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Creative Industry in UK, Japan and China:
A supply chain management perspective

Chee Yew Wong
Ruihong Gao

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Chee Yew Wong (The University of Hull)

Ruihong Gao (Kobe University)

Abstract

Nowadays, many nations have started to see the potential of creative industries. However, due to the varying definitions of creative industries, governments still find it difficult to determine which business sectors they encompass. Some developing countries such as China, Philippines, etc., have started to discuss such industries. Simultaneously, managers in creative industries are faced with various problems. This article attempts to provide an overview of the creative industries, and to compare examples from the UK, Japan and China. Such an overview leads to the foundations for the management and research of supply chain for the creative industries.

Keywords: Creative industries, economic development, supply chain management, China.

1. Introduction

'*Creative industries*' is a new concept introduced to policy-making and academic research institutions. It includes a wide variety of different industries such as advertising, architecture, art and antiques, crafts, design, designer fashion, film and video, interactive leisure software, music, performing arts, publishing, software and computing services, television and radio. Today, the definitions of creative industries vary from nation to nation. Creative industries are considered similar to '*cultural industries*', '*leisure industries*', '*copyright industries*', and '*content industries*.' However, creative industries broadly consist of industries which encourage individual creativity, skill and talent through the generation and exploitation of intellectual properties.

Creative industries are growing in economic importance for industrialized and post-industrialized nations. The production of lifestyles, cultural experiences, constructed heritages, fantasies, images, meanings and emotions are coming to replace objectives and

things as the locus of the consumer society (Rifkin, 2000). Creative industries exist due to the contracts between arts and commerce (Gave, 2000). Global creative industries provided USD\$2.24 trillion revenue in 1999 (Howkins, 2001). The United States was the dominant producer with a global share of more than 45% overall, with even higher shares in advertising, R&D, and software. The creative industries are a significant contributor to the UK economy, growing significantly faster than the economy as a whole. Since 1996, creative industries in Japan have expanded despite the country's overall economic recession.

Some governments in East Asia are now looking to creative industries to drive future growth of metropolitan economies (Yusuf and Nabeshima, 2003). The most energetic is the Singaporean government, which anticipates sizable growth in these industries. In fact, estimates for the cultural industries in Singapore show that output of broadcasting media is 1.66 and 1.76 times greater than the design industries, which are well above those for some of the manufacturing industries (Economic Survey of Singapore, 2003). The Singaporean authorities are attempting to create the nucleus of a creative industry through the establishment of two large and linked office and area development schemes called One North and the Esplanade, located a short distance from the Orchard Road commercial district. A Multimedia Super Corridor with its own university at Cyberjaya is being developed in the vicinity of Kuala Lumpur. And similar attempts at seeding creative industry clusters are underway in Pucheon near Seoul, in Shanghai, and in Taiwan.

Many creative industries in China are experiencing rapid growth due to a combination of state-driven and private-sector investment. TV and online games industries are the two fastest growing creative industries in China. Design industry is potentially very important to the future of China. For example, the toy industry is part of a creative industry in the U.S. and Europe but it is just a 'production' industry in China. There are presently more than 8,000 toy makers in China, exporting at least USD10 billion in 2003, but only a very small portion of these trade values are earned by the Chinese factories. The total global toy sales are over USD70 billion but much of these profits come from innovative design and brand marketing.

As a new form of economy, the study of creative industries in terms of supply and

demand will influence nations in their policy making. Supply chain management offers a structured manner in analysing a chain of supplies from the original source to the consumers (Cooper *et al.*, 1997; Lambert *et al.*, 1998; Ellram, 2004). By identifying the nature of demand (consumption of creative products), the structures of the industries, the linkages between creative production activities, the relationships among key suppliers and customers, coordination mechanisms, and governance structures, we can enhance understanding of the development of creative industries. This article reviews the development of creative industries in the UK and Japan as a guide to the establishment of creative industries in China.

2. Definitions of creative industries

The word 'creative industries' was coined by Adorno and Horkheimer in 1944 to depict the industrialization of leisure time (in the same way that mass-production had organized working life). The UK Government's Creative Industries Task Force defined the creative industries as '*those industries which have their origins in individual creativity, skill and talent and which have a potential for wealth and job creation through the generation and exploitation of intellectual properties*' (Department for Culture, Media and sport, 1998). The rationale in grouping these rather diverse activities together was said to be that individual creativity and intellectual capital were the prime drivers for this sector. A common denominator of all these industries is that aesthetic attributes are decisive element of product and service differentiation and value.

The definition of creative industries has not reached a common agreement. Creative industries are formed from convergence between the media/information industries and the cultural/arts sector (Jeffcutt, 2000). Some commentators (e.g. Tepper, 2002) have argued that it is very difficult to achieve a consensus about what boundaries of the creative industries ought to be and whether the categories listed above fully capture the true extent of creative endeavor. Other variations of definition exist. Creative industries are considered similar to 'cultural industries', 'leisure industries', 'copyright industries', and 'content industries.' Creative industries are even said to include those industries with 'strong brands.' For example, Millar *et al.* (2005) defined creative industries as 'those industries

with strong brands and unique products such as music, film, media, consumer electronics, fashion and software.' With the inclusion of 'strong brands', companies such as IBM, LVMH, Coca-cola and Unilever could be considered as part of the creative industries (Millar *et al.*, 2005). In this article, 'strong brand' is not considered as part of the creative industries because it may or may not have aesthetic attributes from individual creativity.

All discussions on creative industries start off with the thorny problem of definition. The term "creative industries" is a new concept introduced to policy-making and academic research. Other similar industries are "*cultural industries*", "*leisure industries*", "*copyright industries*", and "*content industries*". Although many of these exhibit common concern on the economic contribution or employment structure of the creative sector, there still lacks standard methodology or analytical tool in defining the term. Discussions on creative industries are sustainable with new research on the changing relationship between culture and economy and on topics such as the relationship between the creative sector to education, urban rejuvenation, national or city images, heritage and tourism.

The UK Government's Creative Industries Task Force has included thirteen industries as creative industries. These industries are briefly highlighted as follow.

- Advertising, like art, traffics in symbol systems and metaphors, not literality. Both arts and ads embellish symmetrically - the elaborate, enhance, and modify to make promises for our wants and wishes.
- Architectural design includes architecture, interior design, landscape, urban design, physical planning, engineering and model making. Architectural design is protected by copyright whereby architects demonstrate skills and creativity to provide quality services to different clients.
- Art, crafts and antiques involve individual creation and exchange and distributions of copyrights. This sector operates with a complex system of galleries, art and antique vendors as well as cultural institutions such as museums and providers of exhibition services.
- Design industry includes graphic, fashion, interior and product design. This industry is quite closely related to goods production; it is an important service required by today's manufacturers. Design industry also works with the advertising industry or being part of the advertising industry.

- Designer fashion includes the design of fashions for clothing, footwear, and other miscellaneous. This industry is similar to the design industry but it specifically focuses on mostly clothing.
- Film and video are sometimes considered as part of the entertainment or motion pictures industry.
- Interactive leisure software specifically refers to video and computer games
- Music is another part of the entertainment industry. It involves recording, labelling, production and marketing of music.
- Performing arts involves production of cultural and leisure experiences. It usually involves live performance in the forms of shows, concerts or theatres in which the production of cultural experiences is consumed simultaneously.
- Publishing involves printing of news, magazines and books.
- Software and computing services provides computer programming and other software services (software development, packaged software, game software, etc.)
- Television and radio is another part of the entertainment industry involves in production and broadcasting of entertainments.

Shorthose (2004) commented that the capitalization of culture leads to the collapse of the relationship between work and leisure. Cultural activities in many nations have been considered as a matter of leisure, but the capitalist economies has transformed leisure or cultural activates into job creation and profit-making economy. Creative industries are working at significant contemporary sites of cultural production and consumption. Jeffcutt (2000) commented that research works have been concentrated on the creative and aesthetic across organized life and within formal organizations but not yet explicitly on the production and consumption of aesthetic products.

3. Overview of the development of creative industries

As there is no standard definition for the creative industries and different nations view their importance differently, therefore there is still no global overview or statistics available. However, The Centre for Cultural Policy and Research, at The University of Hong Kong has provided some useful data about creative industries in some countries.

Table 1 provides statistics about the employment and classification of creative industries in some countries.

Table 1 Employment and classification of creative industries in some countries.

Country	No. of persons employed	Employment ratio	Survey year, creative industries concept
Japan	1 878 000	3.2%	2000, CI
U.K.	1 300 000	4.6%	1997-98, CI
U.S.	8 000 000	5.9%	2001, CR
Hong Kong	170 000	5.3%	2002, CI
Singapore	72 000	3.4%	2000, CR
Taiwan	337 000	3.6%	2000, CCI
Australia	345 000	3.8%	1999-00, CR
New Zealand	49 000	3.6%	2000-01, CR

Note: CI = creative industries, CR = Copyright industries, CCI = cultural creative industries; source: CCPR, HK University, Baseline Study of Hong Kong's Creative Industries, 2003.

Table 1 indicates that creative industries contribute employment to a great extent in post-industrialized and industrialized countries. Some countries separate creative industries into copyright and non-copyright, while Taiwan includes 'culture' into the classification to emphasize the important cultural element in the industry.

3.1 Creative industries in UK

The Creative Industries are a significant contributor to the UK economy - accounting for 7.9% of GDP, and growing significantly faster than the economy as a whole. Four of the CI's accounted for three quarters of the economic value of the grouping of sectors (Design - 2.8% of the whole economy; Software - 1.6%; Publishing - 0.9%; and Advertising - 0.7%). Exports contributed £8.7 billion to the balance of trade in 2000, equating to 3.3% of all goods and services exported. Exports have grown by around 13% per annum over the period of 1997 -

2000. By comparison over the same period the value of all services exported have grown by 9%, while all goods and services combined grew by 5%. UK creative industries deservedly enjoy a global reputation for excellence, creativity and innovation. British design, advertising, music and interactive leisure software companies are considered to be world-class.

In December 2001, creative employment totaled 1.95 million jobs. This comprised 1.15 million jobs in companies in the creative industries. There was a further estimated 800,000 creative jobs within companies outside the creative industries. Total creative employment increased from 1.45m in December 1994 to 1.95m in Dec 2001. Over the period 1997-2001, employment in the creative industries grew at a rate of 5% per annum, compared to 1.5% for the whole of the economy. In 2001, there were around 135,000 companies in the Creative Industry sectors on the Inter- Departmental Business Register (IDBR). Nevertheless, it is estimated that the IDBR covers over 99%³ of all economic activity. Two thirds of these enterprises are accounted for by 2 sectors: software and electronic publishing (56,000 enterprises), and music and the visual and performing arts (33,000 enterprises).

In the U.K. a task force was setup to nurture creative industries. The six core themes identified by the Creative Industries Task Force in 1997 - export promotion; skills and education; access to finance; taxation and regulation; intellectual property rights; and regional issues still remain relevant today. The Creative Industries fact file attempts to pull together these issues in one easily accessible document, identifying issues and appropriate contacts across Government. Today many of the thirteen creative industries categories are overseen by the Department of Trade and Industry, while the department of Culture, Media and Sports provides support to the film and music industries, and also coordinates overall policies to promote creative industries.

3.1.1 Music industry in UK

The music industry has evolved dramatically by delivering music through various formats - drums/disc system, Vinyl tape record, tape cassette, compact disc and recently the Internet (Gillett, 1996). Huygens *et al.* (1999) labeled the evolution stage of music industry as “right

shifts” during the mid 1980s because music was finally considered as property right. In this evolution stage, record labels firms developed music multinational distribution channels and specialization of artist training.

Before the sales of music through Internet, the distribution channels and the division of labour within the industry have remained relatively stable: artists create music, record companies promote and distribute it and the fans consume it (Graham *et al.*, 2004). Record companies distribute music records via distributors, retailers (general merchandisers or music specialists), DJ's, dance clubs, television, radio and event organizers (Parikh, 1999; Lewis *et al.*, 2005). The success of an artist depends greatly on the talents, as well as training and marketing investment by the record companies. This traditional business model involved high marketing, retail and distribution costs. In the UK, EMI purchased Virgin Megastore, one of the largest music retail stores in order to further control the distribution and retail channels.

The traditional business model for the music industry is threatened by piracy either from counterfeit records or ‘illegal’ peer-to-peer music downloading businesses. The piracy music market in the UK is equal to about 4.5 million counterfeit CDs sold each year in the UK alone (Reece, 2004). In the UK download market, more than 26 million songs were legally bought on the net in 2005 - overtaking the number of singles sold over the counter. After the success of music downloads through file sharing software on the internet the music industry saw a new opportunity of a new way to sell their music. Even though the sales of music records are still dominated by retailers today, many analysts expect that the downloading of music will continue to grow in the future. The success of Apple's iTunes has shown it is possible to sell downloads over the internet with many customers willing to pay rather than download the music for free from such sources as Kazaa where legality is still a rather grey area. This trend will lower the distribution and retail costs substantially and ultimately beneficial to the consumers but threatening the retail industry.

Music is a global business. The industry is dominated by the big five major record labels - EMI (UK), Sony (Japan), Bertelsmann Music Group ¹ (Germany), Universal-Vivendi (France), and Time Warner (US) who control the market for recorded

¹ Bertelsmann has merged with Sony although the deal has not yet cleared all regulatory hurdles.

music in both production and distribution. These big firms collect 85-90% of the profit from the music sales. EMI from UK is lagging behind two giant competitors – Universal and Sony BMG. However, the winners of competition are still unclear. The traditional music industry business model is challenged by the Internet online sales of music. In 2005, 159 million albums and 21 million physical singles were sold in the UK. British artists accounted for 49% of non-compilation album sales. 26 million songs were downloaded legally, according to the British Phonographic Industry, BPI. With the emerging trend of music purchases via the Internet, the industry structure can be substantially altered to favour established online shopping firms (such as Amazon, eBay, etc.) while the roles of traditional retail diminished and individual artist (or any individual) can now bypass the power of record labels firms.

The music industry is going through a revolutionary stage due to the availability of digital technology. Suddenly the digital technology (such as MP3) and software for music sharing over the Internet has allowed Napster to disrupt the traditional business model (Graham and Hardaker, 2003). While many countries are now enforcing new laws to protect the property rights of record companies and artists, the record companies are aggressively charging those involved in illicit acts and attempting to control the Internet music business. The digital technology advances so swiftly that the law finds it difficult to keep up (Alcock *et al.*, 2003). The music industry represents another creative industry which is gradually being digitized.

Another phenomenon in the music industry is its reciprocal supplier-customer relations between the media and advertising industries. MTV and radio are effective channels for advertising of new music records (Martin and McCracken, 2001). MTV is also an effective trend setting media for many other firms. MTV not only promotes songs but also popular cultures which are extremely effective for targeting teenagers. The media industry invests in MTV in order to gain more advertising business, while record companies produce MTV to promote their music. Thus, media and broadcasting, advertising, and music publishing seem to build a cluster of reciprocal supply chains. Together with digital technology firms, this industry cluster can further offer downloadable music and video through cable television, building up an alternative channel for selling

music and video.

3.2 Creative industries in Japan

There is no clear definition of creative industries in Japan. However, according to the 1999 Survey on Service Industries, creative industries accounted for ¥35.35 trillion in revenue or 17.5% of the total of all service industries (Yoshimoto, 2003). Based on data from the 2001 Establishment and Enterprise Census, Yoshimoto (2003) found the creative industries in Japan to contain 176,000 establishments and 1.878 million employees, comprising 2.8% and 3.2% respectively of the total for all industries in 2001. Since 1996, creative industries in Japan have expanded by 3.8% in number of establishments and 7.9% in employment despite the recession, compared to declines of 5.5% and 7.9% respectively for all industries. The industrial sectors which employed the most number of workers were computer software and architecture/engineering services, followed by publishing, advertising, and audio/video recordings.

Unlike in the U.K., the rise in creative industries in Japan is left up to depend on private enterprises. Of the twelve creative industries, industry cooperation is nurtured through foundations and other means of advertising, architecture and engineering services, design, and publishing, but of the actual initiatives are led by private enterprises. However, in Japan, the government has attempted to provide concerted efforts to establish Japan as a nation based on intellectual property. After the Strategic Council on Intellectual Property was established in March 2002, a comprehensive strategy was adopted in July, and the Basic Law on Intellectual property was implemented in March 2003.

The Japanese government put great emphasis on the 'content industry.' Since the late 1990s, the Ministry of Economy, Trade and Industry has targeted the content industry which includes movies, music, game software, and animation. This is considered as being a promising industry, and has been analyzing the issues and studying promotion policies. In January 2003, METI released a report entitled '*Present Status and Issues of the Content Industry*', which raises three structural issues and concerns. The first issue is the oligopolistic tendency among content distributors will make content producers dependent on distributors. The second concern is that content producers will resort to subcontracting

as a result, leading to a possible brain drain. The third issue is that the lack of content will seriously threaten the development of the immature broadband market into a new distribution route.

In addition, two policies are implemented to promote the content industry. They are the development of the distribution infrastructure and the promotion of competition between routes, and development of a vital market environment. The first policy involves the development of an EDI system necessary to launch broadband and expand distribution, the establishment of copy protection technology, and the eradication of piracy to expand into overseas markets. The second policy involves ensuring fair competition by revising anti-monopoly guidelines and establishing model contracts, creating an environment that facilitates financing, and developing human resources.

3.2.1 The Video game industry in Japan

The current global market for video games is estimated at US\$18 billion. In 1999 alone, 215 million copies of games were purchased in the US, which amounts to two for every American household (IDSA, 2001). The video games industry originated in U.S. and started as arcade games. In 1983 the market crashed and it was 'saved' by Japanese video game firms Nintendo and Sony. In Japan, imports of products and services exceeded exports for the creative industries except for game software. Attention had shifted on creative industries such as animation, TV games and cartoon character merchandising. They were represented as 'Japan's Coolness.' The overseas market for the content industry is predicted to grow from ¥351.8 billion in 2001 to ¥1.5 trillion in 2010.

A study by Bryman (1997) showed that late entrants had significant advantages over industry pioneers in case of the US animation industry. Game software is part of a new industry with lower barrier to entry. It does not suffer from language-based disadvantages, and escaped the negative aspects of state-led industrialization. Significant barrier comes from the scarcities of creative resources and electronic technology. Evidence from the US indicates that the video game industry typically shows a higher R&D to sales ratio among entertainment industry (IDSA, 2000). Aoyama and Izushi (2003) analysed historical development of video game industry in Japan and described its evolutionary process as

cross-sectoral transfer taking place concurrently with the evolution of technological knowledge and artistic creativity. In Japan, video games industry flourishes without governmental support. The industry is linked to socially and historically embedded foundations of creative imaginary based on vibrant cartoons (for example 'Pokemon' and 'Manga') and animation films, complemented by the availability of skilled engineers emerging from Japan's consumer electronics industry. Video games developer such as Sony (Playstation) and Nintendo (GameBoy) played an important role in the emergence of video games industries in Japan and globally.

Nintendo (founded in 1889), formerly a company that produced toys and playing cards, began with experimenting with electronic toy products in the 1960s. Although widely ignored by the mainstream toy industry at the time, Nintendo took a particular interest in gaining knowledge of electronics, initially in order to respond to consumer demand generated by shooting games that used optical sensors. Nintendo joint-ventured with consumer electronic firms Sharp and Mitsubishi Electric and produced some earlier version of video game systems. As a latecomer in the home game market behind Tommy and Bandai (both are Japanese video games firms), Nintendo managed to succeed over competition with competitive pricing, ability to delivery mega-hit software and portable console such as GameBoy (1989) and Super Famicon (1990). Nintendo realised the importance of maintaining relationships with the software industry, nurturing both talent in-house as well as through third party publishers. Nintendo successfully averted competition by: (1) monopolizing popular game titles, (2) having an in-depth knowledge of the toys and entertainment market, (3) upgrading technologies through alliances with hardware firms, such as Silicon Graphics and Philips, and (4) in case of the Japanese market, controlling the distribution channel, and in the US market, aggressively going after piracy in courts.

In Japan, the two major platform developers, Nintendo and Sony, forged an indirect link between manufacturing expertise in consumer electronics and software publishers. As hybrids of hardware manufactures and software developers, platform developers drew crucial resources indispensable for growth from consumer electronics, and facilitated fledgling software start-ups through financial assistance and early disclosure of platform

specifications. For the hardware (console), Nintendo relied on the local presence of consumer electronics firms, and particularly IC (integrated-circuits) chip manufacturers and display manufacturers. Nintendo in fact maintained no in-house manufacturing plants and outsourced most manufacturing activities including production of parts and assembly of platforms and cartridges.

Sony, with technology know-how of CD-ROM, entered into the video game industry as a consumer electronic firm and platform developer. As a reputable consumer electronic firm itself, Sony uses in-house plants known for quality in design and performance. Direct control over production of consoles coupled with shortened lead time with CD-ROMs have allowed Sony to remain responsive to fluctuating market demand while maintaining quality standard.

3.3 Creative industries in China

Many creative industries in China are experiencing rapid growth due to a combination of state-driven and private-sector investment. For example, the liberalization of trades has promoted increasing needs of advertising; the Olympic Games 2008 has driven the shift towards digital TV; the popularity of online games has driven the creation of a new games industry. As there is not yet a unified government agency taking the whole creative industries into consideration, there is currently lack of data to provide the overview of creative industries in China. However, some of the potential and fast-growing creative industries are highlighted so that their supply chain characteristics can be examined.

3.3.1 TV industry in China

China largest creativity industry is television. With over 2,000 channels, 400m TV homes (including 100+m cable homes) and a total valuation of between US\$4.7 billion and US\$4.9 billion for 2002, China TV is estimated to have grown by 17.5% year-on-year over the past four years (UK Trade & Investment, 2004). China TV's industry has undergone sustained restructuring over a period of years. The industry is now organised into regional Media Group – the most significant at present being the central China Media Group, and

the Media Group of Beijing, Shanghai, Guangdong and Hunan. TV production in China has great prospect for growth because the country produce only 25% of its programming needs currently. One of the Chinese TV production houses has now ventured globally. CCTV is subscribed in many countries globally, viewed by both Chinese and non-Chinese audiences. CCTV has become an essential news channel for the world as it has privileged access to news in China quicker than other global players.

Cable subscriptions remain low (an average US\$2 per month) — suppressed by delays in the introduction of Pay TV, limited content, and a lingering concern in some corners of government, to maintain the utility pricing policies which have characterised Chinese TV to date. Change is however underway. There is now a clear policy recognition that the economics need to stack up and a range of experimental and trial Pay TV initiatives are now in operation — some charging up to US\$30 per month. As cable subscriptions are still low, China TV production houses rely on advertising revenue. TV production houses have for some years pursued close (in many cases symbiotic) relationships with advertising entities and advertisers (50 per cent of China's production houses have advertising 'interests').

3.3.2 Online games industry in China

China's online games industry is the fastest growing in the world due to the availability of talented youth and entrepreneurs. Commentators expect the video games industry in China to experience the most significant growth. China will have the largest online gamers (estimated 41.8 million gamers in 2007) in the region and also the future producer of the region's most popular games. In China, online games surpassed the console games market due to the limited availability of home PCs and consoles.

There are over 100 major Chinese businesses engaged in online games development. Shanda, one of the market leaders, was recently declared the fastest growing firm in China's media and telecom sectors. Specialised games developers are merging, most notably Kongzhong which leads the mobile games market. Games development in China has significant cost advantages comparative to global industry; these are reduced however for the region — particularly Korea where cost differentials are limited and in a market

(including China) where Korean games dominate. The general expectation however is that China will overtake Korea (and Japan) at some point within the next ten years: key factors include access to a rich fabric of myth and legend, strong creative talent which has been underutilized in other media, positive government policy framework and scale.

Against this background, both Korean and Japanese games businesses have invested in China (sometimes jointly) and the Korean government actively supports Korean networking with Chinese games developers. Other international players are following suit - although (to date) more often as localizers and outsourcers than direct investors. Some are using their engagement with China to drive regional collaboration and to extract laboratory value from what is the fastest growing market in the world; some receive home government assistance to support their engagement.

Throughout the value chain, there are increasing signs of both vertical and horizontal integration. China has over 60 games publishers (mainly domestic, some international) - many of these are also developers and/or operators and portals. Almost all domestic publishers provide distribution and agency services for their own and imported games. Some have achieved significant scale and a growing number are accessing both domestic and international capital markets. M & A activity is rising (many of China's major corporates are keen to tap into digital industry growth in general and games in particular) and cross-media investment (spurred by recent liberalizations in investment in TV production studios) is likely to become significant.

3.3.3 Other creativities industries in China

The design industry (including industrial design, architecture design and fashion design) in China is highly fragmented. Even though China has become the manufacturer of the world but the shift from 'made in China' to 'designed in China' is still a long way off. Thus, China still resumes the 'lost-cost production' part of many goods supply chains. So far industrial design for automotive and consumer electronics sectors are the two which have the strongest growth.

The film, radio and music sectors in China are weaker. These sectors suffer from a

shortage of investment over a prolonged period of time. These sectors are also undermined by 'industrial scale' piracy and lagging liberalization. Pay TV is expected to breathe life into movie channels and music video capable of delivery in new revenue streams.

4. Challenges faced by creative industries

The above overview of creative industries leads to the conclusion of some generic challenges faced by creative industries. Some challenges may be significantly influencing some specific industries but they are present in all creative industries to some degree.

1. *Copyright issue.* Copyright is an issue faced by creative industries globally. The copyright issue hits mainly the music, film, video, design, games industries. The copyright issue is more critical in less developed countries because the copyright law is either not available or enforced. In the UK, the piracy music market in the UK is equal to about 4.5 million counterfeit CDs sold each year in the UK alone (Reece, 2004).
2. *Highly unpredictable demand (consumption of creative products and services).* Creative products are 'experience' products; their consumption is highly subjective and unpredictable about demand. Study of the performing arts industry showed that the demands are very volatile (Johnson and Garbarino, 2001; Bennett, 2005) due to competition with conventional competitions (theatres and cinemas) and unconventional competitions (home entertainment and other leisure). Three kinds of uncertainties have been identified in the study of the Hollywood film industry from 1936 to 1965 (Milliken, 1987), e.g., state, effect, and response. Miller and Shamsie (1999) suggested that uncertainties can occur at industry specific, environmental (state), organizational level (effect), and individual level (response). Financial investment and artistic talent are two other sources of uncertainty (Faulkner and Andersen, 1987)
3. *Short product life cycle.* Creative products are unique and their values are highly subjective (Dempster, 2006). In the case of opera, Dempster (2006) discovered the effective way was to use a multi-staged production process with constant

interaction with the audience and ruthless re-writing of a by the core creative team. Innovative toys have a short life span in the market these days (Wong *et al.*, 2005).

4. *Scared supply of human capital (creative resources) of a wide variety of skills and managerial skills.* Creative industries operate in heterogeneous and transdisciplinary forms of economy (Jeffcutt, 2000). Talents and skills of artistic creativity from various designers, performers, technology, and various others are required but not all nations have these pulls of resources. Even given the availability of diverse creative resources, management of these resources becomes the next issue. A core process is the management of creativity and innovation in complex knowledge flows; a cycle from the generation of original ideas to their realization and consumption in the forms of performances, products or services (Jeffcutt, 2000). Managers face paradoxes of managing and organizing creativity in the cultural economy, particularly the tensions between routinised and creativity activities (DeFillippi *et al.*, 2004). At a wider scope, issues may arise from the management of relationships amongst independent creative artists, gatekeepers for talent (agents), cultural industry brokers, producers, distributors, and media outlets (Jones *et al.*, 2004)
5. *Intensifying competition among creative cities and firms.* Competition in advertising, design, TV, entertainment and games industry is especially keen. The rates of mergers and sales of creative industries tell the extent of competition. Competition can suddenly come from other industries who previously were not part of the competing rivalries (Aoyama and Izushi, 2003), and often firms do not react to threats of the potential entry of an 'unconventional' competitor (Bennett, 2005).
6. *Lack of government supports.* In some countries there is a lack of support from the government in form of policies, funding and incentives. This is apparent from the review of creative industries in China; it is a problem shared by many Asian countries currently.

The above lists of challenges are also faced by typical goods supply chains at different degrees. The most distinguishable challenge faced by supply chain management initiative

is the capability in understanding 'experience' products instead of 'goods' products. The subjectivity of experience products lead to ambiguity in ensuring satisfied consumers. The next challenge faced by supply chain management is the management of 'creative resources' instead of the 'production machineries.' For example, the slack of resource does not guarantee fulfillment of the customer's demand for creativity. Creative resources are not measurable in absolute form and therefore planning of these resources become problematic.

5. Supply chain management for creative industries

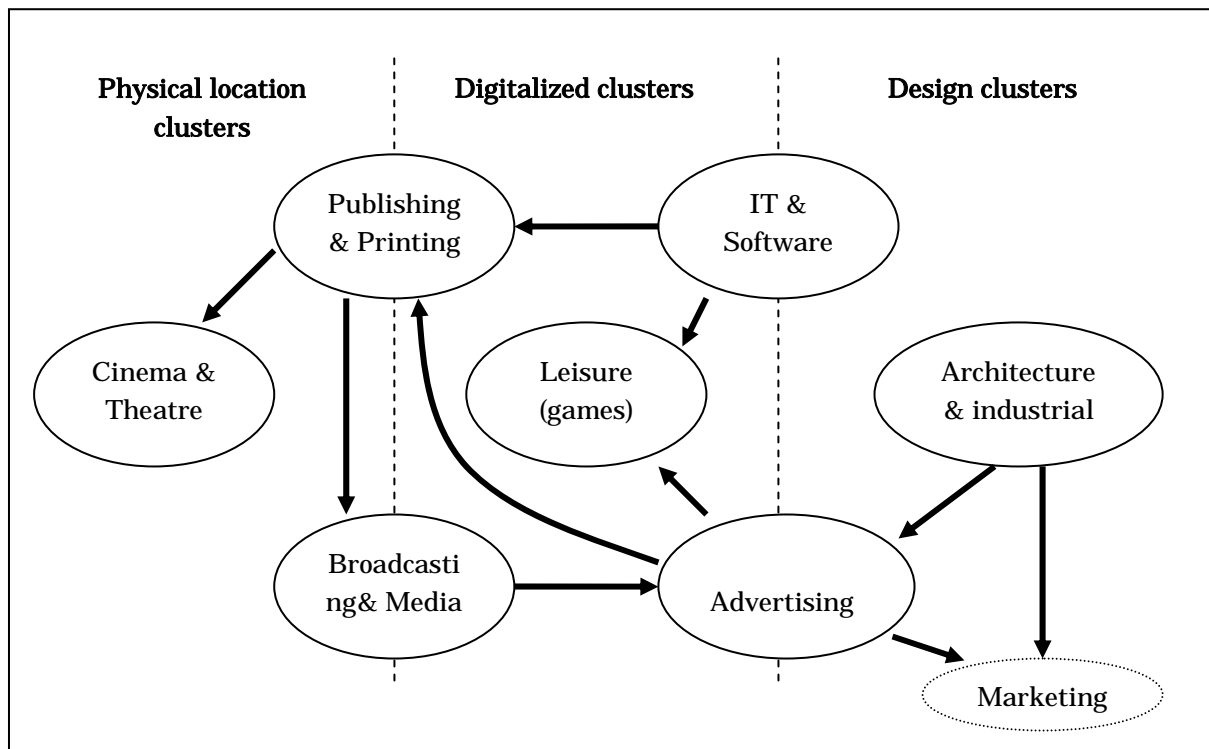
This section examines creative industries from supply chain management perspectives. The first principle is that a supply chain aims at satisfying the needs of end customers. Typically for a goods supply chain the attributes of the products satisfy the end customers to a great extent while the attributes of the services provided such as lead time play a part in additional roles in satisfying the end customers. In creative industries the end customers are individuals who purchase entertainment experience, leisure experience and creative ideas. As the values of these creative experiences vary among individuals, creative providers need to constantly communicate with the end customers and constantly shaping their creativity to satisfy different customer needs. The research in supply chain management for service and creative industries should therefore begin detailed investigation on how the values of creative services should be classified and quantified.

The second essential concept of supply chain is that a supply chain consists of a chain of supplies and customers, in which each supplier adds values to the 'products' required by the customers. Goods supply chain typically has a chain of supplier and customer in a serial manner, even though a supply network does exist. However, the networking amongst creative industries is even more complicated than a typical manufacturing supply chain. Scott (2000, 2003) observes that cultural-products industrial agglomerations around the world are increasingly becoming caught up with one another in global webs of co-productions, joint-ventures, creative-partnerships, and so on. In this manner, productive combinations can be established that draw on the specific competitive advantages of diverse clusters without necessarily compromising the underlying force of agglomeration

itself (Yusuf and Nabeshima, 2005). Such complex clusters of creative industries is illustrated by the following figure (modified from Yusuf and Nabeshima, 2005). The challenge for supply chain management is to formulate methods to analyse the chains or networks of suppliers and customers and how the cores value-added activities are organized.

The third concept of supply chain is that all suppliers utilise their resources effectively to add value to the 'products'. In creative industries the networks of creative sub-sectors add value to each others reciprocally. The notions of plan, source, make, delivery may still be applicable but they have to be fine-tuned to suit the creative and service nature of the creative industries. Critically, the view on creative resources has to be different from the view on typical goods production resources. Creative industries often require a diverse mix of skills and are likely to gravitate towards urban areas that either have or are acquiring the institutions and other attributes to meet the labour requirements. Creative sub-sectors, such as movie making and electronic games, depend upon local and international networking in order to develop commercially successful products and to enhance their market prospects.

Figure 1 Reciprocal supply and demand relationships in creative industries



To fully understand these factors, the creative industries can be divided into six distinct clusters based on the current knowledge of supply chain management. They are grouped together based on the types of customer needs and the required forms of delivery, the structures of the supply chain, and the types of required resources. These six clusters are:

- *Digitalisable entertainment cluster* which involves copyrighted publishing, music, film and video, and television and radio. This cluster tends to be managed by conglomerates which control media, broadcasting, publishing, music, and video businesses. This cluster is in the progress of transformation from a traditional retail business model to digital- and Internet-based business model. Especially for live television and radio programs which involves artists interacting with the audiences, these 'products' can be regarded as similar to the 'live gallery and theatrical cluster.
- *Digitalisable leisure cluster* which involves the exchange of copyright leisure games in the form of video games or computer games. At this time the industry involves the delivery of game consoles and game software. Game software is deliverable in digital (download from Internet) or physical (CDs) formats. The use of game consoles is a way of protecting counterfeit products.
- *Live gallery and theatrical cluster* which involves copyrighted crafts, performing arts, concerts, paintings, etc. This cluster tends to involve copyright art and craft performances in specific locations (such as cinemas, theatres and exhibitions) so that the production of cultural experiences and their consumption take place simultaneously.
- *Digitalisable advertising cluster* which involves exchange of copyright advertising ideas and services. This cluster is closely related to the entertainment (media) industry where some of the advertisements are published. The advertising industry is independent from the entertainment cluster because it does not sell entertainment, but creative ideas for marketing of almost anything. As Internet, electronic billboards, television (and other mobile device) are increasingly used for advertising purpose, advertising in the future will become more digitalized.

- *Goods and architecture design cluster* which involves the design of goods, fashion clothing, buildings and landscapes. This cluster involves exchanges of copyright and creative services and business continuity is dependent on the relationships between the creative service providers (designers or architecture designers) with the customers (manufacturers and building owners). This cluster requires providers to actively understand customer needs and constantly deliver the required creativity.
- *Arts and antiques auction cluster* which involves constant valuation and bargaining from prospective buyers

This initial analysis of creative industries from supply chain management perspectives provides a map to further studying creative industries. These concepts are likely to be refined in future to enhance our knowledge.

6. Conclusions

This article examines creative industries from UK, Japan and China. It is evident that the state of economic development is a critical factor driving the growth of creative industries. For industrialized (post) countries like UK and Japan, the decline of the production economy and the changing lifestyles of people help to drive their creative industries. In these countries we can see the creation of governmental agencies and funding to formally nurture their creative industries. In newly developing (and not capitalized) countries like China, the bulk of government funding is channeled to the production economy. In China, creative industries grow organically in line with the level of liberalization and foreign investment while waiting for domestic demand to grow. However, when creativity from China is required for the global markets, creative industries such as TV, games, design and advertising will grow exponentially driven by global demand.

The article further clarifies the definitions of creative industries. Some cases of creative industries are discussed to amplify the unique characteristics of creative industries. These unique characteristics can help us to group industries of similar characteristics from supply chain management perspectives. This article classifies creative industries into six clusters. Supply chain management for creative industries should be

distinguished from goods supply chain in terms of (1) creative services are highly subjective at individual level, (2) supply chains of creative industries consist of reciprocal networks of suppliers and customers, and (3) creative resources are not easily quantifiable and they require substantially different managerial skills to manage. These new features require further research such that new knowledge can be generated for the policy maker and industry operators. The advantage of supply chain approach for the research of creative industries is that it provides policy makers knowledge of the value creation process and problems faced by their key players.

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