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Competitiveness of Animation Industry: The Case of Thailand

T. Niracharapa

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Abstract**—**The research studied and examined the competitiveness of the animation industry in Thailand. Data were collected based on articles, related reports and websites, news, research, and interviews of key persons from both public and private sectors. The diamond model was used to analyze the study. The major factor driving the Thai animation industry forward includes a quality workforce, their creativity and strong associations. However, discontinuity in government support, infrastructure, marketing, IP creation and financial constraints were factors keeping the Thai animation industry less competitive in the global market.

Keywords**—**Animation, competitiveness, digital content, Thailand.

I. Introduction

THE demand for digital content is now growing rapidly worldwide. Digital content industries are broadly defined as products or services that use information technology to digitize and integrate media materials. This includes a broad range of applications, platforms, tools, and industry sectors including digital games, computer motion pictures, digital learning, digital audio/visual applications, mobile content, network service, content software, digital publications and storage. Content certainly is the origin of the digital content industry, so copyright is the most important intellectual property in this industry [6].

Global consumer spending on digital games, apps, and online movies passed $57 billion in 2013, up almost 30 percent from $44 billion in 2012 [1]. Entertainment and media industries are a major contribution to the growth of the digital content world, given that digital technology dramatically enhances the industry, starting from the production stage process of distribution and continuing all the way to market consumption [10].

Today digital content industries are one of the key industries in many countries. Government bodies of developed countries have launched policies and campaigns to promote their digital content industry.

According to PriceWater House Coopers's Global Entertainment and Media Outlook, Asia, the third market of entertainment and media in the world, created USD 366 billion in market value in 2010 and is estimated to reach USD 475 billion in 2014 [17]. China's digital content industry is one of the fast growing markets in this region. Its market scale of media content reached USD 85.2 billion in 2010 to 2014. Compound annual growth rate (CAGR) was estimated to reach 12%. This rising digital content business in China has attracted a huge amount of foreign investments [2], [7].

Japan and South Korea are high-growth markets, due to increasing device adoption and skyrocketing game app spending. South Korea comes out on top in various measures when looking at its mobile and digital content market. South Korea leads for 4G penetration and is the first country to reach over 50% for LTE subscribers. In Japan, apps have disrupted the mobile-first market, shifting to smartphone and tablet apps and are disrupting established players in the Japanese market [18].

UK consumers spend on a broad range of digital content particularly the strong online music market. Strong growth in game apps was not enough to overtake online music in 2013, but continued growth continues for spending on game apps which is leapfrogging online music for 2014 [18].

Germany overtook France in digital content spending per capita in 2013, boosted by its strong digital games and growing games app markets. Online movies performed well in Germany [18].

The US has the widest range of content spending and the highest devices per capita across the broadest range of devices. Spending on games apps grew the most between 2012 and 2013, but online games held the lead. Game apps growth will likely challenge online movies in the coming year [18].

The size of the global animation industry was about USD 222 billion in 2013[18]. The major animation markets include the United States, Canada, Japan, China, France, Britain, Korea and Germany. Most of the segments in the animation industry are growing at the rate of 7% YOY. The outsourced computer animation production market is increasingly being tapped by North American and European film and television program producers. With the rapid development of the animation industry in the west, particularly in the U.S. and Europe, the need for outsourced services in animation increased in Asia.

Due to the NASSCOM report, the world demand of animation has been increased every year. In 2006, the world animation consumption was USD 62.3 billion and USD 83.7 billion in 2010 with CAGR of 7.7% [16]. The increase in demand may be attributed to the continued production of animation in the entertainment sector which accounts for 74% of total revenues in the global animation industry. The continued demand in the global animation market has allowed the Asia-Pacific region to further emerge as a premier

T.Niracharapa is with the Suan Sunandha International School of Art, Suan Sunandha Rajabhat University Bld 31, 1Uthong Nok Road Bangkok 10300, Thailand (e-mail: Niracharapa.to@ssru.ac.th).

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destination for animation outsourcing. The major players in the region include China, India, Singapore, South Korea and the Philippines. Globally, the industry also witnessed some traction with distributing content overseas as well as increase in demand for local content.

The Indian animation industry, which was worth USD 493 million in 2008reached USD 1 billion by 2012. Indian Animation has been divided into animation entertainment, custom content development, multimedia/web design, VFX, and animation education. In 2010, the Indian animation and VFX industry grew at a healthy rate as compared to its slow growth in 2009[1]. Moreover, India is becoming a global outsourcing hub providing animation production services as well as developing a robust domestic market. The sector is booming with overseas entertainment giants like Walt Disney, Imax and Sony outsourcing cartoon characters and special effects to India. With about 300 Indian animation studios, approximately 70% of the industry's total revenues come from outsourced services. The industry in India currently employs about 12,000 animation workers with nearly 3,000 working as freelance animators [9].

China is considered as one of the stronger players in the animation outsourcing industry. The continued development may strengthen their position as one of the leading providers of outsourced animation services in the near future. China's strength may be attributed to the availability of good infrastructure and strong government support in a developing country. China's promotion of its anime sector moved into high gear in 2004 [2]. Chinese government campaigned to prosper socialist culture under the conditions of structure. The objectives were to force culture and economic socialist market economy and satisfy the increasing mental and cultural needs of the people. Children are an especially important step to promote structural reform of the country's economy and realize a more advanced industry for structural reform of the Chinese economy [20].

Another emerging destination for outsourced animation services is Singapore. The Media Development Authority was established as an entity mandated to instigate policies and programs to help foster the growth of its animation industry. Alongside local animation companies, some of the world's best animation and visual effects companies have set up their offices in Singapore, including Lucasfilm Animation, Universal Studios and Double Negative from the UK. Transforming Singapore into a global media city has made animation grow strongly [5].

One of the largest numbers of animation studios in Asia is South Korea. Korea boasts of strong technical training in animation, with over 60 colleges contributing to an already skilled labor force for its industry [8]. Korea is able to leverage the high quality service which the country provides. Government has provided solid support for industry development especially KOCCA. Throughout the period, the Korean animation industry has undergone fourth distinctive phases in terms of its development patterns. The development path has been constructed by the interaction of global linkages and local dynamics. The first phase leading up to the mid-1980s is characterized by a gradual integration to global production networks through small-scale processing. The ensuring large-scale, outsourcing-based export growth defines the second phase up until the end of the 1990s. The third phase is the outcome of a new path in the late 1990s toward upgrading based on local production and international coproduction. The latest phase in the 2000s is to be internationally recognized and value creation.

A. Overview of Thailand Animation Market

Thailand obtained internet access in 1996 as the third country in South East Asia. Since then, the use of the Internet has become more popular in the cities and also more accessible to different areas in the country. About 8.6 million people use the internet every day in Thailand, and 26 million people have regular access in 2013, representing over one-third the population [4].

Number of Internet Users in Thailand (2012-2013)		
		Internet Users
Population	2012	2013
67,091,089	20,100,000	26,150,473

Fig. 1 Number of Internet Users in Thailand

Digital media are the new buzzwords in the globe as the country experiences better broadband services PC and mobile penetration, value-added services by telecom service providers and social networking. Digital Media's rapid popularity, usually aided with the internet and personal computing brought a new frontier to publishing, journalism, entertainment, education, commerce and politics. For the past few years, social network has been gaining its popularity. The number of social network users is increasing rapidly.

Facebook is the most popular one followed by Twitter, YouTube and Instagram respectively [19].

Number of social networ users as of 2012-2013		
Social network channel	2012	2013
Facebook	14,500,000	18,000,000
Twitter	1,300,000	2,000,000
YouTube	280,000	630,000
Instagram	240,000	1,551,649

Fig. 2 Number of Social Network Users

B. Industry Sector

The animation market in Thailand is divided into seven subsectors namely animated film, animated TV series, animation on VCD/DVD, animation on mobile devices, VFX for TVC, VFX and post production, and character license fees.

The animation industry has experienced significant growth rate of 11% per annum. In 2011, the total of animation market in Thailand valued at USD 170,393,941 but most values were on imported ones [15].

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	Animation Market Values 2011 (US dollars)			
Types				
	import	export	domestic	total
animated film	7,636,364	0		7,636,364
aniimated TV series	40,818,182	19,909,091	7,818,182	68,545,455
animationn on VCD/DVD	18,424,242	1,090,909	2,181,818	21,696,969
Animation on Mobile	0	0	10,666,667	10,666,667
VFX for TVC	0	727,273	6,575,758	7,303,031
VFX & post production	0	606,061	4,939,394	5,545,455
Character License Fee	45,030,303	515,152	3,454,545	49,000,000
Total	111,909,091	22,848,486	35,636,364	170,393,941

Fig. 3 Thai Animation Market Values 2011

Animated film-15 animated films were screened including *Kung Fu Panda 2, Car 2, Puss in Boots, Rapunzel, Rio, The Adventures of Tintin, Rango, Megamind, Hop, Happy Feet 2, Gnomeo and Juliet, Arthur Christmas, Mars Needs Moms, Alpha and Omega*, and *The borrower*. Most were western films [15].

Animated TV series for both Thai and imported cartoons were on-air through the free channels 3, 6, 7, 9, 11, Thai PBS, and satellite or cable TV. Most Thai cartoons have not been popular like imported ones because of quality and lower cost. Japanese cartoons are still the most popular on air. There are eight major distribution companies for Animation on VCD/DVD: Boomerang, DFX, DNA, GMS, J-BICS Entertainment, J-BICS Trading, Mangpong, and Rose Media and Entertainment. Most cartoons on VCD are Japanese cartoons and popular ones including *Clannad, Eden of the East, Hidamari Sketch, Strike Witches*, and *Pueela Magi Madoka Magica 2* [15]. Animation on mobile devices in 2012 was valued at USD 10,666,667 from three service providers namely AIS, DTAC, and TRUE.

VFX for advertisement thru television has more than 620 short films or 22,446 seconds by dividing into animated TVC, TVC with animation and VFX over 50%, VFX 10%. VFX for film and post production has 42 stories. License fees from merchandise generated revenue from *Toy Story, Cars, Kun Fu Panda 2, Mickey Mouse,* and *Kitty.*

C. Government Sector

Interestingly, animation industry is now supported by several government agencies such as Software Industry Promotion Agency (SIPA), Board of Investment (BOI), Office of Small and Medium Enterprises (SMEs), Department of International Trade Promotion (DITP), Ministry of Culture, Ministry of Foreign Affairs. They support domestic and international marketing, and seed money both physically and financially. In this regard, more animation companies have gained international recognition and productions.

D. Thailand Animation Associations

At present, there are several digital content associations promoting and supporting animation companies namely TACGA, TDEC, TGA, DCAJ, etc. They comprise members from companies and freelancers. Associations can directly receive some funds from government agencies [14].

II. Research Methodology

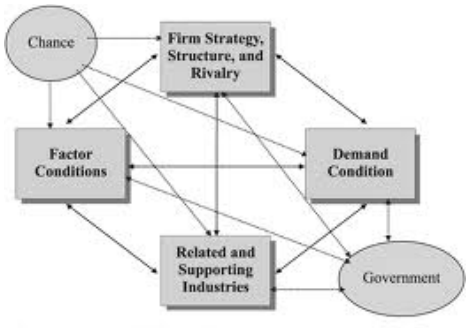
As a result of rapid technological advancements and shortened international industrial life cycles, the role of national competitive advantage becomes crucial to industry's adaptations. Porter (1998) defined the national competitive advantage as a nation's capacity to attract both local and foreign firms to conduct businesses advantages. Competitive Advantage of Nations shifted the focus from firms to nations. He defined multi-national business activity affecting the strength and composition of a national competitive advantage. Competitiveness is defined as the productivity with which a nation utilizes its human, capital, and natural resources. Productivity allows a nation to set standards of living. Porter stated that competitiveness does not depend on what industries in which a nation compete but on how it competes in those industries deriving from the combination of domestic and foreign firms. Three stages of competitive development for a nation includes factor driven economy, investment driven economy and innovation driven economy [11].

Factor driven economy is to create political and legal stability, improve human capital, create efficient basic infrastructure, and lower regulatory and other costs of doing business.

Investment driven economy is a good business environment for investment by increasing local rivalry, opening the market, creating advanced infrastructure, and creating cluster formation and activation. Innovation driven economy is based on innovation. The main objectives to enhance competitiveness are to create advanced skills, scientific and technological institutions, and upgrade the cluster. The countries in this category are developed countries. These countries normally have world class companies.

A. The Diamond Model

Porter 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, firm strategy, structure and rivalry) and two external determinants (government and chance) so-called the **Diamond Model** [12]. The researcher used the Diamond Model to analyze the study and examine competitiveness of animation industry of Thailand.



Source: Porter (1998, p.127)

Fig. 4 The Diamond Model

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Factor conditions are human, physical, knowledge, and capital resources and infrastructure. Specialized resources are often specific for an industry and important for its competitiveness. Specific resources can be created to compensate for factor disadvantages.

Demand conditions create a competitive advantage, when sophisticated home market buyers pressure firms to innovate faster and to create more advanced products than those of competitors.

Related and supporting industries can produce inputs that are vital for innovation and internationalization. These industries provide cost-effective inputs, but they also participate in the upgrading process, thus stimulating other companies in the chain to innovate. Cluster approach which is a group of related companies, public sector entities and other related institutions is the main concept in improving competitiveness.

Firm strategy, structure and rivalry include the business environment in the location, openness to trade and investment, free trade agreements and intellectual property protection.

Government can influence each of the above four determinants of competitiveness. Government can influence the supply conditions of key production factors, demand conditions in the home market, and competition between firms since its interventions can occur at local, regional, national or international level [3]. Chance events are occurrences that are outside of control of a firm. They are important because they can create discontinuities in gaining and losses.

III. Finding Analysis

Thailand is located in the heart of Southeast Asia and considered as a strategic location that connects mass consumption market as China and India. A lot of world-class companies have invested in Thailand. In addition, there are numbers of schools and universities offering degrees in digital content. More government agencies help promoting creative industry. But its weakness is funding and marketing. These are major factors of Thai SMEs. Most global companies have taken advantage of low cost labor.

Firm Strategy, Structure, and rivalry -The animation market has been growing steadily for the past decade. In the service market, Thailand is a destination for software outsourcing due to low cost labor and the quality of workforce. Some Thai companies have gained international recognitions such as Kantana, the Monk, Shellhut, Imagimax, Imagine Design, Truespot for IP creation and outsourcing services.

However, Thai animation production mostly geared toward on domestic market much more than international one as can be seen from character design and storytelling which is difficult to penetrate to international market. Intellectual property protection laws are also not properly enforced. Political instability is now a major concern for foreign direct investment as compared to other nations as Philippines, Singapore, and Malaysia.In the meantime, outsourcing business has been competed by China, India, Philippines and Singapore.

Related and Supporting Industries – a cluster policy has been initiated by the government. Also, there are a lot of demands of digital content in many sectors such as education, medicine, health and tourism and local products. The digital content cluster is so weak in Thailand, even though the government supports the cluster policy.

Demand conditions-Thailand has some demands for digital content market both in quantity and quality especially on online games and e-learning sectors. Thailand game market is growing most. Animation for advertisement and character creation for game, applications on mobile can make animation industry grow. However, there are still low demands of TV channels for Thai animation movies.

The establishment of Software Industry Promotion Agency, Office of Small and Medium Enterprises has helped animation companies in terms of funding, infrastructure and incubating small enterprises. Moreover, the policy frameworks for tax holidays help stimulate animation companies. TACGA or Thailand Animation and Computer Graphic Associations, and more emerging associations strengthen animation companies.

ASEAN Economic Community (AEC) will be the chance for Thai animation industry in terms of getting more customers due to cultural proximity. Malaysia and Indonesia will help Thai animation to expand their opportunity to Middle East market. Moreover, more consumer behaviors and the increase of their global entertainment demand are chances because multi-national business activity seeks to expand their production to overseas.

IV. Discussion

Due to the high trend of market demand of global digital content industry, there is considerable potential for growth specifically in export services in the animation industry. With the continuous trend of the global demand escalating, it expected that countries which can cater to this demand should in fact be the one.

The overview of Thai animation history grow continuously arisen from key drivers such as the establishment of more government agencies and animation associations and outsourcing services, Local animators have created strong portfolio. TACGA (Thailand Animation and Computer Graphic Association) a strong animation association has helped strengthen Thai entrepreneurs for both domestic and international markets.

Another driver of the animation industry is the rise of BPO industry in ASIAN countries. With outsourcing phenomenon, Thailand has developed into one of the more viable destinations for outsourced service behind India, China and the Philippines [13]. The awareness of international clients towards Thailand as a BPO service provider also increased. The occurrence paved way for Thai animation industry to be placed in the map as one of the destinations for outsourced service in the sector.

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The inherent creative talent pool found in Thailand is also a driving factor for the animation industry. Thai animators are known for their creativity and innovativeness which are looked upon in high regard by international clients like England, China, Japan and U.S.A.

Government agencies namely Software Industry Promotion Agency (SIPA), Office of Small and Medium Enterprises (SMEs), Ministry of Commerce or even Ministry of Foreign Affairs have supported digital content industry by providing seed money for production and business matchmaking events both domestically and internationally.

However, this potential has not been realized in recent years. Factors inhibiting the growth of the animation sector may be attributed to the following-financial constraint, a lack of skilled animators, a lack of widespread industry support, a lack of innovation, and the continuity of government supports.

One of the major constraints for the animation industry to realize its potential is the lack of financial investment made by the animation firms to improve operational capacity. For example, lack of investments to acquire animation software is prevalent within local animation companies since most animation companies are small enterprises. Supporting funds for production are not enough to develop further. The inability to purchase 2D and 3D software for creating projects has caused software piracy. Loans could not be made easily for establishment of more government agencies and animation industry due to high risk and low return as loaners believe.

Another inhibitor for the growth of the sector is the lack of skilled animators especially in 3D services. Since there are minimal investments in 3D, infrastructure should be placed. Also, an inhibiting and contributing factor for this category is the gap between the training institutions and the required needs of the industry.

BPO for Thai industry has becomes stronger but the problem found for the long term is a lack of innovation and value creation. At present competitiveness of economy is innovation and Thailand is not in this pipeline.

Government agencies have seen the significance of creative industry by providing supports to the industry. However, the support of each government agencies is not rampant. Other countries such as Japan, Korea, Malaysia or Singapore announced creative or digital content industry as national agenda.

Challenges need to address to be able to meet the industry potential and level-off industry threats including collaboration of industry players, infrastructure investment, developing talent pool and government policy and strategies. With the opportunities available, the industry needs to find a way to consolidate its efforts in order to bring in the bigger contracts which will be ultimately beneficial for the industry as a whole.

In terms of infrastructure investment, the industry must be able to attract local as well as foreign investors in order to boost infrastructure development. The challenge is also for the animation companies to take the risk of investing in infrastructure in the acquisition of new animation software and related hardware technologies.

The industry also faces the challenge of investing more to improve its local talent and meet the needs of the animation industry for more skilled workers. Despite the large number available graduates to work in the industry, the number of skilled workers still low. It needs to boost quality workers by collaborating with the industry.

In order to compete in the global market, Thai animation industry needs a stronger backup from the government. Government support includes tax incentives, IP policy regulation, loans, seeds money, and infrastructure investment. Further, the government should encourage animation companies in creating innovation by supporting co-production projects in order to create intellectual property for value creation for its economy.

V. Conclusion

With the growth in demand globally for outsourced animation services, and co-production, the opportunity for Thai animation providers remain high. The Thai animation industry remains a strong player in the sector because of its established reputation for quality work and its inherent and creative talent pool. Most notably, competitors are quickly addressing infrastructure, evolving client requirements and preferences and aligning industry capacity to meet current market demands.

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Dr. Niracharapa T. graduated Phd. from Ohio University, OH, USA. After graduation, she joined the National Electronics and Computer Technology Center (NECTEC) as IT Training Director, for the Ministry of Science and Technology. Then she served as a Vice President and Acting President for 8 years for the Software Industry Promotion Agency (SIPA), Ministry of ICT. At present she is working as the Director of the International School of Art at Suan Sunandha Rajabhat University. For the past 20 years, throughout her career, she has lectured and advised to the digital content industry both domestically and internationally.

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