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Full Length Research paper

National competitive advantage and cultural proximity: Comparison study of digital content industries in China and Taiwan

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Digital content industries produce "products or services that use information technology to digitize and integrate media materials." Both China and Taiwan show strong interests and demand in developing digital content. Based on Dunning-Porter framework, this study examined national competitive advantages of digital content industries in China and Taiwan. It also took into account the cultural and geographical proximity to compare Chinese and Taiwanese digital content industries. With respect to national competitive advantages in internal determinants, China's digital content industries led in demand conditions and some aspects of factor conditions (human resource), while Taiwanese digital content industries excel in related and supporting industries (traditional media, IT and marketing industries) as well as firm strategy, structure and rivalry. As for external determinants, both China and Taiwan governments provided favorable policies to foster the development of digital content industries.

Key words: Digital content industry, competitive advantage, dunning-porter framework, cultural proximity, Chinese culture, Chinese management.

INTRODUCTION

The demand for digital content is now growing rapidly worldwide. According to Price water house Coopers's Global Entertainment and Media Outlook (cited in Ministry of Economic Affairs Digital Content Industry Office Taiwan, 2010: 11), Asia, the third market of entertainment and media in the world, created $ US 366 billion market value in 2010 and estimated to reach $ US 475 billion in 2014. China's digital content industry is one of the fast growing markets in this region. Its market scale of media content reached $ US 85.2 billion in 2010 and 2010 to 2014 compound annual growth rate (CAGR) was estimated to reach 12% (Ministry of Economic Affairs Digital Content Industry Office Taiwan, 2010: 28). This rising digital content business in China has attracted a huge amount of foreign investments.

Although, the export of international cultural products is highly dominated by some developed countries, like America, Japan, Germany and Britain (Li, 2006: 6), it is challenging for these countries to invest in the Chinese market because it involves many exogenous risks in political, economic and cultural environments. Separated by the domestic war decades ago, people in China and Taiwan have shared cultural, linguistic, and historical similarities. The Formosa Island succeeds in producing popular culture and exporting cultural products such as TV shows and music in Greater China region. In 2010, the value of output in Taiwan's digital content industries was $ US 17.4 billion and its annual growth rate reached 13.51% from 2009 to 2010 (Ministry of Economic Affairs

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Digital Content Industry Office Taiwan, 2010: 12). Due to similar cultures and languages, Taiwanese entrepreneurship may have distinct national competitive advantages in entering China's gigantic digital content market.

As a result of rapid technological advancements and shortened international industrial life cycles, the role of national competitive advantage becomes crucial to excel in corporate races globally. Porter (1990) defines the national competitive advantage as a nation's capacity to attract both local and foreign firms to conduct businesses with its country. Cultural proximity (Straubhaar, 1991) which is related with similar races, histories, linguistics and cultures is an enabling factor of national competitive advantages in the contexts of media consumption like digital content industries. Cultural proximity makes Chinese and Taiwanese digital content firms more easily to build partnerships and suppliers in both markets and produce cultural-based products. Besides, Chinese and Taiwanese export many cultural proximate products in Greater China.

This qualitative comparison study conducted in-depth interviews with CEOs of Chinese and Taiwanese digital content firms, government officials, and experts, and had document analysis of key archival reports. It used the Dunning-Porter Framework (1993) as a theoretical framework to analyze national competitive advantages and the cultural proximity factor in Chinese and Taiwanese digital content industries. Besides, this study examined strategic approaches and policies taken by governments in China and Taiwan due to different political systems and societal milieu. This study contributes to insightful analyses and comparisons of digital content industries in two sides of Taiwan strait.

Digital content and new economy

According to Australian Interactive Media Industry Association (2005), digital content industries are broadly defined as products or services that use information technology to digitise and integrate media materials. It includes a broad range of applications, platforms, tools, and industry sectors include digital game, computer motion picture, digital learning, digital audio/visual application, mobile content, network service, content software and digital publication and storage.

After information shifts from analogy to digital, virtual goods cause the metabolism of the economy, the types of institutions, the business activities and relationships. Quah (2003: 298 to 303) pointed out the five distinct characteristics of digital goods: non-rival, infinitely expansible, discrete, spatial, and recombinant. A digital good is non-rival when its use by one person does not lower the utility of another person's use. A digital good is infinitely expansible because it can be produced in unlimited numbers at high speed and at little or no cost. The ability to make limitless copies of a digital good allows everyone to have a duplicate copy just like an exact original. Digital goods exhibit indivisibility as consumers or producers always use a whole copy of a digital good. Digital goods are spatial as they can be both nowhere and everywhere simultaneously due to immediate transmission from one side to another side over the globe. The final property, recombinant, means that new digital goods have characteristics absent from the original. The new economy is a global economy and the gap between consumers and producers blurs (Tapscott, 1997: 8 to 13)

After observing and analysing the digital industry, Ozawa, Castello and Phillips (2001: 290 to 292) presents a process model that shows the five stages transforming from the old to the new economy: (1) "Heckscher-Ohlin" labour-intensive industries (typified by textiles); (2)"non-differentiated Smithian" scale-driven industries (steel, basic chemicals, and heavy machinery); (3) "differentiated Smithian" assembly-based industries (automobiles and electric/electronics goods);(4) "Schumpeterian" R&D-intensive industries (specialty chips, bio-technology, and knowledge-based industries); and (5) "McLuhan" stage. The final McLuhan stage is driven by the information technology (IT) revolution. The McLuhan industries are similar with digital content and digital creative industries. They produce "abstract goods" or "conceptual goods" and Internet-based physical goods such as PCs, mobile phones and laptops. The new McLuhan industries affect industries in the old economy in many ways including production, management, distribution, and customer services.

In Asia, Japan was the first country to enter the "McLuhan" stage. The Asian NIEs (Newly-Industrialized Economies) (Hong Kong, Singapore, Taiwan and South Korea) have stepped up their efforts in R&D activities in order to catch up with Japan. China which is taking advantage of its huge domestic market to attract foreign multinationals and technologies is entering the assembly-based industries, especially in automobiles and consumer electronics industries. After China proceeded with the Economic Reform in 1978, Chinese media gradually moved into an industrialization and gradual commercialization process. In its new "5-year plan", China is making a move into knowledge-based industries.

Dunning-porter framework

Porter's book Competitive Advantage of Nations (1990) drew up his previous books Competitive Strategy and Competitive Advantage to shift the focus from firms to nations. Porter (1990: 71 to 128) addressed the question of why a nation achieves international success in a particular industry on the basis of four internal determinants (factor conditions, demand conditions, related and supporting industries, and firm strategy,

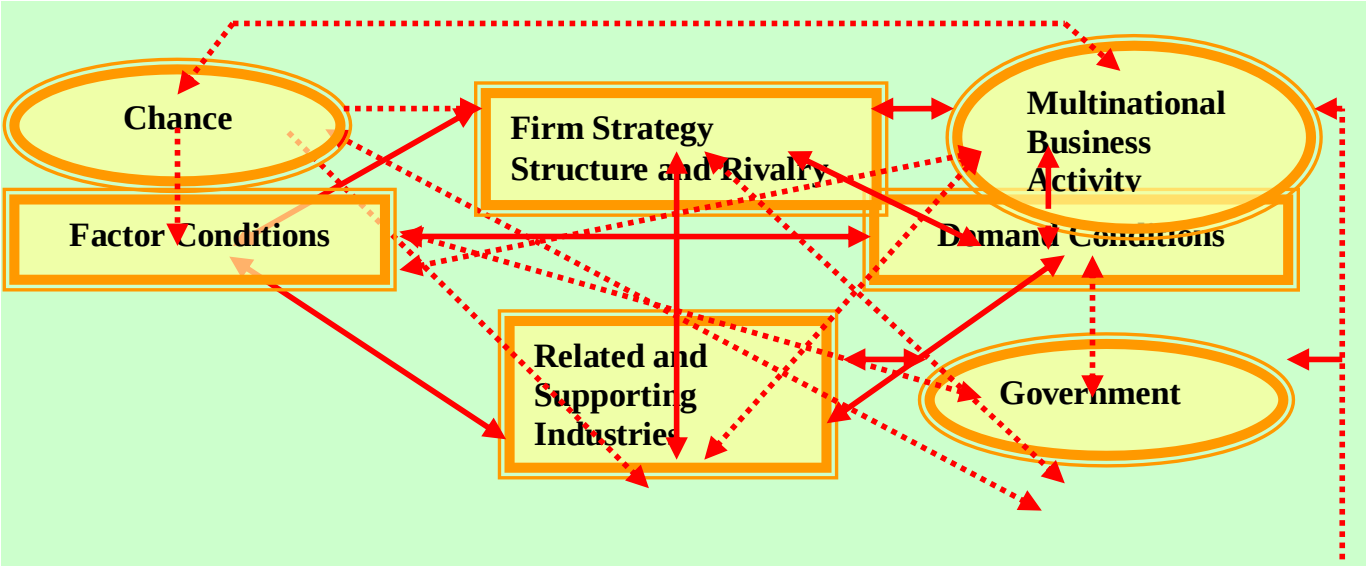

Figure 1. The system of the competitive advantage of Nations (Dunning, 1993).

structure and rivalry) and two external determinants (government and chance).

Increasing interactions of multinational enterprises, those values added activities encroach each of the components of the Porter's diamond directly or indirectly. Dunning (1993) argued Porter underestimates the important of globalization of production and markets for the competitive advantage nations. His Dunning-Porter Framework (1993) included "multinational business activity" as a third external variable (Figure 1). He defined multinational business activity as the foreign business activity of multinational corporations (MNCs) which affects the strength and composition of a national competitive advantage. This model has three strengths. First, both outbound and inbound FDI (Foreign Direct Investment) are critical to a nation's competitiveness. Second, by comparing the sizes and shapes of both domestic and international diamonds, major strategic differences are revealed. Third, the government factor in small economies is emphasized. Hence, the Dunning-Porter framework was used to analyze the competition advantages of digital content industries in China and Taiwan.

METHOD

Based on aforementioned literature reviews, this study aims to investigate three research questions:

RQ1: What are Chinese national competitive advantages in digital content industries?
RQ2: What are Taiwanese national competitive advantages in digital content industries?
RQ3: What are the differences between Chinese and Taiwanese national competitive advantages in digital content industries?

In this qualitative study, we collected data through in-depth interviews and document analysis. In-depth interviews were conducted from November 2006 to March 2007 in Shanghai and Taiwan. We interviewed six chief and senior executives who could provide insights to digital content industries in China and Taiwan (Appendix 1). The interviewees were chosen because they work in key digital content firms which have long business practices in China and Taiwan. Besides, we interviewed nine government officials and experts of digital content industries to obtain different perspectives toward the digital content industries.
As for document analysis, we collected pertinent documents related to digital content industries in both countries from November, 2006 to June, 2008. The documents include formal studies or evaluations, public reports, administrative documents, agendas, announcements, written reports of events, newspaper clippings and other mass media reports. To be noted, as official statistics may not be so accurate, there are no precise standards to measure or compare the digital content industries.

Finding analysis

Chinese national competitive advantages of digital content industries in China

The Chinese government tends to adopt the term "cultural creative industries" instead of digital content industries. The National Bureau of Statistics of China (ICIC, 2005) categorized culture and related industries into news service industries, publication copyright industries, film, television, and broadcast industries, digital content service industries, performance, entertainment and art industries, travel, leisure related industries, advertisement, trade fair and other content industries. It reflects the future vision of content and creative industries.

China has a high level of demand for digital content

Table 1. China's digital content industries' national competitive advantages.

Internal determinants	Factor conditions	• Infrastructure have been established • Landlocked • Well Regional Transit Transport • Great Quantity • Skill and low-cost work force • Steady funds from private and public • Savings/ Investment • Imitate
	Demand conditions	• Large quantitative and qualitative demand in internal market • Growing Domestic Demand in Online Game and E-learning Industries • Growing Patterns in Consumer Earnings and Consumption
	Related and supporting industries	• Numerous media and other cultural resources
	Firm strategy	• Dominate by state-owned companies • Large scale enterprises • Propaganda system
	Government	• Maintain Favourable Geopolitical Environment • Fully support "cultural creative industries" • Support in creation of innovative-driven clusters
External determinants	Chance	• WTO
	Multinational business activity	• Ensure environment for FDI growth

products both in quantity and quality. At present, the digital content industry development in China is heavily focused on online game and e-learning industries. The market size in online game, PC game, and mobile game in 2003 was 2,300, 2.3 and US $ 8.9 million respectively. The average growth rate of the Chinese game market from 2003 to 2008 was projected at 44.9% over five years. The Chinese government has played, and will continue to play, a leading role in managing online games. Because of the large country size, the Chinese government also places an emphasis on distance learning (Ministry of Economic Affairs Digital Content Industry Office 2004, 1 to 32 to 1 to 35). The Ministry of Education (in China. Org. Cn. 2008) has approved 68 higher education institutions and China Central Radio and TV University to manage e-learning businesses, which have established 2,027 learning centers with 1.373 million students enrolled in China by the end of 2003.

In addition, both central and local governments in China have established a serial of policies to foster creative industries, such as bringing in workers and subsidies systems. In April 2006, ten Ministries including Ministry of Finance, Ministry of Education and Ministry of Science and Technology issued "Some Opinions related with Development of People's Republic of China Animation Industries". In addition, Beijing and Shanghai governments have listed the development of creative industries in the "Eleventh Five-year Plan" (IUD 2006, 28).

To sum up, Chinese digital content industries' national competitive advantages emerge in the areas of demand conditions, government, chance, and some aspects of factor conditions (human resources and capital resources). Table 1 shows the national competitive advantages of China's digital content industries.

National competitive advantages of digital content industries in Taiwan

Taiwanese digital content industries are dominated by the private sector, especially by Small and Medium-sized Enterprises (SMEs). The number of digital content firms in Taiwan increased from 1,428 in 2002 to 1,730 in 2003. The most rapidly expanding industries are digital learning, network services, digital games and mobile content industries. The numbers of employees working in digital content companies have increased by 30 percent from 2002. The amount of Taiwanese digital content industries' employees approximates 43,000, and export rate is 14

Table 2. Taiwan's digital content industries' national competitive advantages.

Internal determinants	Factor conditions	• High developed of telecommunications • Qualified work force • Market-oriented experience • R&D and innovation system • Steady increase in private/public funding
	Demand conditions	• Small demand in internal market • Increasing quantitative and qualitative demand
	Related and supporting industries	• Numerous media and IT industries
	Firm strategy	• Dominate by private sector • SMEs
External determinants	Government	• Maintain stable macroeconomic environment • Improve business environment • Support in creation of innovative-driven clusters
	Chance	• WTO
	Multinational business activity	• Seek to expand to overseas

percent in 2003 (Ministry of Economic Affairs Digital Content Industry Office 2004, 1 to 7 to 1 to 8).

Most digital content industries do not need traditional suppliers of raw material. The highly developed media, creative and marketing industries are perhaps the strongest corner of Taiwan digital content industries' national competitive advantage in terms of the Dunning-Porter Framework. According to the Statistics of the Republic of China (Third Department Directorate-General of Budget, Accounting and Statistics, Executive Yuan, 2008), there are 173 newspapers and 3,453 firms in Taiwan's cultural industries. Furthermore, Taiwan has five terrestrial TV stations, 66 cable TV companies and 166 satellite broadcasting businesses (Government Information Office, 2008). Taiwan is also a leader of pop music industries in Pan-Chinese countries and brings up some major stars, such as Jay Chou, Amei, Jolin, Wu Bai and so on. In addition, Taiwan's software industry is another critical industry which production value was US $ 5.34 billion in 2006 (Taiwan's Government Information Office, 2007).

Taiwan's digital content industries' national competitive advantages can be found in related and supporting industries, firm strategy, structure and rivalry, chance and some aspects of factor conditions, such as infrastructure and knowledge resources. Taiwan needs to strengthen multinational business activity and government determinants to expand demand conditions and capital resources. Table 2 shows the detailed factors of Taiwan's digital content industries' national competitive advantages.

Comparisons of national competitive advantages

Chinese and Taiwanese national competitive advantages in digital content industries have their own strength in different internal determinants as showed in Table 3. Chinese digital content industries' national competitive advantages lead in demand conditions and some aspects of factor conditions, such as human resources and capital resources. As a huge country, China has competitive advantages in accumulating quantity no matter in human resource or money. Taiwanese digital content industries' national competitive advantages excel in related and supporting industries, firm strategy, structure and rivalry and knowledge resources.

At present, Taiwan digital content industries still exhibit some short-term competitive advantages comparing with China. Related and supporting industries in Taiwanese digital content industries are traditional media, such as music, TV dramas and TV variety shows, applied software, high-tech hardware, such as MP4, mobile phones, PDAs, and so on. Taiwan is a leading country of fashion and creativity. Hsu, a section manager of the Institute for Information Industry, indicated Taiwan has achieved great export success in music and variety shows in Southeast Asia. Cheng, the president of Somode (2007 Interview: 23 February) believed Taiwanese music and entertainment industries were more

Table 3. Comparing national competitive advantages of digital content industries.

China	Taiwan
• Demand conditions • Some aspects of factor conditions (human resources and capital resources)	• Related and supporting industries • Firm strategy structure and rivalry • Aspects of factor conditions (infrastructures and knowledge resources)

creative than those in China. He Taiwan's full democracy after 1987 which brought freedom to express opinions and ideas contributed to its prosperity in creative and cultural products.Comparing knowledge resource and multinational business activity across the Taiwan Strait, Taiwan has better international business, management and marketing knowledge than China, such as familiarity with foreign working styles. Lin, one of founders and Vice-CEO of iPartment (2007 Interview: 14 February) attributed Taiwanese digital content firms' sensitivity to foreign cultures to Taiwan's colony under Dutch and Japanese. However, Hsu (2007 Interview: 16 March) also worried that the localism of Taiwanese digital content products in recent years might cause its disadvantage to appeal to international markets. For example, A-Gui, one of the popular Taiwanese cartoons, is too localized which became difficult to be understood by Japanese audiences and led to its market failure.

To discuss about the knowledge resources in China, Zhu Chun-Yang, a lecturer of School of Journalism, Fudan University (2007 Interview: 24 January) regarded product imitation (copycat products) and insufficient marketing as two major weaknesses of Chinese digital content industries. According to the only China's copyright regulation, the article 36 in State Council Document 359 (State Council 2002), it proposed to punish the outlaws with the fine under three times of illegal profits or under US $ 12,350. That is, people who infringe copyright in China only bear civil liability instead of criminal responsibilities.

On the other hand, China digital content companies have comparative advantages in great quantity of human resources, funds, huge domestic market, and excellent geographical position. Although, China has the enormous market size and rising growth rate for domestic demand of digital content products, Li Ben-Qian, a professor of School of Media and Design at Shanghai Jiaotong University (2007 Interview: 25 January) claimed that insufficient creative content products was a serious problem to curb digital content industries

As for internal determinants, Chinese and Taiwanese digital content industries are similar in their physical resources and infrastructures. Both establish their infrastructures well to support their radio, television, Internet and mobile phone development. As for external determinants, both governments tend to provide favorable policies to foster the development of digital content industries.

Comparisons of Government approaches

Government can influence and be influenced by each of the four determinants positively or negatively. It can also shape the environment of related and supporting industries in various ways and influence firm structure, strategy and rivalry through government policies. The role of government is particular influential in China, which is inherited from the socialist model of corporate governance and an autocratic management system with a planned economy.

The Chinese media system was organised under the Leninist propaganda system based upon replicating a structural model in each of China's provinces. The conduct of players in the market was supervised and regulated by central ministries (now the Ministry of Information Industry, the State Administration of Radio, Film and TV, the State Administration of Press and Publications, the Ministry of Culture, and the Central Propaganda Department) and by regional bureaus of these central agencies.

Huang et al. (2003: 30 to 31) and Redl and Simons (2002: 19 to 21) pointed out China media were characterized by 'four verticals three horizons' (si zong san heng). Four verticals mean central, provincial, city, and district; three horizons refer to three main media, namely newspaper, broadcasting and television. Provincial, city media are managed both by provincial and city governments and State Administration of Radio, Film and TV. Meanwhile, leaders of the province, city's party propaganda department and State Administration of Radio, Film and TV manage propaganda at provincial and city's levels.

At present, reform of state-owned firms is still carrying out in China. According to National Bureau of Statistics of China (2006, in IUD, 28), China's cultural industries have 346 thousand business units, 362 thousand private units (ge ti hut) and 9.96 million staff in 2004. Fu and Xu (2006: 24) also claimed, because of low requirement of the initial capital, China's digital content industries have a large number of SMEs with fewer than 50 staff and 5 million RMB company value.

Comparison with the asset of cultural business units in China which were valued around 1.83 trillion RMB; the

private units (ge ti hu) have an asset base of 23.5 billion RMB in 2004. A similar structure exists in the amount of incomes in China's cultural industries: private units just represent 2.48% of total income (42.6 billion RMB) among the total cultural industries (1.72 trillion RMB) (National Bureau of Statistics of China 2006, in IUD, 28).

Because the Chinese administrative system is based on a power structure that
absolutely dominates resource distribution, and achieves the purpose of wealth
accumulation. Conspiring with administration and power for digital content
firms means lower political risk and more security
(Zhu 2007 Interview: 24 January)

As we discussed earlier, the Chinese government presents an unusual situation (by Western standards) in the government is not only a player (via the SOEs), but also the regulator. This circumstance leads to some "planned economy style" digital content industries in China, such as animation and game industries (firm strategy, structure and rivalry). A large number of China's digital content industries' related and supporting industries serve as a propaganda tool due to the government's strong influence. However, the Chinese government can use its strong political power to upgrade basic factors and creates advanced conditions in the infrastructure, the educational system and industrial clusters (factor conditions). In addition, the Chinese government can create domestic demands for specific digital content industries such as the e-learning industry (demand conditions). With the government's full support, large amount of funds have been invested in digital content industries, especially in game and animation industries. It results in the emergence of myriad cultural province, cultural cities, and creative clusters in China.

In comparison, Taiwan's digital content firms face a serious capital investment problem which interviewees attributed to insufficient government subsidies and the immature finance system. The characteristics of digital content products exacerbate the problem. Usually they have high fixed cost (but low or even close to zero reproduction costs) and a long time to create, plan, and produce. For example, an online game or an animation film requires two or three years to plan, produce, pretest and launch. Globally the banks' attitudes towards intellectual property- copyright, patents, trademarks, and designs, became more favorable after the 1990s (Howkins, 2001: 147). For example, Disney issued seven-year loan notes in 1992 worth $ 400 millions, using film copyright as collateral. However, this situation is still an ideal in economy of Taiwanese digital content industry. The economic valuation of intangible assets such as digital content products is still a big problem in securing investment. In addition, Taiwan is a creditor-friendly country. The legal system protects creditors from the making investments.

Analysing the different approaches of China's and Taiwan's digital content industries strategies, Yang (2007 Interview: 3 March) argued that Chinese digital content firms were inclined to initiate overall national plan to makes the firms big first, and strengthen them later. In contrast, Taiwan establishes strong firms first, then fosters the firms and focuses on niche markets. In some standards, the support from China's government does strengthen its national competitive advantages in digital content industries. However, as Chee and West (2004: 34 to 36) argued, "Political power is embedded in the bureaucracy in China and over-bureaucratisation is a problem that harmful to long-term industrial development." In China's digital and cultural content industries, as long as the ideological and speech restrictions are still placed on creative production, in the long-term it is likely to be a major bottleneck for the development of China's digital content industries.

Comparisons of chance determinants

China's accession to the WTO on 11 October, 2001 brought chance determinants to both sides of Taiwan Strait, even though the chance has been viewed differently by China and Taiwan. WTO accession considered as a chance event to China, as it provides a chance to shift Chinese media into efficient and streamlined organizations. Taiwan also benefits from China's WTO accession, as there were a number of market liberalizations in China under the GATS.

On the one hand, market (structural) reforms have occurred in China in recent years as a result of its entry into the WTO. In 2002, the State Administration of Radio, Film and TV (SARFT) passed legislation that allowed TV stations located in principal cities or the cities with GDP over US $ 12.3 billion to retain existing channels. TV stations located in cities whose GDP was under US $ 12.3 billion could only keep one channel; if they wanted to retain more channels, special approval was required (Huang et al., 2003). Similar regulations transform China's media to be more efficient and streamlined.

On the other hand, there were a number of market liberalizations under the GATS with China's entry into the WTO. The Catalogue of Foreign-Owned Enterprises Invest Guide (Ministry of Commerce of the People's Republic of China, 2004) announced seven investments related to digital content industries could be allowed, including mobile information service, E-commerce, direct sales business, software products' production and development, distribution and retail of books, newspapers, periodicals, cinemas' management (limit to Chinese holding company), production of TV and radio programs; production of movies (limit to Chinese holding company). This allowed distribution and retails of video/audio products (except movies), and joint venture

with foreign firms (foreign shares limit fewer than 49 percent).Importantly, Taiwanese digital content firms have language and cultural advantages to function as a gateway for co-marketing relationships with foreign firms entering Chinese market. For example, Japanese firm *ENIX* had a successful joint venture with Taiwanese firm Softstar in 2001. Their Magic babies had the highest occupation rate of Chinese role-playing game (RPG) market.

Comparisons of multinational business activity

Since China entered the WTO, Chinese media industries started to face the challenges from foreign media groups. In 2001, the Chinese government instituted some regulations related with fund raising, Chinese-foreign cooperation and cross-media development. According to China. Org.Cn. (2008), China's government has approved 30 overseas TV stations to broadcast in China by 2003, including Phoenix Satellite TV, Bloomberg Finance, Star Satellite TV, Eurasian Sports and Chinese Entertainment TV. Meanwhile, the CCTV English edition entered the United States through Fox News Internet Video Broadcasting System, a subsidiary of news group.

Chinese government also encourages domestic film firms to co-cooperate with Hollywood movies industries. By 2008, China has built governmental cultural agreements with 143 countries and signed 700 plans on annual cultural exchange. The Information Office of the State Council held a number of international activities, such as tour performances and exhibitions. However, the export amount of cultural product is relatively small, comparing with other developed countries. According to 2004, China Publishing Year Book (Li, 2006), the ratio of export to import of newspapers, books, visual/audio products and publishing is 1: 6.84 (US $ 24.69: 168.81 million).

At present, the Chinese government is friendly to foreign digital content firms, because these firms not only promote local government's achievements, but also bring in tax revenues and offer employment opportunities. As the result, foreign investment of digital media clusters and entrepreneurship are encouraged and promoted in many overseas exhibitions about investing in China. On the other hand, Chinese government regulates on buying and releasing foreign TV programs and movies. For example, foreign TV dramas (including animations) cannot be broadcasted during prime time (19:00 to 22:00), unless they acquire permission from SARFT. Foreign TV dramas (including animations) cannot be broadcast over 25% of all TV dramas (including animations) one day per channel. Comparatively, entertainment centric foreign digital content products are easier to enter Chinese market, and also relatively free from regulatory supervision.

In contrast, to solve the problem of small-sized domestic market, Taiwanese digital content firms have sought to expand overseas market for a long time. The most successful exports of Taiwanese digital goods are games and animation products. For example, Gamania has a branch in Japan, Softworld has branches in South Asia and XPEC has subsidiaries in USA.

The Taiwanese government assists in promoting digital content products to foreign markets in three ways, including exhibitions, encouragement of cooperation with international companies, and introduction of international experiences (Huang 2007 Interview: 20 March; Hsu 2007 Interview: 16 March). Firstly, it assists in exhibiting abroad as this promotes the image of Taiwan. Some firms have made deals directly in these occasions. For instance, Taiwanese game firms participated in the E3 exhibition in USA, and the Tokyo game exhibition in Japan since 2004, and 15 Taiwanese digital content firms include Xpec, Tvbean, Interserve, Deyi, Xiji, and Leijue were assisted to cooperate with major international digital content firms mostly Japanese and US, in 28 separate projects in the amount of $ US 123.3 million in 2004 (Digital Content Industry Promotion Office, MOEA Taiwan, 2007, Achievements). The second strategy is to arrange for Taiwanese firms to visit major companies with the aim of achieving high-level management relations. Digital Content Institute has some international strategic partnership with big brands, such as Microsoft, Sony Computer Entertainment Inc. (SCE), Namco, and Adobe. The third way is to invite major digital content firms, producers and investors to visit Taiwan. Currently, The Digital Content Institute emphasizes the European market and assists collaboration for vast projects. For example, ten Taiwanese digital content firms exhibited at the Taiwan Hall of MIPCOM in France, each one received twenty inquires about cooperation on average, and expected amount of total projects is $ US 93 millions (Digital Content Industry Promotion Office, MOEA Taiwan, 2007, Achievements).

DISCUSSION

As Porter (1990) asserts that national competitive advantages can be created or raised significantly, it explains why understanding and examining national competitive advantages are essential for a particular industry in every country. This study's principal contribution is to examine and analyze the determinants of China's and Taiwan's environment and the nature of competitive advantages in digital content industries when China and Taiwan share strong cultural proximity but have different political and industrial structures. The findings show China's digital content industries lead in demand conditions and some aspects of factor conditions (human resource), while Taiwanese digital content industries excel in related and supporting industries (traditional media, IT and marketing industries) as well as,

firm strategy, structure and rivalry (mature market structure).

As for external determinants, both China and Taiwan governments provide favorable policies to foster the development of digital content industries. What curbs the development of China's digital content industries includes conservative regulations in content and management, copyright infringement and import challenges. In comparison, Taiwanese digital content industries have more experiences to cooperate with foreign firms and engage in multinational business activities. Yet, with a limited demand from tiny domestic market, Taiwan's digital content companies face difficulties in polyarch and capital insufficiency. To excel in global corporate races in digital content industries, Chinese and Taiwanese digital content industries must give full play to operational capabilities, to keep strengthening core competences, and to maintain a competitive edge in developing profitable and potential markets.

Besides, "Guanxi" which is crucial do business in Great China region can foster or inhibit the development of any industry or export of goods. For Taiwanese firms to succeed in exporting digital content to the Chinese market, they who have cultural and linguistic understanding and awareness of political sensitivity should make good use of Guanxi to develop strong relationships with key stakeholders, like government officials, power holders, or industry alliances. Although, Taiwanese digital content companies have distinct advantages in China, they faced similar difficulties in intellectual property infringement and national protectionism. For example, their creative ideas tended to be imitated or exploited by locals and the Chinese policies favor local companies.

The development of multinational business activity in China and Taiwan can benefit from future collaboration at both sides which will integrate their competitive advantages to export digital content products to foreign countries, especially in the Great China region. This cooperation can have advantages of China's large-scale market, strong government support, and capital, as well as Taiwan's creative talents, production skills, and international marketing experiences. If they would form a value chain of digital content industries in China and Taiwan, it will enhance the long-term competitiveness at both sides.

As an explorative study, it is necessary to improve and extend these preliminary findings by doing longitudinal study to keep observing and comparing the development of digital content industries. Future research can take interdisciplinary approaches to examine the fast growing digital content industries, focus on specific industries or do comparisons study with traditional media industries.

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Appendix 1. The list of interviewees.

Companies / institutes	Core industry of DCI	Name these interviewed	Position of interview subjects	Date of interview
Wang Film / Cuckoo's Nest	Computer animation	George Chang	President (Suzhou)	12 Jan., 2007, Suzhou
Artkey Art Licensing Center	E-Publishing and digital archiving	Alex Guo	CEO	16 Jan., 2007, Shanghai
CnYES.com, Inc / Chinan Yes.com	Network service	Bob Deyou	President and CEO	3 Mar., 2007, Taipei
CnYES.com, Inc / Chinan Yes.com	Network service	Bonny Hu	President (Shanghai)	5 Jan., 2007, Shanghai
CnYES.com, Inc / Chinan Yes.com	Network service	Eric Shan	Planner and Art Editor	5 Jan., 2007, Shanghai
iPartment / Sunfun Info Co., Ltd.	Network service	Jamy Lin	One of the Founders and Vice-CEO	14 Feb., 2007, Taipei
Somode	E-Publishing and digital archiving	Yiwei Cheng	President	23 Feb., 2007, Taipei
Digital Content Industry Program Office of Economic Affairs	-	Chung-Kuang Huang	Manager	20 Mar., 2007, Taipei
Institute For Information Industry	-	Claire Hsu	Section manager	16 Mar., 2007, Taipei
School of Journalism, Fudan University	-	Chun-Yang Zhu	PhD. and Lecturer	24 Jan., 2007, Shanghai
School of Media and Design, Shanghai Jiao Tong University	-	Ben-Qian Lee	PhD. and Professor	25 Jan., 2007, Shanghai
School of Communications, Ming Chuan University	-	Chih-Hung Yang	PhD. and Dean	3, Mar., 2007, Taipei
Department of Advertising, Chinese Culture University	-	Edwin W.K. Lo	Chairman	20 Mar., 2007, Taipei
Hosem Animation Productions Co.Ltd.(Shanghai)	Computer animation	Jack Jiang	Creative director	29 June, 2007 interview