefit Singapore, and Singaporeans and their relationship with Asia and the world.

ALIGNMENT WITH BUSINESS LITERATURE/THEORIES

The transition to design leadership and management position theory is aligned with six interconnected business management theories found in business literature. Together, they provide an explanation for the theory of transition to design leadership and management positions from an entrepreneurial, business, and management theory perspective.

Level 5 Leadership by Jim Collins: Role Expectations

The first management theory is Level 5 Leadership by Jim Collins (Caulkins, 2008; Collins, 2001, 2005) supports the design leadership transition theory by defining leadership as having increasing difficult levels of roles. These five roles are being highly capable individuals, contributing members of a team, competent managers, effective leaders, and finally, level 5 executives.

Table 15. Level 5 leadership (Caulkins, 2008; Collins, 2001, 2005)

Role Expectations: "Who are design leaders?"				
Level 1	*Level 2*	*Level 3*	*Level 4*	*Level 5*
Highly Capable Individual	Contributing Member of a Team	Competent Manager	Effective Leader	Level 5 Executive
Makes productive contributions through talent, knowledge, skills and good work habits	Contributes individual capabilities to the achievement of group objectives and works effectively with others in a group setting.	Organises people and resources towards effective and efficient pursuit of predetermined objectives.	Catalyses commitment to and vigorous pursuit of a clear and compelling vision, stimulating higher performance standards.	Builds enduring greatness through a paradoxical blend of personal humility and professional will.

Exemplary Leadership by Kouzes and Posner: Aims of Leadership

The second management theory is Exemplary Leadership and Leadership Challenge theory by Kouzes and Posner (2011, 2012) supports the design leadership transition theory by defining leadership according to their aims. Leadership aims are defined as leaders themselves being able to model the way, to inspire a shared vision with teams, to challenge the process within the organization, to enable others to act in the industry, and to encourage the heart in communities.

Table 16. Five practices of exemplary leadership and the leadership challenge (Kouzes & Posner, 2011, 2012)

Aims of Leadership: "What are their aims?"				
Model the Way	Inspire a Shared Vision	Challenge the Process	Enable Others to Act	Encourage the Heart
Self	Teams	Organisation	Industry	Community
1. Clarify values by finding your voice and affirming shared ideas	3. Envision the future by imagining exciting and ennobling possibilities	5. Search for opportunities by seizing the initiative and by looking outwards for innovative ways to improve	7. Foster collaboration by building trust and facilitating relationships.	9. Recognise contributions by showing appreciation for individual excellence.
2. Set the example by aligning actions with shared values	4. Enlist others in a common vision by appealing to shared aspirations	6. Experiment and take risks by constantly generating small wins and learning from experience.	8. Strengthen others by increasing self-determination and developing competence	10. Celebrate the values and victories by creating a spirit of community.

Authentic Leadership by George: Expectations of Leaders

The third management theory is authentic leadership (George, 2003; George & Sims, 2007; George, Sims, McLean, & Mayer, 2007) supports the design leadership transition theory by highlighting what is expected of design leaders at every level. Leaders are expected to have self-awareness, formal practice, passion and compassion, genuine friendships, and self-discipline.

Table 17. Authentic leadership (George, 2003;
George & Sims, 2007; George et al., 2007)

Expectations of Leaders: "What qualities must they have?"				
Self-Awareness	Formal Practice	Passion & Compassion	Genuine Friendships	Self-discipline
Learning from your Life Story/ Knowing Yourself	Practicing your Values & Principles	Lead with Heart & Head	Build Lasting Relationships	Integrating your Life by Staying Grounded Empowering People to Lead
(1) Gaining Self-awareness	(2) Practicing your values and principles under pressure	(3) Balancing your Extrinsic and Intrinsic motivations	(4) Building your support teams	(5) Staying grounded by integrating your life (6) Understanding your passions and purpose of your leadership

Principles of Leadership by Macbeath: Activities During Leadership

The fourth management theory is the principles of leadership for learning (MacBeath, 2010; MacBeath & Dempster, 2009; OECD, 2013) defined the activities that must occur during leadership transitions. The activities are individual learning, individual leading, collective learning, organisational learning, and policy level learning and leading.

Table 18. Five principles of leadership for learning (MacBeath, 2010;
MacBeath & Dempster, 2009; OECD, 2013)

Activities during Leadership: "What must they do?"				
Individual Learning	Individual Leading	Collective Learning	Organisational Leading	Policy Level Learning & Leading
Focus on Learning (Key)	Creating conditions favourable to learning (Creating conducive conditions)	Leadership for Learning Practice (Dialogue)	Shared Leadership (Shared Leadership Responsibility)	Shared (sense of) Account-ability (Shared sense of accountability)

Putting learning at the centre of everything for the whole community.	A culture able to nurture learning for everyone, affording opportunities to reflect on the nature, skills and processes of learning and to vouchsafe the physical and social spaces that stimulate and celebrate learning. To enable everyone to take risks, to cope with failure and respond positively to challenges, equipped with tools and strategies to enhance thinking about learning and practice of teaching	A culture where learning is generated and sustained by a quality of discourse in which leadership for learning is made explicit, discussable, and transferable. Its impact is measured by active collegial inquiry in which a commonality of purpose is achieved through the sharing of values, understandings, and practices.	A community of learners becomes a community of leaders. Learning practice involves the sharing of leadership in which organisational structures and procedures support participation. Shared leadership is symbolised by day-to-day flow of activities in school where experience and expertise of staff, students, and parents are drawn upon as a valued resource. Collaborative patterns of work and activities across boundaries of subjects, role, and status are valued and promoted.	A collaborative climate with a sense of shared accountability. Internal, reciprocal account-ability is a precursor and pre-condition of account-ability to external agencies, and national policies are interpreted, adopted, or adapted to the extent that they accord with the school's core values. The school chooses to tell its own story, taking account of political realities with a continuing focus on sustainability, succession and leaving a legacy.

Intentional Change Theory by Boyatzis: Outcomes of Leadership

The fifth management theory is the theory of intentional change by Boyatzis (2008) points to the outcomes that design leaders must achieve at the differing levels before they move onto the next. The first outcome is the development of the ideal self and a personal vision. The second outcome is to develop the real self and to compare the real

self to the ideal self to find out one's strengths and weaknesses. The third outcome is to develop mindfulness through a learning agenda and plan. The fourth outcome is to develop experimentation with new behaviour, thoughts, feelings, or perceptions. The fifth and last outcome is to develop a trusting or resonant relationship that enables a person to experience and process each discovery in the process.

Table 19. Intentional change theory (Boyatzis, 2008)

Intentional Change Theory (ICT)				
Outcomes of Leadership: "What must they achieve?"				
Ideal Self & Personal Vision	Real Self & Knowledge of Strengths & Weaknesses	Learning Agenda & Plan	Experimentation & Practice	Trusting & Resonant Relationships
The First Discontinuity: Catching your Dreams, Engaging your Passion	The Second Discontinuity: Am I a Boiling Frog?	The Third Discontinuity: Mindfulness through a Learning Agenda	The Fourth Discontinuity: Metamorphosis	The Fifth Discontinuity: Relationships that enable us to Learn
The Ideal Self and a Personal Vision	The Real Self and its comparison to the Ideal Self resulting in an assessment of one's strength and weaknesses, in a sense a personal balance sheet	A Learning Agenda and Plan	Experimentation and Practice with the new behaviour, thoughts, feelings or perceptions	Trusting, or Resonant Relationships that enable a person to experience and process each discovery in the process

Five Levels of Leadership by Maxwell: Follower's Response

The sixth and last management theory that supports the design leadership transition theory is John Maxwell's Five levels of leadership. It supports the design leadership transition theory by providing the follower's response to the five levels of leadership (Maxwell, 2011). According to Maxwell (2011), at the lowest level people will follow the leader because they have to, then they will follow because of their relationship with the leader, after that they will follow the leader because of what he has done for the organisation, at the fourth level people will follow the leader because of what they had done for them, and finally at the fifth and last level, people will follow the leader because of who they are and what they represent.

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Table 20. Five levels of leadership (Maxwell, 2011)

		Follower's Response: "How others would respond?"		
Position	Permission	Production	People Development	Pinnacle (Personhood)
Rights	Relationships	Results	Reproduction	Respect
People follow you because they have to	People follow you because they want to	People follow you because of what you have done for the organisation	People follow you because of what you have done for them	People follow you because of who you are and what you represent
Your influence will not extend beyond the lines of your job description. The longer you stay here, the higher the turnover and the lower the morale.	People follow you beyond your stated authority. This level allows work to be fun. Caution: Staying too long in this level without rising will cause highly motivated people to become restless.	This is where success is sensed by most people. They like you and what you are doing. Problems are fixed with very little effort because of momentum.	This is where long range growth occurs. Your commitment to developing leaders will ensure ongoing growth to the organization and to people. Do whatever you can to achieve and stay on this level.	This step is reserved for leaders who have spent years growing people and organizations. Few make it. Those who do are bigger than life.

RECOMMENDATIONS

This research is limited by the amount of existing corpus of research in the transition to design leadership and management positions globally, and especially in the context of Singapore. It is also limited by design leader's concerns regarding client and company confidentiality, as such; the researcher was unable to persuade any design leader to keep a diary of events on leadership issues at work, and for some, to secure access to their design studio for observational studies, and to conduct face-to-face interviews on-site.

Five recommendations are made in light of global design issues identified from the literature review, the research gaps, the overall themes and theoretical findings gathered from the data, and the five propositions proposed as shown in Table 21. These five recommendations also addresses issues faced by the design industry in Singapore as there is also a need to (1) build design competencies (knowledge, skills, and behaviour in design), (2) develop design expertise and professionalism within design organisations, (3) groom design talents and create a design legacy

Table 21. Table of recommendations based on research

Research Gaps from Literature Review (Table 3)				
Scholars identified Problems with middle-level managers globally	Scholars suggested Cross Disciplinary Perspectives Needed between Academia & Practice	Scholars warned of War for Talents in the Asia Pacific due growth in Asia Pacific	Scholars yet to identify the type of leader needed for design community	Scholars says that studies needed on impact of design policy in Singapore
Problems from Empirical Literature Review (Table 3)				
Work Styles, Flexible Roles, Inclusive Culture	Design is Ephemeral, Life-long Learning, Professional Development	Design Career Pathways, Managing Design Talents, War for Design Talents	New Leadership Styles, Fragmented Eco-system, Service Orientation	Knowledge Society, Asian Design Hub, Design Value & Design Environment
Overall Themes from Findings				
Shift from External to Internal Challenges	Focus on Practice, Action-orientation	Being Authentic, Support Community	Design Experience to Design Research	From Sympathy to Empathy
Theoretical Findings				
Awaken desire to lead	Develop deep expertise	Groom design talents	Facilitate change in industry, community and society	Influence design policy to benefit Singapore and Singaporeans
Findings/ Propositions				
Level 1: Self-Cultivation	Level 2: Develop Expertise	Level 3: Groom Talents	Level 4: Build Industry, Community, and Society	Level 5: Improve Policy & Relationships
Recommendations				
Build Design Leadership Pipeline: Focus on Character & Work Experience	Promote Design Professionals from within Organisations: Advance Design Leadership Competencies and Professional recognition	Create Design Legacy through Apprenticeship: Cultivate Talents with Meaningful Work	Facilitate strategy-based mindsets: Create Diverse yet Inclusive and Authentic Industry, Community, and Society	Connecting People, Policy, and Culture: Beyond Establishing Reputation and Building Brands

through apprenticeship and meaningful work, (4) build industry, community, and society that is diverse, inclusive and authentic, and lastly, (5) to connect people, policy, and culture beyond establishing reputation and building brands. The five recommendations are as follows:

Recommendation 1: Build the Design Leadership Pipeline: Focus on Developing Character and Relevant Work Experience

Training and development for industrial designers normally has a strong technology focus. It should take a more holistic approach to develop aspirations that will provide the foundation to a life-long career in the design industry. To this effect, Singapore has renewed efforts in this area through the SkillsFuture programme that was launched in 2014 across all institutions of higher learning. Designer education should ideally include self-awareness, personal management, ethics, integrity, being a productive member of society, and global citizenship. Special emphasis should be given to developing unique and personal branding for every designer, with an emphasis on resourcefulness, and having a working knowledge of professional practices adopted by the industry. More significantly, a holistic design education is not worth much if the graduate is unable to find relevant work experience within the first three years after graduation. A common platform is recommended for all schools, academics, and practitioners to share data regarding graduating talents and to ensure their gainful employment within the design industry.

    Designers today are faced with a major change in work styles where increasing entrepreneurial, project-based, and temporary-work with high-maintenance multidisciplinary teams are evidence that they will increasingly engage in teamwork with less emphasis on personal recognition, success, and achievements. Designers also have enlarged responsibilities and increased role flexibility, with a constant focus on fulfilling shifting client's needs and increased responsibilities like gate-keeping roles, pointing to an increasingly engaged workplace with multiple roles. To add, designers need to overcome any cultural disadvantage that they might have, in an inclusive culture where work is increasingly relationship-based, with a strong need for inter-cultural sensitivity, and where diversity is promoted. Not surprisingly, the problems identified by scholars with middle-level managers globally does not seem likely to go away anytime soon but will instead need urgent attention (Krell, 2011; ManpowerGroup, 2014).

Recommendation 2: Promote Design Professionals from within the Organisation: Advance Design Leadership Competencies and Professional Recognition

The design industry can be transient and ephemeral, yet some influences can be undeviating and enduring. An expert designer would be able to tell the nuances and sieve through fads to reveal deep underlying trends in culture and society.

Expert designers would also know the many nuances when it comes to manpower development and the limitations of their designers. However, the pragmatic approach taken by many organisations in the design industry is to parachute in mid-career design leader transfers into design management. This is contrasted with the practice within the art and culture industry in Singapore, which defines the minimum professional qualifications as a bachelor of arts within the required art and culture field, together with several years of experience before one is considered for management positions. What is critical for Singapore is to develop policies that support design education and design research, especially in building design leadership competencies and design champions. According to scholars, these design champions must preferably be from within the design education and design management specialisations for a better trans-disciplinary perspective between academics and practitioners. To fulfil this vision, apprenticeship schemes should be aligned with business realities and be part of the professional development of individual designers, according to their aspirations. Professional development together with lifelong-learning, and continuous upgrading programmes, must be recognised by the industry's professional organisations.

Recommendation 3: Create Design Legacy through Apprenticeships: Cultivate Talents with Meaningful Work

While it is not common practice yet in design companies in Singapore, it is the legacy of every global design manager to train an apprentice, to influence them in their early training, and to provide them with a meaningful career trajectory or aspiration. Every design studio of distinction adopts a master-apprentice approach in managing their design talents pipeline. These studios produce great work, yet they are able to nurture future champion designers and future design leaders. Regarding the war for talents in Singapore, most design leaders do not think it has a significant impact on them when it comes to talent recruitment. This finding corroborates with ManpowerGroup's (2014) Talent Shortage High Level Findings that states that only 10% of employers in Singapore are having difficulty filling jobs. Singapore is the fifth on the chart, with the top three being Ireland (2%), Spain (3%), and Netherlands (5%). This data is contrasted with USA (40%), Australia (41%), Taiwan (45%), Hong Kong (56%), and Japan (81%).

Also, many design leaders at various points in the interview had requested for a natural and organic growth for the design industry. Many spoke against accelerated growth strategies, especially "growth for the sake of growth," and "growth for numbers" strategies. Design leaders want quality talents, as such; having more talents that are mediocre is an untenable situation for Singapore. As for developing meaningful design careers, design leaders saw it as a collaborative and on-going conversation on expectations between the professional organisations, educational institutions, and the design society. They do not hold the full solution to this rather complex issue of career trajectories of designers in Singapore.

Recommendation 4: Facilitate Strategy-based Mindsets: Create Diverse yet Inclusive and Authentic Industry, Community, and Society

Design leaders want to see a change from a trading mindset to one that is strategy-based. They pointed out that now is the right time for Singapore to change as the pragmatist-survivalist mentality had run its course. What is urgent right now is the application of design strategic thinking, coupled with a strong foundation in design research. Design leaders as studio leaders are already familiar with design thinking and strategy. More significantly about mindsets, are design leaders' desire for some within the industry to move out of its perceived colonial mentality and Pinkerton syndrome. Design leaders highlighted that their interactions with government departments are especially negatively tainted. They are confounded as to why some civil service leaders would promote foreign designers, to set them as examples for young designers in Singapore. For design leaders managing their team, what they dread most is the law of Jante (European origins), also known as the tall poppy syndrome in Australia and Crab mentality universally. For them, the law of Jante promotes mediocrity and it goes against the spirit and value of design.

To add to the need of a mindset shift is the need for an authentic, inclusive, yet diverse industry, community, and society. The failure of top-down leadership style and the use of ad-hoc leadership style to manage design project and teams are negatively documented in research. Transformative leadership, authentic leadership, and servant leadership are leadership styles that had worked successfully with design teams due to its emphasis on self-awareness and relationships. The Singapore design industry, community, and society have to learn how to be more egalitarian and humanistic. The design industry should be open-minded, and open-hearted in the acceptance and tolerance for differences, and the definitions of success. As Singapore becomes more mature, it is inevitable that it has to be more diverse and inclusive. At the same time, the industry, community, and society must create and continue to re-create its identity and evolve with the times.

Recommendation 5: Connecting People, Policy, and Culture: Beyond Establishing Reputation and Building Brands

Design leaders want policy makers and policy administrators to connect with professional organisations and the society in general. Design leaders are sceptical that design policies are thoroughly negotiated or discussed because many of them shared that they were not even aware such policies exists in the first place. Some expressed incredulity and surprise that these policies have been in place since 2003. Others shared that these policies had very little impact on their company and their daily lives. They hope that policy makers and design administrators can provide opportunities to discuss and reach a consensus before a policy is implemented, or "cast-in-stone." Design leaders rationalised that the Singapore government had been

busy establishing a reputation internationally, and building a global brand image. They conceded that the relevant department taking care of the creative industries had been pragmatic and had done a great job in creating a superior, trustworthy, and robust Singapore brand. Some design leaders even shared how this international branding had helped them secure a unique advantage in penetrating niche markets overseas. They are highly desirous that more in Singapore can see our strengths as agents in the Asian economic crossroads due to our special location in Asia. Design leaders saw Singapore's strengths in its cultural diversity, advanced technology, global connections, and reliable branding. Design leaders suggested that more Singapore SME companies can leverage these strengths holistically using design as their strategy to expand into Asia and the region.

Several design leaders questioned the measure of success for the design policy in Singapore. They are concerned with the quantitative measures of success that may have little impact on their business success. Some had instead suggested qualitative measures, or even a different paradigm for defining success for the design economy in Singapore. More importantly, design leaders do not want a rapid shift to an environment of constant creative conflict as they find it unprofitable and unproductive. They prefer to establish a creative environment where differences in opinions are heard and discussed. An emotionally mature environment where there is dignity and respect for all designers, and where all designers will support the decisions of their leaders even after a divisive debate had taken place. Having a strong design tradition appears to support such a balanced studio culture of rigorous intellectual debate, sensitivity, and empathy.

IMPLICATIONS FOR FURTHER RESEARCH

Design leaders' perspectives on the transition process often reflect their own transition process into design leadership and management positions within their organisation. At times, design leaders' perspectives on their transition to design leadership and management position reflect their organisation's process in becoming design champions in a market niche. According to Santora and Sarro (2001), an insider is classified as an individual who is currently employed by the organisation and is promoted into a leadership position. In contrast, an outsider is an individual who has not had any direct experience with the organisation (Santora & Sarro, 2001). In this light, this study takes a big-picture, insider's view, and the direct and reflective experience of design leaders on their successful transition into design leadership and management positions within their organisation or in securing a successful product launch into a niche market.

Future design research in design leadership transition could explore more specifically the design leaders' transition process (1) for a new or first-time design leader within an organisation, (2) for designers who are not in management or leadership roles, (3) as a transition from one design leadership position to another within an organisation, (4) as a transition to a leadership position where a design

leader demonstrates their ability to adapt to and lead a design team, and lastly (5) as socialisation to a leaders' role (Manderscheid & Ardichvili, 2008).

CONCLUSION

This case study research details the perspectives of design leaders and their transitions to design leadership and management positions in Singapore, in the context of the implementation of the Design Singapore Initiative strategy from 2009 to 2015. The central research question was "What are the perspectives of design leaders regarding their transition to design leadership and management positions in Singapore?" The purpose of the central research question is not to seek an answer but to produce theory. The approach taken in this study was for design leaders to share their perspectives on the transition to design leadership and management positions.

This study is significant in that it takes a broad, reflective overview of the perspectives of the transition from design leaders in Singapore who are already successful in their transition to leadership and management positions. These perspectives are often their expectations of what a successful transition means to them, which could either be the actual transition process itself, the attainment of a desired leadership of management position, or the successful launch of a product into a niche market globally.

This study produced a framework that details the career trajectory for all designers. It provides an understanding of the requirements and expectations of designers' role at every level. This study can contribute to literature on the transition to design leadership and management positions in Singapore, and serves as a reference for further exploration for future research.

The findings of this research study have the potential to guide aspiring design leaders in planning their design careers, to recommend lead designers to develop and promote local design talents, to urge design managers to leave a legacy by training design apprentices, to advocate that design directors use design strategy in building the industry and community, and to encourage chief design officers and design business owners connect people, policy and culture in Singapore.

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